Hypertonic saline primes activation of the p53/p21 signaling axis in Human Small Airway Epithelial Cells that prevents inflammation induced by pro-inflammatory cytokines

Fabia Gamboni,[1] Cameron Anderson,[1] Mitra Sanchayita,[1] Julie A. Reisz,[2] Travis Nemkov,[2] Monika Dzieciatkowska,[2] Kenneth L. Jones,[2] Kirk C. Hansen,[2] Angelo D'Alessandro[2,*] Anirban Banerjee*[,1]

Affiliations:
[1] Department of Surgery/Trauma Research Center, Mail Stop C-320 Anschutz Medical Campus 12700 E 19th Avenue, Room 6420, Aurora, CO 80045; [2] Department of Biochemistry and Molecular Genetics 12801 E17th Av, RC1 South, Aurora, CO, 80045 - University of Colorado Denver, School of Medicine;

***Corresponding Authors:**
Dr. Anirban Banerjee, PhD
Department of Surgery/Trauma Research Center, University of Colorado Denver;
Mail Stop C320; RC2 Building, Lab Space# 6410; Aurora, CO 80045
Email: anirban.banerjee@ucdenver.edu

Angelo D'Alessandro, PhD
Department of Biochemistry and Molecular Genetics, University of Colorado Denver Anschutz Medical Campus, 80045 Aurora, CO, USA.
Tel.: +1 (303) 724-5798; E-mail address: angelo.dalessandro@ucdenver.edu

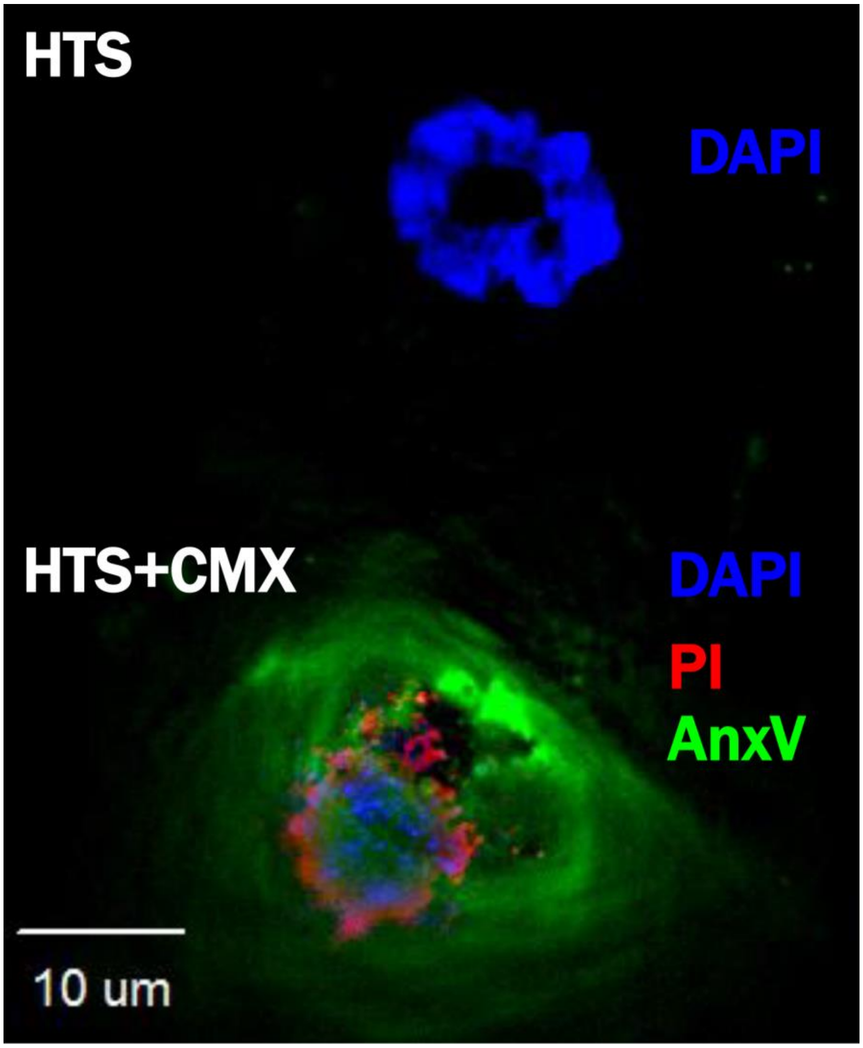
Running Title:
Tp53/p21 activation by hypertonic saline promotes lung cell inflammation

Supplementary Material

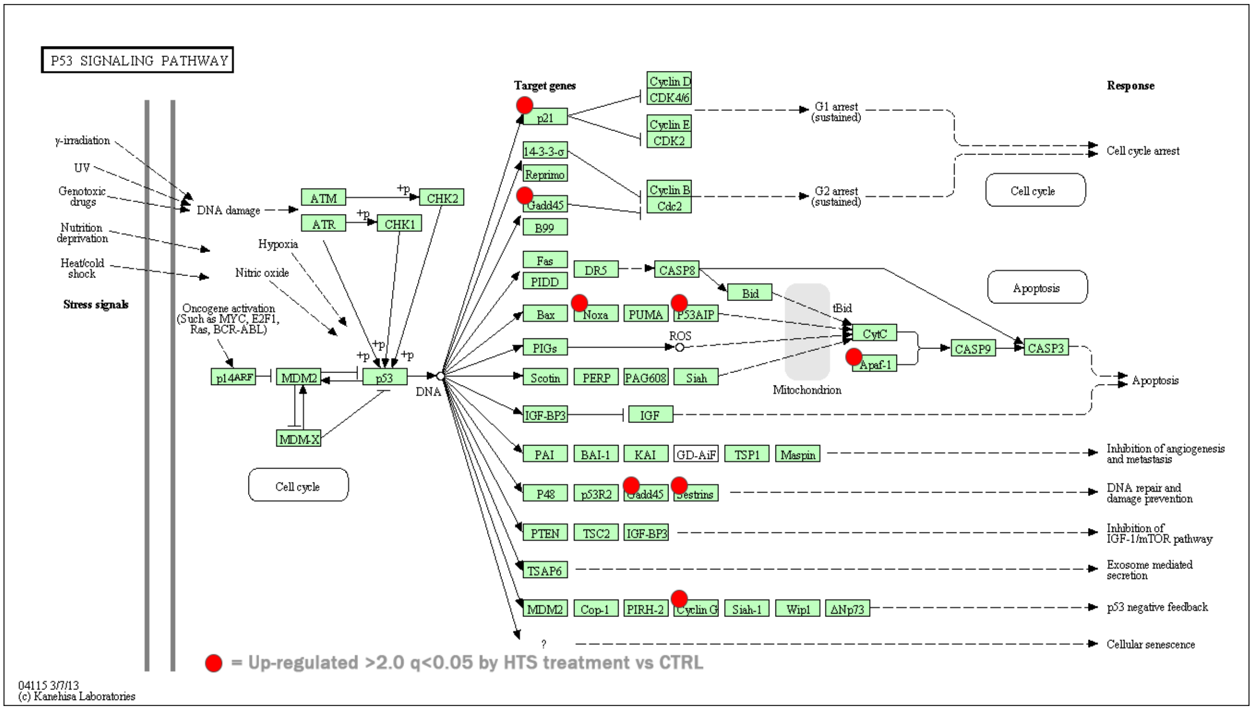
SUPPLEMENTARY MATERIAL

TABLE OF CONTENTS

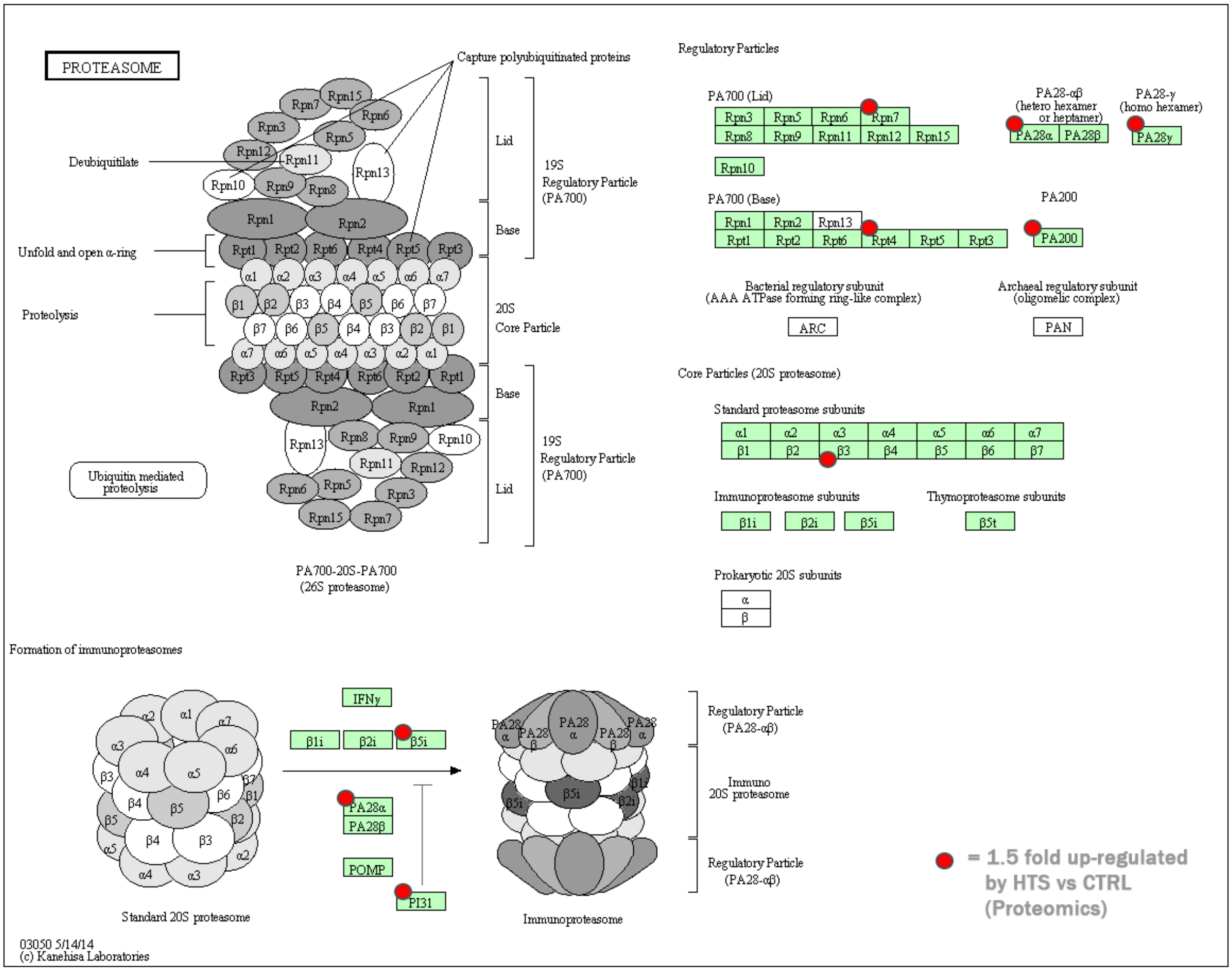
Supplementary Figures



Supplementary Figure 1 – Fluorescent microscopy analysis of apoptosis (Annexin V, as a marker of extracellular phosphatidylserine exposure in green; propidium idodide – PI: red; DAPI: nuclei in blue) in SAECs at 24h from HTS and HTS+CMX treatment.



Supplementary Figure 2 – TP53 family members were up-regulated at the protein level in SAECS following HTS and HTS+CMX treatment



Supplementary Figure 3 – Proteasome and protein degradation machinery components increasing in SAECs in response to HTS treatment

Supplementary Figure 4- Hierarchical clustering analysis of metabolite levels in SAECs treated with HTS, alone or in combination with CMX

Supplementary Figure 5 – Hierarchical clustering analysis of metabolite levels in culture media of SAECs treated with HTS, alone or in combination with CMX

Supplementary Table 1 - Functional enrichment of pathways significantly up-regulated by HTS (extended)

Category	Term	Count	%	PValue	Genes	List Total	Pop Hits	Pop Total	Fold Enrichment	Bonferroni	Benjamini
KEGG_PATHWAY	hsa04115:p53 signaling pathway	8	2.996255	1.12E-04	ENSG00000099860, ENSG00000120868, ENSG00000138764, ENSG00000149212, ENSG00000120471, ENSG00000124762, ENSG00000130766, ENSG00000141682	85	68	5085	7.038	0.009	0.009
KEGG_PATHWAY	hsa04010:MAPK signaling pathway	14	5.243446	3.75E-04	ENSG00000123358, ENSG00000197461, ENSG00000170345, ENSG00000106799, ENSG00000099860, ENSG00000155903, ENSG00000143507, ENSG00000134259, ENSG00000161326, ENSG00000139318, ENSG00000128591, ENSG00000130522, ENSG00000128272, ENSG00000120129	85	267	5085	3.137	0.029	0.015
KEGG_PATHWAY	hsa05219:Bladder cancer	6	2.247191	5.74E-04	ENSG00000100985, ENSG00000119630, ENSG00000112715, ENSG00000150630, ENSG00000124762, ENSG00000169429	85	42	5085	8.546	0.044	0.015
KEGG_PATHWAY	hsa05200:Pathways in cancer	15	5.617978	8.33E-04	ENSG00000112715, ENSG00000073756, ENSG00000150630, ENSG00000197461, ENSG00000076604, ENSG00000170345, ENSG00000005339, ENSG00000106799, ENSG00000100985, ENSG00000119630, ENSG00000159216, ENSG00000147883, ENSG00000124762, ENSG00000169429, ENSG00000110395	85	328	5085	2.736	0.063	0.016
KEGG_PATHWAY	hsa04330:Notch signaling pathway	5	1.872659	0.007204	ENSG00000184916, ENSG00000005339, ENSG00000100060, ENSG00000106003, ENSG00000198719	85	47	5085	6.364205257	0.4310344	0.1066591
KEGG_PATHWAY	hsa04350:TGF-beta signaling pathway	6	2.247191	0.01399	ENSG00000101665, ENSG00000108854, ENSG00000115738, ENSG00000147883, ENSG00000005339, ENSG00000106799	85	87	5085	4.125760649	0.6667761	0.1673624
KEGG_PATHWAY	hsa04012:ErbB signaling pathway	6	2.247191	0.01399	ENSG00000143322, ENSG00000157168, ENSG00000124882, ENSG00000124762, ENSG00000113070, ENSG00000110395	85	87	5085	4.125760649	0.6667761	0.1673624
KEGG_PATHWAY	hsa05211:Renal cell carcinoma	5	1.872659	0.027851	ENSG00000119630, ENSG00000154803, ENSG00000112715, ENSG00000150630, ENSG00000005339	85	70	5085	4.273109244	0.8895545	0.2700269

Supplementary Table 3 - Proteomics report

	Identified Proteins (2186)	Uniprot ID	MW (kDa)	Iso	Iso+Cmx	HTS	HTS+Cmx	FC Iso+Cmx/Iso	FC HTS/Iso	FC HTS+Cmx/Iso
2	1,2-dihydroxy-3-keto-5-methylthiopentene dioxygenase ADI1	Q9BV57	21	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
3	1,4-alpha-glucan-branching enzyme GBE1	Q04446	80	15	25	23	26	1.67	1.53	1.73
4	10 kDa heat shock protein, mitochondrial HSPE1	P61604	11	24	23	31	25	0.96	1.29	1.04
5	116 kDa U5 small nuclear ribonucleoprotein component EFTUD2	Q15029	109	15	6	14	14	0.40	0.93	0.93
6	14 kDa phosphohistidine phosphatase PHPT1	Q9NRX4	14	5	2	4	6	0.40	0.80	1.20
7	14-3-3 protein beta/alpha YWHAB	P31946	28	93	119	123	136	1.28	1.32	1.46
8	14-3-3 protein epsilon YWHAE	P62258	29	170	177	197	200	1.04	1.16	1.18
9	14-3-3 protein eta YWHAH	Q04917	28	54	57	47	95	1.06	0.87	1.76
10	14-3-3 protein gamma YWHAG	P61981	28	92	111	125	122	1.21	1.36	1.33
11	14-3-3 protein sigma SFN	P31947	28	190	216	212	282	1.14	1.12	1.48
12	14-3-3 protein theta YWHAQ	P27348	28	124	141	145	150	1.14	1.17	1.21
13	14-3-3 protein zeta/delta YWHAZ	P63104	28	178	217	213	242	1.22	1.20	1.36
14	15 kDa selenoprotein SEP15	O60613	18	8	3	5	3	0.38	0.63	0.38
15	182 kDa tankyrase-1-binding protein TNKS1BP1	Q9C0C2	182	69	73	87	71	1.06	1.26	1.03
16	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-3 PLCB3	Q01970	139	8	14	16	14	1.75	2.00	1.75
17	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase delta-1 PLCD1	P51178	86	9	6	8	4	0.67	0.89	0.44
18	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase delta-3 PLCD3	Q8N3E9	89	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
19	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase gamma-1 PLCG1	P19174	149	2	0	3	0	0.00	1.50	0.00
20	2,4-dienoyl-CoA reductase, mitochondrial DECR1	Q16698	36	5	4	3	5	0.80	0.60	1.00
21	2',5'-phosphodiesterase 12 PDE12	Q6L8Q7	67	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
22	26S protease regulatory subunit 10B PSMC6	P62333	44	10	21	17	17	2.10	1.70	1.70
23	26S protease regulatory subunit 4 PSMC1	P62191	49	34	30	32	30	0.88	0.94	0.88
24	26S protease regulatory subunit 6A PSMC3	P17980	49	19	18	25	23	0.95	1.32	1.21
25	26S protease regulatory subunit 6B PSMC4	P43686	47	28	20	29	29	0.71	1.04	1.04
26	26S protease regulatory subunit 7 PSMC2	P35998	49	35	22	33	25	0.63	0.94	0.71
27	26S protease regulatory subunit 8 PSMC5	P62195	46	24	32	22	21	1.33	0.92	0.88
28	26S proteasome non-ATPase regulatory subunit 1 PSMD1	Q99460	106	51	43	59	48	0.84	1.16	0.94
29	26S proteasome non-ATPase regulatory subunit 10 PSMD10	O75832	24	6	6	6	5	1.00	1.00	0.83
30	26S proteasome non-ATPase regulatory subunit 11 PSMD11	O00231	47	44	37	35	34	0.84	0.80	0.77
31	26S proteasome non-ATPase regulatory subunit 12 PSMD12	O00232	53	30	26	30	31	0.87	1.00	1.03
32	26S proteasome non-ATPase regulatory subunit 13 PSMD13	Q9UNM6	43	36	34	32	41	0.94	0.89	1.14
33	26S proteasome non-ATPase regulatory subunit 14 PSMD14	O00487	35	22	17	19	16	0.77	0.86	0.73
34	26S proteasome non-ATPase regulatory subunit 2 PSMD2	Q13200	100	128	83	96	87	0.65	0.75	0.68
35	26S proteasome non-ATPase regulatory subunit 3 PSMD3	O43242	61	27	41	29	31	1.52	1.07	1.15
36	26S proteasome non-ATPase regulatory subunit 4 PSMD4	P55036	41	5	4	6	4	0.80	1.20	0.80
37	26S proteasome non-ATPase regulatory subunit 5 PSMD5	Q16401	56	13	18	20	17	1.38	1.54	1.31
38	26S proteasome non-ATPase regulatory subunit 6 PSMD6	Q15008	46	13	23	26	21	1.77	2.00	1.62
39	26S proteasome non-ATPase regulatory subunit 7 PSMD7	P51665	37	14	14	12	15	1.00	0.86	1.07
40	26S proteasome non-ATPase regulatory subunit 8 PSMD8	P48556	40	12	18	16	15	1.50	1.33	1.25
41	26S proteasome non-ATPase regulatory subunit 9 PSMD9	O00233	25	3	7	6	5	2.33	2.00	1.67
42	28 kDa heat- and acid-stable phosphoprotein PDAP1	Q13442	21	4	5	4	3	1.25	1.00	0.75
43	28S ribosomal protein S16, mitochondrial MRPS16	Q9Y3D3	15	4	0	3	4	0.00	0.75	1.00
44	28S ribosomal protein S17, mitochondrial MRPS17	Q9Y2R5	15	2	0	0	0	0.00	0.00	0.00
45	28S ribosomal protein S23, mitochondrial MRPS23	Q9Y3D9	22	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
46	28S ribosomal protein S34, mitochondrial MRPS34	P82930	26	4	3	0	3	0.75	0.00	0.75
47	28S ribosomal protein S36, mitochondrial MRPS36	P82909	11	13	9	12	7	0.69	0.92	0.54
48	28S ribosomal protein S6, mitochondrial MRPS6	P82932	14	4	0	0	0	0.00	0.00	0.00
49	2'-deoxynucleoside 5'-phosphate N-hydrolase 1 DNPH1	O43598	19	7	6	7	0	0.86	1.00	0.00
50	2-oxoglutarate dehydrogenase, mitochondrial OGDH	Q02218	116	23	23	20	18	1.00	0.87	0.78
51	3'(2'),5'-bisphosphate nucleotidase 1 BPNT1	O95861	33	5	6	8	11	1.20	1.60	2.20
52	39S ribosomal protein L14, mitochondrial MRPL14	Q6P1L8	16	0	0	4	0	#DIV/0!	#DIV/0!	#DIV/0!
53	39S ribosomal protein L41, mitochondrial MRPL41	Q8IXM3	15	4	4	5	4	1.00	1.25	1.00
54	39S ribosomal protein L44, mitochondrial MRPL44	Q9H9J2	38	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
55	3-beta-hydroxysteroid-Delta(8),Delta(7)-isomerase EBP	Q15125	26	3	0	0	9	0.00	0.00	3.00
56	3-hydroxyacyl-CoA dehydrogenase type-2 HSD17B10	Q99714	27	26	23	25	32	0.88	0.96	1.23
57	3-hydroxyisobutyrate dehydrogenase, mitochondrial HIBADH	P31937	35	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
58	3-hydroxyisobutyryl-CoA hydrolase, mitochondrial HIBCH	Q6NVY1	43	0	3	0	3	#DIV/0!	#DIV/0!	#DIV/0!
59	3-ketoacyl-CoA thiolase, mitochondrial ACAA2	P42765	42	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
60	3-ketoacyl-CoA thiolase, peroxisomal ACAA1	P09110	44	6	9	7	4	1.50	1.17	0.67
61	3-ketodihydrosphingosine reductase KDSR	Q06136	36	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
62	3-mercaptopyruvate sulfurtransferase MPST	P25325	33	11	8	9	8	0.73	0.82	0.73
63	40S ribosomal protein S10 RPS10	P46783	19	37	37	27	24	1.00	0.73	0.65
64	40S ribosomal protein S11 RPS11	P62280	18	38	38	34	35	1.00	0.89	0.92
65	40S ribosomal protein S12 RPS12	P25398	15	38	39	38	32	1.03	1.00	0.84
66	40S ribosomal protein S13 RPS13	P62277	17	36	30	25	35	0.83	0.69	0.97
67	40S ribosomal protein S14 RPS14	P62263	16	30	25	20	26	0.83	0.67	0.87
68	40S ribosomal protein S15 RPS15	P62841	17	16	17	15	16	1.06	0.94	1.00
69	40S ribosomal protein S15a RPS15A	P62244	15	36	39	34	38	1.08	0.94	1.06
70	40S ribosomal protein S16 RPS16	P62249	16	33	29	23	44	0.88	0.70	1.33
71	40S ribosomal protein S17 RPS17	P08708 (+1)	16	50	52	40	52	1.04	0.80	1.04
72	40S ribosomal protein S18 RPS18	P62269	18	53	47	41	46	0.89	0.77	0.87
73	40S ribosomal protein S19 RPS19	P39019	16	37	42	36	54	1.14	0.97	1.46
74	40S ribosomal protein S2 RPS2	P15880	31	34	33	50	47	0.97	1.47	1.38
75	40S ribosomal protein S20 RPS20	P60866	13	10	5	9	23	0.50	0.90	2.30
76	40S ribosomal protein S21 RPS21	P63220	9	14	11	12	5	0.79	0.86	0.36
77	40S ribosomal protein S23 RPS23	P62266	16	30	18	13	21	0.60	0.43	0.70
78	40S ribosomal protein S24 RPS24	P62847	15	17	18	18	18	1.06	1.06	1.06
79	40S ribosomal protein S25 RPS25	P62851	14	27	27	22	27	1.00	0.81	1.00

80	40S ribosomal protein S26 RPS26	P62854	13	28	20	22	23	0.71	0.79	0.82
81	40S ribosomal protein S27 RPS27	P42677	9	29	21	26	20	0.72	0.90	0.69
82	40S ribosomal protein S28 RPS28	P62857	8	8	8	9	8	1.00	1.13	1.00
83	40S ribosomal protein S29 RPS29	P62273	7	14	13	11	8	0.93	0.79	0.57
84	40S ribosomal protein S3 RPS3	P23396	27	83	81	98	125	0.98	1.18	1.51
85	40S ribosomal protein S30 FAU	P62861	7	8	5	8	7	0.63	1.00	0.88
86	40S ribosomal protein S3a RPS3A	P61247	30	32	39	34	29	1.22	1.06	0.91
87	40S ribosomal protein S4, X isoform RPS4X	P62701	30	47	49	52	57	1.04	1.11	1.21
88	40S ribosomal protein S5 RPS5	P46782	23	64	67	61	51	1.05	0.95	0.80
89	40S ribosomal protein S6 RPS6	P62753	29	17	15	22	27	0.88	1.29	1.59
90	40S ribosomal protein S7 RPS7	P62081	22	66	59	62	48	0.89	0.94	0.73
91	40S ribosomal protein S8 RPS8	P62241	24	29	27	27	42	0.93	0.93	1.45
92	40S ribosomal protein S9 RPS9	P46781	23	46	52	49	34	1.13	1.07	0.74
93	40S ribosomal protein SA RPSA	P08865	33	46	56	53	53	1.22	1.15	1.15
94	4-aminobutyrate aminotransferase, mitochondrial ABAT	P80404	56	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
95	4F2 cell-surface antigen heavy chain SLC3A2	P08195	68	59	63	67	67	1.07	1.14	1.14
96	4-trimethylaminobutyraldehyde dehydrogenase ALDH9A1	P49189	54	5	4	7	10	0.80	1.40	2.00
97	5'(3')-deoxyribonucleotidase, cytosolic type NT5C	Q8TCD5	23	0	0	3	2	#DIV/0!	#DIV/0!	#DIV/0!
98	5'-3' exoribonuclease 2 XRN2	Q9H0D6	109	0	3	4	4	#DIV/0!	#DIV/0!	#DIV/0!
99	5'-AMP-activated protein kinase catalytic subunit alpha-1 PRKAA1	Q13131	64	5	7	7	5	1.40	1.40	1.00
100	5'-AMP-activated protein kinase subunit beta-1 PRKAB1	Q9Y478	30	0	2	3	3	#DIV/0!	#DIV/0!	#DIV/0!
101	5'-AMP-activated protein kinase subunit gamma-1 PRKAG1	P54619	38	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
102	5-formyltetrahydrofolate cyclo-ligase MTHFS	P49914	23	0	2	4	0	#DIV/0!	#DIV/0!	#DIV/0!
103	5'-nucleotidase NT5E	P21589	63	9	14	13	16	1.56	1.44	1.78
104	5'-nucleotidase domain-containing protein 1 NT5DC1	Q5TFE4	52	5	6	4	4	1.20	0.80	0.80
105	60 kDa heat shock protein, mitochondrial HSPD1	P10809	61	169	178	198	187	1.05	1.17	1.11
106	60 kDa SS-A/Ro ribonucleoprotein TROVE2	P10155	61	7	9	8	11	1.29	1.14	1.57
107	60S acidic ribosomal protein P0 RPLP0	P05388	34	35	32	29	26	0.91	0.83	0.74
108	60S acidic ribosomal protein P1 RPLP1	P05386	12	3	0	0	3	0.00	0.00	1.00
109	60S acidic ribosomal protein P2 RPLP2	P05387	12	24	20	21	19	0.83	0.88	0.79
110	60S ribosomal protein L10 RPL10	P27635	25	36	43	37	34	1.19	1.03	0.94
111	60S ribosomal protein L10a RPL10A	P62906	25	26	27	25	40	1.04	0.96	1.54
112	60S ribosomal protein L11 RPL11	P62913	20	27	21	27	21	0.78	1.00	0.78
113	60S ribosomal protein L12 RPL12	P30050	18	34	34	30	28	1.00	0.88	0.82
114	60S ribosomal protein L13 RPL13	P26373	24	12	17	20	26	1.42	1.67	2.17
115	60S ribosomal protein L13a RPL13A	P40429	24	17	20	28	22	1.18	1.65	1.29
116	60S ribosomal protein L14 RPL14	P50914	23	19	19	17	16	1.00	0.89	0.84
117	60S ribosomal protein L15 RPL15	P61313	24	19	25	36	42	1.32	1.89	2.21
118	60S ribosomal protein L17 RPL17	P18621	21	27	27	25	20	1.00	0.93	0.74
119	60S ribosomal protein L18 RPL18	Q07020	22	30	25	33	28	0.83	1.10	0.93
120	60S ribosomal protein L18a RPL18A	Q02543	21	35	36	34	24	1.03	0.97	0.69
121	60S ribosomal protein L19 RPL19	P84098	23	10	7	7	14	0.70	0.70	1.40
122	60S ribosomal protein L21 RPL21	P46778	19	7	12	14	7	1.71	2.00	1.00
123	60S ribosomal protein L22 RPL22	P35268	15	12	19	14	14	1.58	1.17	1.17
124	60S ribosomal protein L22-like 1 RPL22L1	Q6P5R6	15	2	2	0	4	1.00	0.00	2.00
125	60S ribosomal protein L23 RPL23	P62829	15	41	38	42	44	0.93	1.02	1.07
126	60S ribosomal protein L23a RPL23A	P62750	18	31	25	28	24	0.81	0.90	0.77
127	60S ribosomal protein L24 RPL24	P83731	18	25	27	27	27	1.08	1.08	1.08
128	60S ribosomal protein L26 RPL26	P61254	17	23	26	27	14	1.13	1.17	0.61
129	60S ribosomal protein L27 RPL27	P61353	16	21	21	22	23	1.00	1.05	1.10
130	60S ribosomal protein L27a RPL27A	P46776	17	15	13	15	13	0.87	1.00	0.87
131	60S ribosomal protein L28 RPL28	P46779	16	19	17	14	15	0.89	0.74	0.79
132	60S ribosomal protein L29 RPL29	P47914	18	5	6	5	6	1.20	1.00	1.20
133	60S ribosomal protein L3 RPL3	P39023	46	33	38	37	47	1.15	1.12	1.42
134	60S ribosomal protein L30 RPL30	P62888	13	28	23	26	21	0.82	0.93	0.75
135	60S ribosomal protein L31 RPL31	P62899	14	14	12	13	8	0.86	0.93	0.57
136	60S ribosomal protein L32 RPL32	P62910	16	25	17	17	15	0.68	0.68	0.60
137	60S ribosomal protein L34 RPL34	P49207	13	16	7	12	13	0.44	0.75	0.81
138	60S ribosomal protein L35 RPL35	P42766	15	20	13	15	21	0.65	0.75	1.05
139	60S ribosomal protein L35a RPL35A	P18077	13	7	0	0	5	0.00	0.00	0.71
140	60S ribosomal protein L36 RPL36	Q9Y3U8	12	18	14	13	12	0.78	0.72	0.67
141	60S ribosomal protein L36a RPL36A	P83881	12	4	3	9	0	0.75	2.25	0.00
142	60S ribosomal protein L36a-like RPL36AL	Q969Q0	12	2	3	10	6	1.50	5.00	3.00
143	60S ribosomal protein L37a RPL37A	P61513	10	24	17	17	18	0.71	0.71	0.75
144	60S ribosomal protein L38 RPL38	P63173	8	29	31	30	19	1.07	1.03	0.66
145	60S ribosomal protein L4 RPL4	P36578	48	15	16	20	31	1.07	1.33	2.07
146	60S ribosomal protein L5 RPL5	P46777	34	28	16	30	22	0.57	1.07	0.79
147	60S ribosomal protein L6 RPL6	Q02878	33	13	21	19	15	1.62	1.46	1.15
148	60S ribosomal protein L7 RPL7	P18124	29	28	31	30	40	1.11	1.07	1.43
149	60S ribosomal protein L7a RPL7A	P62424	30	42	35	55	62	0.83	1.31	1.48
150	60S ribosomal protein L8 RPL8	P62917	28	14	12	20	24	0.86	1.43	1.71
151	60S ribosomal protein L9 RPL9	P32969	22	30	31	29	31	1.03	0.97	1.03
152	60S ribosome subunit biogenesis protein NIP7 homolog NIP7	Q9Y221	20	2	2	3	0	1.00	1.50	0.00
153	6-phosphogluconate dehydrogenase, decarboxylating PGD	P52209	53	54	50	56	64	0.93	1.04	1.19
154	6-phosphogluconolactonase PGLS	O95336	28	15	18	19	25	1.20	1.27	1.67
155	7,8-dihydro-8-oxoguanine triphosphatase NUDT1	P36639	23	5	0	0	0	0.00	0.00	0.00
156	78 kDa glucose-regulated protein HSPA5	P11021	72	237	193	191	189	0.81	0.81	0.80
157	7-dehydrocholesterol reductase DHCR7	Q9UBM7	54	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
158	Absent in melanoma 1 protein AIM1	Q9Y4K1	189	4	3	5	4	0.75	1.25	1.00
159	Acetyl-CoA acetyltransferase, cytosolic ACAT2	Q9BWD1	41	52	44	50	46	0.85	0.96	0.88
160	Acetyl-CoA acetyltransferase, mitochondrial ACAT1	P24752	45	2	7	2	7	3.50	1.00	3.50
161	Acetyl-CoA carboxylase 1 ACACA	Q13085	266	32	34	41	42	1.06	1.28	1.31

162	Acid ceramidase ASAH1	Q13510	45	16	16	10	11	1.00	0.63	0.69
163	Acidic leucine-rich nuclear phosphoprotein 32 family member A ANP32A	P39687	29	12	16	9	0	1.33	0.75	0.00
164	Acidic leucine-rich nuclear phosphoprotein 32 family member B ANP32B	Q92688	29	24	20	20	27	0.83	0.83	1.13
165	Acidic leucine-rich nuclear phosphoprotein 32 family member E ANP32E	Q9BTT0	31	0	4	2	0	#DIV/0!	#DIV/0!	#DIV/0!
166	Aconitate hydratase, mitochondrial ACO2	Q99798	85	34	27	25	24	0.79	0.74	0.71
167	Actin filament-associated protein 1-like 2 AFAP1L2	Q8N4X5	91	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
168	Actin, alpha skeletal muscle ACTA1	P68133	42	0	150	126	135	#DIV/0!	#DIV/0!	#DIV/0!
169	Actin, cytoplasmic 2 ACTG1	P63261	42	930	1035	963	950	1.11	1.04	1.02
170	Actin-related protein 10 ACTR10	Q9NZ32	46	0	6	2	5	#DIV/0!	#DIV/0!	#DIV/0!
171	Actin-related protein 2 ACTR2	P61160	45	32	32	34	26	1.00	1.06	0.81
172	Actin-related protein 2/3 complex subunit 1A ARPC1A	Q92747	42	6	6	2	3	1.00	0.33	0.50
173	Actin-related protein 2/3 complex subunit 1B ARPC1B	O15143	41	38	44	42	41	1.16	1.11	1.08
174	Actin-related protein 2/3 complex subunit 2 ARPC2	O15144	34	45	62	44	40	1.38	0.98	0.89
175	Actin-related protein 2/3 complex subunit 3 ARPC3	O15145	21	29	21	24	22	0.72	0.83	0.76
176	Actin-related protein 2/3 complex subunit 4 ARPC4	P59998	20	57	48	49	55	0.84	0.86	0.96
177	Actin-related protein 2/3 complex subunit 5 ARPC5	O15511	16	9	13	9	10	1.44	1.00	1.11
178	Actin-related protein 2/3 complex subunit 5-like protein ARPC5L	Q9BPX5	17	8	14	14	12	1.75	1.75	1.50
179	Actin-related protein 3 ACTR3	P61158	47	69	67	56	47	0.97	0.81	0.68
180	Activated RNA polymerase II transcriptional coactivator p15 SUB1	P53999	14	22	15	15	9	0.68	0.68	0.41
181	Activating signal cointegrator 1 complex subunit 2 ASCC2	Q9H1I8	86	2	2	2	3	1.00	1.00	1.50
182	Activating signal cointegrator 1 complex subunit 3 ASCC3	Q8N3C0	251	7	4	0	4	0.57	0.00	0.57
183	Activator of 90 kDa heat shock protein ATPase homolog 1 AHSA1	O95433	38	15	19	17	14	1.27	1.13	0.93
184	Acyl carrier protein, mitochondrial NDUFAB1	O14561	17	3	2	6	3	0.67	2.00	1.00
185	Acylamino-acid-releasing enzyme APEH	P13798	81	7	2	6	10	0.29	0.86	1.43
186	Acyl-CoA dehydrogenase family member 9, mitochondrial ACAD9	Q9H845	69	5	4	0	0	0.80	0.00	0.00
187	Acyl-CoA-binding protein DBI	P07108	10	10	5	7	4	0.50	0.70	0.40
188	Acyl-coenzyme A thioesterase 13 ACOT13	Q9NPJ3	15	0	2	4	5	#DIV/0!	#DIV/0!	#DIV/0!
189	Acyl-coenzyme A thioesterase 9, mitochondrial ACOT9	Q9Y305	50	12	5	6	6	0.42	0.50	0.50
190	Acylphosphatase-1 ACYP1	P07311	11	2	0	0	0	0.00	0.00	0.00
191	Acyl-protein thioesterase 1 LYPLA1	O75608	25	19	18	18	14	0.95	0.95	0.74
192	Acyl-protein thioesterase 2 LYPLA2	O95372	25	12	13	14	8	1.08	1.17	0.67
193	Acylpyruvase FAHD1, mitochondrial FAHD1	Q6P587	25	3	5	6	3	1.67	2.00	1.00
194	Adapter molecule crk CRK	P46108	34	8	8	14	15	1.00	1.75	1.88
195	Adaptin ear-binding coat-associated protein 2 NECAP2	Q9NVZ3	28	3	0	0	0	0.00	0.00	0.00
196	Adenine phosphoribosyltransferase APRT	P07741	20	40	35	41	34	0.88	1.03	0.85
197	Adenosine kinase ADK	P55263	41	9	9	11	13	1.00	1.22	1.44
198	Adenosylhomocysteinase AHCY	P23526	48	65	71	78	74	1.09	1.20	1.14
199	Adenylate kinase 2, mitochondrial AK2	P54819	26	18	23	25	25	1.28	1.39	1.39
200	Adenylate kinase 4, mitochondrial AK4	P27144	25	20	21	20	17	1.05	1.00	0.85
201	Adenylate kinase isoenzyme 1 AK1	P00568	22	23	18	17	18	0.78	0.74	0.78
202	Adenylosuccinate lyase ADSL	P30566	55	0	7	5	7	#DIV/0!	#DIV/0!	#DIV/0!
203	Adenylosuccinate synthetase isozyme 2 ADSS	P30520	50	0	5	8	0	#DIV/0!	#DIV/0!	#DIV/0!
204	Adenylyl cyclase-associated protein 1 CAP1	Q01518	52	155	138	160	159	0.89	1.03	1.03
205	Adipocyte plasma membrane-associated protein APMAP	Q9HDC9	46	26	20	24	22	0.77	0.92	0.85
206	ADP/ATP translocase 2 SLC25A5	P05141	33	31	35	33	45	1.13	1.06	1.45
207	ADP/ATP translocase 3 SLC25A6	P12236	33	0	0	8	10	#DIV/0!	#DIV/0!	#DIV/0!
208	ADP-ribosylation factor 1 ARF1	P84077	21	87	78	72	95	0.90	0.83	1.09
209	ADP-ribosylation factor 4 ARF4	P18085	21	69	64	58	60	0.93	0.84	0.87
210	ADP-ribosylation factor 5 ARF5	P84085	21	56	28	44	56	0.50	0.79	1.00
211	ADP-ribosylation factor 6 ARF6	P62330	20	14	11	8	5	0.79	0.57	0.36
212	ADP-ribosylation factor GTPase-activating protein 1 ARFGAP1	Q8N6T3	45	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
213	ADP-ribosylation factor-like protein 1 ARL1	P40616	20	15	17	17	16	1.13	1.13	1.07
214	ADP-ribosylation factor-like protein 2 ARL2	P36404	21	8	2	2	0	0.25	0.25	0.00
215	ADP-ribosylation factor-like protein 3 ARL3	P36405	20	11	8	6	6	0.73	0.55	0.55
216	ADP-ribosylation factor-like protein 6-interacting protein 1 ARL6IP1	Q15041	23	3	4	3	0	1.33	1.00	0.00
217	ADP-ribosylation factor-like protein 8A ARL8A	Q96BM9	21	22	20	21	20	0.91	0.95	0.91
218	ADP-ribosylation factor-like protein 8B ARL8B	Q9NVJ2	22	28	27	29	34	0.96	1.04	1.21
219	ADP-ribosylation factor-related protein 1 ARFRP1	Q13795	23	0	3	4	3	#DIV/0!	#DIV/0!	#DIV/0!
220	ADP-sugar pyrophosphatase NUDT5	Q9UKK9	24	11	11	15	13	1.00	1.36	1.18
221	Afadin MLLT4	P55196	207	2	3	5	5	1.50	2.50	2.50
222	Aflatoxin B1 aldehyde reductase member 2 AKR7A2	O43488	40	3	5	7	5	1.67	2.33	1.67
223	Agrin AGRN	O00468	217	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
224	A-kinase anchor protein 12 AKAP12	Q02952	191	0	0	6	2	#DIV/0!	#DIV/0!	#DIV/0!
225	A-kinase anchor protein 2 AKAP2	Q9Y2D5	95	0	5	4	3	#DIV/0!	#DIV/0!	#DIV/0!
226	Alanine--tRNA ligase, cytoplasmic AARS	P49588	107	54	52	39	41	0.96	0.72	0.76
227	Alcohol dehydrogenase [NADP(+)] AKR1A1	P14550	37	31	32	33	26	1.03	1.06	0.84
228	Alcohol dehydrogenase class-3 ADH5	P11766	40	18	17	21	15	0.94	1.17	0.83
229	Aldehyde dehydrogenase family 1 member A3 ALDH1A3	P47895	56	58	32	34	35	0.55	0.59	0.60
230	Aldehyde dehydrogenase X, mitochondrial ALDH1B1	P30837	57	0	0	5	6	#DIV/0!	#DIV/0!	#DIV/0!
231	Aldehyde dehydrogenase, dimeric NADP-preferring ALDH3A1	P30838	50	9	10	12	14	1.11	1.33	1.56
232	Aldehyde dehydrogenase, mitochondrial ALDH2	P05091	56	24	22	20	23	0.92	0.83	0.96
233	Aldo-keto reductase family 1 member B10 AKR1B10	O60218	36	15	19	15	16	1.27	1.00	1.07
234	Aldo-keto reductase family 1 member C1 AKR1C1	Q04828	37	72	63	52	59	0.88	0.72	0.82
235	Aldo-keto reductase family 1 member C2 AKR1C2	P52895	37	63	41	43	43	0.65	0.68	0.68
236	Aldo-keto reductase family 1 member C3 AKR1C3	P42330	37	51	39	35	45	0.76	0.69	0.88
237	Aldose reductase AKR1B1	P15121	36	32	31	30	25	0.97	0.94	0.78
238	Alkyldihydroxyacetonephosphate synthase, peroxisomal AGPS	O00116	73	2	4	12	12	2.00	6.00	6.00
239	All-trans-retinol 13,14-reductase RETSAT	Q6NUM9	67	4	5	4	2	1.25	1.00	0.50
240	Alpha/beta hydrolase domain-containing protein 11 ABHD11	Q8NFV4	35	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
241	Alpha/beta hydrolase domain-containing protein 14B ABHD14B	Q96IU4	22	14	5	5	4	0.36	0.36	0.29
242	Alpha-1,3-mannosyl-glycoprotein 2-beta-N-acetylglucosaminyltransferase MGAT1	P26572	51	2	0	0	0	0.00	0.00	0.00
243	Alpha-2-macroglobulin-like protein 1 A2ML1	A8K2U0	161	0	0	5	3	#DIV/0!	#DIV/0!	#DIV/0!

244	Alpha-actinin-1 ACTN1	P12814	103	430	360	384	341	0.84	0.89	0.79
245	Alpha-actinin-4 ACTN4	O43707	105	382	333	298	281	0.87	0.78	0.74
246	Alpha-adducin ADD1	P35611	81	0	2	0	2	#DIV/0!	#DIV/0!	#DIV/0!
247	Alpha-aminoadipic semialdehyde dehydrogenase ALDH7A1	P49419	58	18	21	20	19	1.17	1.11	1.06
248	Alpha-centractin ACTR1A	P61163	43	31	28	25	22	0.90	0.81	0.71
249	Alpha-crystallin B chain CRYAB	P02511	20	11	6	6	5	0.55	0.55	0.45
250	Alpha-enolase ENO1	P06733	47	430	471	520	475	1.10	1.21	1.10
251	Alpha-mannosidase 2 MAN2A1	Q16706	131	4	0	0	5	0.00	0.00	1.25
252	Alpha-parvin PARVA	Q9NVD7	42	2	5	5	8	2.50	2.50	4.00
253	Alpha-soluble NSF attachment protein NAPA	P54920	33	18	16	12	11	0.89	0.67	0.61
254	Alpha-synuclein SNCA	P37840	14	6	0	6	4	0.00	1.00	0.67
255	Aminoacyl tRNA synthase complex-interacting multifunctional protein 1 AIMP1	Q12904	34	12	8	19	15	0.67	1.58	1.25
256	Aminoacyl tRNA synthase complex-interacting multifunctional protein 2 AIMP2	Q13155	35	17	11	11	7	0.65	0.65	0.41
257	Aminoacylase-1 ACY1	Q03154	46	0	5	9	8	#DIV/0!	#DIV/0!	#DIV/0!
258	Aminopeptidase B RNPEP	Q9H4A4	73	30	31	33	37	1.03	1.10	1.23
259	Amyloid beta A4 protein APP	P05067	87	8	8	8	6	1.00	1.00	0.75
260	Anamorsin CIAPIN1	Q6FI81	34	8	5	9	10	0.63	1.13	1.25
261	Ankycorbin RAI14	Q9P0K7	110	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
262	Ankyrin repeat domain-containing protein SOWAHC SOWAHC	Q53LP3	56	2	0	0	2	0.00	0.00	1.00
263	Annexin A1 ANXA1	P04083	39	241	272	286	243	1.13	1.19	1.01
264	Annexin A11 ANXA11	P50995	54	23	20	26	24	0.87	1.13	1.04
265	Annexin A2 ANXA2	P07355	39	446	497	551	476	1.11	1.24	1.07
266	Annexin A3 ANXA3	P12429	36	97	82	87	78	0.85	0.90	0.80
267	Annexin A4 ANXA4	P09525	36	44	35	34	33	0.80	0.77	0.75
268	Annexin A5 ANXA5	P08758	36	87	84	89	93	0.97	1.02	1.07
269	Annexin A6 ANXA6	P08133	76	6	12	28	27	2.00	4.67	4.50
270	Annexin A7 ANXA7	P20073	53	10	13	12	9	1.30	1.20	0.90
271	Annexin A8 ANXA8	P13928	37	72	69	77	52	0.96	1.07	0.72
272	Anterior gradient protein 2 homolog AGR2	O95994	20	27	19	17	24	0.70	0.63	0.89
273	AP-1 complex subunit beta-1 AP1B1	Q10567	105	62	50	47	47	0.81	0.76	0.76
274	AP-1 complex subunit gamma-1 AP1G1	O43747	91	22	19	17	24	0.86	0.77	1.09
275	AP-1 complex subunit gamma-like 2 AP1G2	O75843	87	4	0	0	3	0.00	0.00	0.75
276	AP-1 complex subunit mu-1 AP1M1	Q9BXS5	49	2	4	5	7	2.00	2.50	3.50
277	AP-1 complex subunit mu-2 AP1M2	Q9Y6Q5	48	0	0	5	0	#DIV/0!	#DIV/0!	#DIV/0!
278	AP-1 complex subunit sigma-1A AP1S1	P61966	19	5	3	3	0	0.60	0.60	0.00
279	AP-2 complex subunit alpha-1 AP2A1	O95782	108	32	28	26	16	0.88	0.81	0.50
280	AP-2 complex subunit alpha-2 AP2A2	O94973	104	8	17	17	15	2.13	2.13	1.88
281	AP-2 complex subunit beta AP2B1	P63010	105	58	46	47	51	0.79	0.81	0.88
282	AP-2 complex subunit mu AP2M1	Q96CW1	50	2	6	5	0	3.00	2.50	0.00
283	AP-2 complex subunit sigma AP2S1	P53680	17	18	9	13	15	0.50	0.72	0.83
284	AP-3 complex subunit beta-1 AP3B1	O00203	121	21	26	28	26	1.24	1.33	1.24
285	AP-3 complex subunit delta-1 AP3D1	O14617	130	12	13	17	11	1.08	1.42	0.92
286	AP-3 complex subunit sigma-1 AP3S1	Q92572	22	11	5	8	3	0.45	0.73	0.27
287	Apoptosis inhibitor 5 API5	Q9BZZ5	59	2	2	2	0	1.00	1.00	0.00
288	Apoptosis regulator BAX BAX	Q07812	21	17	12	11	14	0.71	0.65	0.82
289	Apoptosis-associated speck-like protein containing a CARD PYCARD	Q9ULZ3	22	18	8	11	9	0.44	0.61	0.50
290	Apoptosis-inducing factor 1, mitochondrial AIFM1	O95831	67	3	7	2	5	2.33	0.67	1.67
291	Arachidonate 15-lipoxygenase B ALOX15B	O15296	76	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
292	Arfaptin-1 ARFIP1	P53367	42	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
293	Arginase-1 ARG1	P05089	35	0	5	0	0	#DIV/0!	#DIV/0!	#DIV/0!
294	Arginine--tRNA ligase, cytoplasmic RARS	P54136	75	63	59	61	62	0.94	0.97	0.98
295	Argininosuccinate lyase ASL	P04424	52	0	4	3	3	#DIV/0!	#DIV/0!	#DIV/0!
296	Argininosuccinate synthase ASS1	P00966	47	0	3	0	3	#DIV/0!	#DIV/0!	#DIV/0!
297	Arylsulfatase A ARSA	P15289	54	0	3	3	4	#DIV/0!	#DIV/0!	#DIV/0!
298	Asparagine synthetase [glutamine-hydrolyzing] ASNS	P08243	64	9	9	5	3	1.00	0.56	0.33
299	Asparagine--tRNA ligase, cytoplasmic NARS	O43776	63	29	30	44	39	1.03	1.52	1.34
300	Aspartate aminotransferase, cytoplasmic GOT1	P17174	46	23	30	23	27	1.30	1.00	1.17
301	Aspartate aminotransferase, mitochondrial GOT2	P00505	48	50	46	39	46	0.92	0.78	0.92
302	Aspartate--tRNA ligase, cytoplasmic DARS	P14868	57	44	37	43	40	0.84	0.98	0.91
303	Aspartyl aminopeptidase DNPEP	Q9ULA0	52	3	3	2	0	1.00	0.67	0.00
304	Astrocytic phosphoprotein PEA-15 PEA15	Q15121	15	15	15	10	11	1.00	0.67	0.73
305	Ataxin-10 ATXN10	Q9UBB4	53	6	5	9	7	0.83	1.50	1.17
306	Atlastin-3 ATL3	Q6DD88	61	30	25	25	28	0.83	0.83	0.93
307	ATP synthase F(0) complex subunit B1, mitochondrial ATP5F1	P24539	29	23	29	23	18	1.26	1.00	0.78
308	ATP synthase protein 8 MT-ATP8	P03928	8	7	4	5	0	0.57	0.71	0.00
309	ATP synthase subunit alpha, mitochondrial ATP5A1	P25705	60	69	41	42	42	0.59	0.61	0.61
310	ATP synthase subunit beta, mitochondrial ATP5B	P06576	57	78	63	59	68	0.81	0.76	0.87
311	ATP synthase subunit d, mitochondrial ATP5H	O75947	18	15	7	6	5	0.47	0.40	0.33
312	ATP synthase subunit e, mitochondrial ATP5I	P56385	8	15	10	12	11	0.67	0.80	0.73
313	ATP synthase subunit epsilon, mitochondrial ATP5E	P56381	6	5	0	5	0	0.00	1.00	0.00
314	ATP synthase subunit f, mitochondrial ATP5J2	P56134	11	16	15	14	19	0.94	0.88	1.19
315	ATP synthase subunit g, mitochondrial ATP5L	O75964	11	15	17	14	10	1.13	0.93	0.67
316	ATP synthase subunit gamma, mitochondrial ATP5C1	P36542	33	18	9	17	19	0.50	0.94	1.06
317	ATP synthase subunit O, mitochondrial ATP5O	P48047	23	22	19	21	15	0.86	0.95	0.68
318	ATPase ASNA1 ASNA1	O43681	39	8	8	8	4	1.00	1.00	0.50
319	ATPase inhibitor, mitochondrial ATPIF1	Q9UII2	12	5	5	3	0	1.00	0.60	0.00
320	ATP-binding cassette sub-family E member 1 ABCE1	P61221	67	15	15	12	14	1.00	0.80	0.93
321	ATP-binding cassette sub-family F member 1 ABCF1	Q8NE71	96	4	0	6	4	0.00	1.50	1.00
322	ATP-binding cassette sub-family F member 3 ABCF3	Q9NUQ8	80	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
323	ATP-citrate synthase ACLY	P53396	121	168	167	183	159	0.99	1.09	0.95
324	ATP-dependent 6-phosphofructokinase, liver type PFKL	P17858	85	20	16	25	20	0.80	1.25	1.00
325	ATP-dependent 6-phosphofructokinase, muscle type PFKM	P08237	85	4	0	0	0	0.00	0.00	0.00

326	ATP-dependent 6-phosphofructokinase, platelet type PFKP	Q01813	86	82	79	113	102	0.96	1.38	1.24
327	ATP-dependent Clp protease proteolytic subunit, mitochondrial CLPP	Q16740	30	3	3	5	0	1.00	1.67	0.00
328	ATP-dependent RNA helicase A DHX9	Q08211	141	27	39	42	51	1.44	1.56	1.89
329	ATP-dependent RNA helicase DDX1 DDX1	Q92499	82	23	16	23	17	0.70	1.00	0.74
330	ATP-dependent RNA helicase DDX19A DDX19A	Q9NUU7	54	3	6	5	6	2.00	1.67	2.00
331	ATP-dependent RNA helicase DDX39A DDX39A	O00148	49	0	0	20	21	#DIV/0!	#DIV/0!	#DIV/0!
332	ATP-dependent RNA helicase DDX3X DDX3X	O00571	73	38	28	41	44	0.74	1.08	1.16
333	Autophagy-related protein 16-1 ATG16L1	Q676U5	68	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
334	Baculoviral IAP repeat-containing protein 6 BIRC6	Q9NR09	530	6	5	3	9	0.83	0.50	1.50
335	BAG family molecular chaperone regulator 3 BAG3	O95817	62	0	5	9	10	#DIV/0!	#DIV/0!	#DIV/0!
336	Barrier-to-autointegration factor BANF1	O75531	10	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
337	Basement membrane-specific heparan sulfate proteoglycan core protein HSPG2	P98160	469	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
338	Basic leucine zipper and W2 domain-containing protein 1 BZW1	Q7L1Q6	48	26	27	23	31	1.04	0.88	1.19
339	Basic leucine zipper and W2 domain-containing protein 2 BZW2	Q9Y6E2	48	3	4	4	0	1.33	1.33	0.00
340	Basigin BSG	P35613	42	6	5	5	10	0.83	0.83	1.67
341	B-cell receptor-associated protein 31 BCAP31	P51572	28	21	20	19	24	0.95	0.90	1.14
342	Bcl-2-associated transcription factor 1 BCLAF1	Q9NYF8	106	2	0	5	3	0.00	2.50	1.50
343	Bcl-2-like protein 13 BCL2L13	Q9BXK5	53	0	5	4	7	#DIV/0!	#DIV/0!	#DIV/0!
344	BET1 homolog BET1	O15155	13	7	0	3	0	0.00	0.43	0.00
345	BET1-like protein BET1L	Q9NYM9	12	2	0	3	0	0.00	1.50	0.00
346	Beta-1,4-galactosyltransferase 1 B4GALT1	P15291	44	6	4	4	4	0.67	0.67	0.67
347	Beta-2-microglobulin B2M	P61769	14	6	10	8	4	1.67	1.33	0.67
348	Beta-actin-like protein 2 ACTBL2	Q562R1	42	56	76	69	67	1.36	1.23	1.20
349	Beta-catenin-like protein 1 CTNNBL1	Q8WYA6	65	3	4	4	5	1.33	1.33	1.67
350	Beta-galactosidase GLB1	P16278	76	11	10	11	10	0.91	1.00	0.91
351	Beta-hexosaminidase subunit alpha HEXA	P06865	61	0	4	2	4	#DIV/0!	#DIV/0!	#DIV/0!
352	Beta-hexosaminidase subunit beta HEXB	P07686	63	11	20	11	8	1.82	1.00	0.73
353	BH3-interacting domain death agonist BID	P55957	22	3	4	4	2	1.33	1.33	0.67
354	Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthase 1 PAPSS1	O43252	71	3	5	7	7	1.67	2.33	2.33
355	Bifunctional ATP-dependent dihydroxyacetone kinase/FAD-AMP lyase (cyclizing) DAK	Q3LXA3	59	0	2	3	0	#DIV/0!	#DIV/0!	#DIV/0!
356	Bifunctional glutamate/proline--tRNA ligase EPRS	P07814	171	95	85	100	85	0.89	1.05	0.89
357	Bifunctional methylenetetrahydrofolate dehydrogenase/cyclohydrolase, mitochondrial	P13995	38	3	6	2	2	2.00	0.67	0.67
358	Bifunctional purine biosynthesis protein PURH ATIC	P31939	65	44	47	51	47	1.07	1.16	1.07
359	Biliverdin reductase A BLVRA	P53004	33	21	15	17	15	0.71	0.81	0.71
360	Biogenesis of lysosome-related organelles complex 1 subunit 1 BLOC1S1	P78537	17	3	3	2	2	1.00	0.67	0.67
361	Bis(5'-nucleosyl)-tetraphosphatase [asymmetrical] NUDT2	P50583	17	7	9	12	12	1.29	1.71	1.71
362	Bisphosphoglycerate mutase BPGM	P07738	30	4	11	8	7	2.75	2.00	1.75
363	BolA-like protein 2 BOLA2	Q9H3K6	10	26	15	21	7	0.58	0.81	0.27
364	Brain acid soluble protein 1 BASP1	P80723	23	10	17	9	10	1.70	0.90	1.00
365	Branched-chain-amino-acid aminotransferase, mitochondrial BCAT2	O15382	44	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
366	Brefeldin A-inhibited guanine nucleotide-exchange protein 1 ARFGEF1	Q9Y6D6	209	5	3	5	2	0.60	1.00	0.40
367	BTB/POZ domain-containing protein KCTD12 KCTD12	Q96CX2	36	13	8	10	8	0.62	0.77	0.62
368	C-1-tetrahydrofolate synthase, cytoplasmic MTHFD1	P11586	102	25	25	28	21	1.00	1.12	0.84
369	CAD protein CAD	P27708	243	44	39	47	55	0.89	1.07	1.25
370	Cadherin-1 CDH1	P12830	97	11	10	9	9	0.91	0.82	0.82
371	Calcineurin B homologous protein 1 CHP1	Q99653	22	2	0	5	0	0.00	2.50	0.00
372	Calcium-binding mitochondrial carrier protein SCaMC-1 SLC25A24	Q6NUK1	53	2	0	0	3	0.00	0.00	1.50
373	Calcium-binding protein 39 CAB39	Q9Y376	40	20	15	19	15	0.75	0.95	0.75
374	Calcyclin-binding protein CACYBP	Q9HB71	26	7	13	9	5	1.86	1.29	0.71
375	Caldesmon CALD1	Q05682	93	32	34	33	33	1.06	1.03	1.03
376	Calmodulin CALM1	P62158	17	14	14	15	13	1.00	1.07	0.93
377	Calnexin CANX	P27824	68	71	70	69	79	0.99	0.97	1.11
378	Calpain small subunit 1 CAPNS1	P04632	28	45	48	40	63	1.07	0.89	1.40
379	Calpain small subunit 2 CAPNS2	Q96L46	28	0	5	4	2	#DIV/0!	#DIV/0!	#DIV/0!
380	Calpain-1 catalytic subunit CAPN1	P07384	82	92	93	114	106	1.01	1.24	1.15
381	Calpain-2 catalytic subunit CAPN2	P17655	80	75	78	74	69	1.04	0.99	0.92
382	Calpastatin CAST	P20810	77	24	20	25	27	0.83	1.04	1.13
383	Calponin-2 CNN2	Q99439	34	44	41	33	27	0.93	0.75	0.61
384	Calponin-3 CNN3	Q15417	36	9	10	19	11	1.11	2.11	1.22
385	Calreticulin CALR	P27797	48	80	57	58	59	0.71	0.73	0.74
386	Calumenin CALU	O43852	37	5	10	8	7	2.00	1.60	1.40
387	cAMP-dependent protein kinase type I-alpha regulatory subunit PRKAR1A	P10644	43	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
388	cAMP-dependent protein kinase type II-alpha regulatory subunit PRKAR2A	P13861	46	8	6	3	3	0.75	0.38	0.38
389	CAP-Gly domain-containing linker protein 1 CLIP1	P30622	162	10	17	19	16	1.70	1.90	1.60
390	Caprin-1 CAPRIN1	Q14444	78	12	10	9	8	0.83	0.75	0.67
391	Carbonic anhydrase 2 CA2	P00918	29	5	2	4	7	0.40	0.80	1.40
392	Carbonyl reductase [NADPH] 1 CBR1	P16152	30	42	42	47	46	1.00	1.12	1.10
393	Carboxymethylenebutenolidase homolog CMBL	Q96DG6	28	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
394	Cartilage-associated protein CRTAP	O75718	47	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
395	Casein kinase I isoform alpha CSNK1A1	P48729	39	7	12	7	5	1.71	1.00	0.71
396	Casein kinase I isoform epsilon CSNK1E	P49674	47	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
397	Casein kinase II subunit alpha CSNK2A1	P68400	45	20	18	20	18	0.90	1.00	0.90
398	Casein kinase II subunit alpha' CSNK2A2	P19784	41	14	8	4	3	0.57	0.29	0.21
399	Casein kinase II subunit beta CSNK2B	P67870	25	10	15	9	4	1.50	0.90	0.40
400	Caspase-14 CASP14	P31944	28	2	0	0	0	0.00	0.00	0.00
401	Caspase-3 CASP3	P42574	32	3	3	3	0	1.00	1.00	0.00
402	Caspase-4 CASP4	P49662	43	0	2	0	2	#DIV/0!	#DIV/0!	#DIV/0!
403	Caspase-6 CASP6	P55212	33	4	4	0	0	1.00	0.00	0.00
404	Catechol O-methyltransferase COMT	P21964	30	34	47	48	48	1.38	1.41	1.41
405	Catenin alpha-1 CTNNA1	P35221	100	102	82	93	86	0.80	0.91	0.84
406	Catenin beta-1 CTNNB1	P35222	85	36	34	44	53	0.94	1.22	1.47
407	Catenin delta-1 CTNND1	O60716	108	62	40	47	47	0.65	0.76	0.76

408	Cathepsin B CTSB	P07858	38	48	44	41	41	0.92	0.85	0.85
409	Cathepsin D CTSD	P07339	45	77	78	74	84	1.01	0.96	1.09
410	Cathepsin Z CTSZ	Q9UBR2	34	6	6	5	6	1.00	0.83	1.00
411	Cation-independent mannose-6-phosphate receptor IGF2R	P11717	274	9	4	8	4	0.44	0.89	0.44
412	Caveolin-1 CAV1	Q03135	20	52	57	52	55	1.10	1.00	1.06
413	Caveolin-2 CAV2	P51636	18	6	0	6	5	0.00	1.00	0.83
414	CCR4-NOT transcription complex subunit 1 CNOT1	A5YKK6	267	2	0	0	0	0.00	0.00	0.00
415	CD166 antigen ALCAM	Q13740	65	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
416	CD44 antigen CD44	P16070	82	32	33	31	31	1.03	0.97	0.97
417	CD59 glycoprotein CD59	P13987	14	22	24	29	37	1.09	1.32	1.68
418	CD63 antigen CD63	P08962	26	7	0	2	0	0.00	0.29	0.00
419	CD81 antigen CD81	P60033	26	8	7	6	6	0.88	0.75	0.75
420	CD9 antigen CD9	P21926	25	11	8	4	7	0.73	0.36	0.64
421	Cdc42-interacting protein 4 TRIP10	Q15642	68	0	0	7	4	#DIV/0!	#DIV/0!	#DIV/0!
422	CDGSH iron-sulfur domain-containing protein 2 CISD2	Q8N5K1	15	8	5	8	7	0.63	1.00	0.88
423	Cell cycle and apoptosis regulator protein 2 CCAR2	Q8N163	103	23	14	22	20	0.61	0.96	0.87
424	Cell differentiation protein RCD1 homolog RQCD1	Q92600	34	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
425	Cell division control protein 42 homolog CDC42	P60953	21	76	63	58	69	0.83	0.76	0.91
426	Cell division cycle and apoptosis regulator protein 1 CCAR1	Q8IX12	133	0	6	11	6	#DIV/0!	#DIV/0!	#DIV/0!
427	Cell surface glycoprotein MUC18 MCAM	P43121	72	7	4	6	8	0.57	0.86	1.14
428	Cellular nucleic acid-binding protein CNBP	P62633	19	5	3	5	0	0.60	1.00	0.00
429	Cellular retinoic acid-binding protein 2 CRABP2	P29373	16	21	13	16	16	0.62	0.76	0.76
430	Centromere/kinetochore protein zw10 homolog ZW10	O43264	89	5	3	4	5	0.60	0.80	1.00
431	Charged multivesicular body protein 1a CHMP1A	Q9HD42	22	4	3	4	2	0.75	1.00	0.50
432	Charged multivesicular body protein 1b CHMP1B	Q7LBR1	22	0	5	4	0	#DIV/0!	#DIV/0!	#DIV/0!
433	Charged multivesicular body protein 2a CHMP2A	O43633	25	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
434	Charged multivesicular body protein 3 CHMP3	Q9Y3E7	25	0	0	0	4	#DIV/0!	#DIV/0!	#DIV/0!
435	Charged multivesicular body protein 4b CHMP4B	Q9H444	25	3	3	0	0	1.00	0.00	0.00
436	Charged multivesicular body protein 6 CHMP6	Q96FZ7	23	0	0	0	4	#DIV/0!	#DIV/0!	#DIV/0!
437	Chloride intracellular channel protein 1 CLIC1	O00299	27	103	110	95	123	1.07	0.92	1.19
438	Chloride intracellular channel protein 3 CLIC3	O95833	27	3	10	11	6	3.33	3.67	2.00
439	Chloride intracellular channel protein 4 CLIC4	Q9Y696	29	27	28	28	31	1.04	1.04	1.15
440	Choline transporter-like protein 2 SLC44A2	Q8IWA5	80	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
441	Choline-phosphate cytidylyltransferase A PCYT1A	P49585	42	0	4	5	4	#DIV/0!	#DIV/0!	#DIV/0!
442	Chromobox protein homolog 3 CBX3	Q13185	21	12	9	15	11	0.75	1.25	0.92
443	Citrate synthase, mitochondrial CS	O75390	52	23	24	20	19	1.04	0.87	0.83
444	C-Jun-amino-terminal kinase-interacting protein 4 SPAG9	O60271	146	8	13	19	15	1.63	2.38	1.88
445	Clathrin heavy chain 1 CLTC	Q00610	192	420	404	468	452	0.96	1.11	1.08
446	Clathrin interactor 1 CLINT1	Q14677	68	5	10	14	10	2.00	2.80	2.00
447	Clathrin light chain B CLTB	P09497	25	3	5	2	0	1.67	0.67	0.00
448	Claudin-1 CLDN1	O95832	23	6	5	4	6	0.83	0.67	1.00
449	Cleavage and polyadenylation specificity factor subunit 5 NUDT21	O43809	26	9	12	13	10	1.33	1.44	1.11
450	Cleavage and polyadenylation specificity factor subunit 6 CPSF6	Q16630	59	0	3	6	8	#DIV/0!	#DIV/0!	#DIV/0!
451	CLIP-associating protein 1 CLASP1	Q7Z460	169	0	0	4	2	#DIV/0!	#DIV/0!	#DIV/0!
452	Clustered mitochondria protein homolog CLUH	O75153	147	5	11	11	11	2.20	2.20	2.20
453	C-Myc-binding protein MYCBP	Q99417	12	5	2	4	4	0.40	0.80	0.80
454	Coactosin-like protein COTL1	Q14019	16	28	25	25	26	0.89	0.89	0.93
455	Coatomer subunit alpha COPA	P53621	138	109	130	156	139	1.19	1.43	1.28
456	Coatomer subunit beta COPB1	P53618	107	93	66	96	82	0.71	1.03	0.88
457	Coatomer subunit beta' COPB2	P35606	102	64	46	65	53	0.72	1.02	0.83
458	Coatomer subunit delta ARCN1	P48444	57	42	43	44	39	1.02	1.05	0.93
459	Coatomer subunit epsilon COPE	O14579	34	13	23	26	23	1.77	2.00	1.77
460	Coatomer subunit gamma-1 COPG1	Q9Y678	98	81	56	61	59	0.69	0.75	0.73
461	Coatomer subunit gamma-2 COPG2	Q9UBF2	98	15	14	18	17	0.93	1.20	1.13
462	Coatomer subunit zeta-1 COPZ1	P61923	20	33	35	30	36	1.06	0.91	1.09
463	Cocaine esterase CES2	O00748	62	2	0	2	2	0.00	1.00	1.00
464	Cofilin-1 CFL1	P23528	19	191	177	183	173	0.93	0.96	0.91
465	Cofilin-2 CFL2	Q9Y281	19	15	17	19	11	1.13	1.27	0.73
466	Coiled-coil domain-containing protein 124 CCDC124	Q96CT7	26	6	4	8	7	0.67	1.33	1.17
467	Coiled-coil domain-containing protein 22 CCDC22	O60826	71	3	4	5	5	1.33	1.67	1.67
468	Coiled-coil domain-containing protein 25 CCDC25	Q86WR0	24	4	4	4	2	1.00	1.00	0.50
469	Coiled-coil domain-containing protein 47 CCDC47	Q96A33	56	3	3	0	4	1.00	0.00	1.33
470	Coiled-coil domain-containing protein 6 CCDC6	Q16204	53	7	4	9	6	0.57	1.29	0.86
471	Coiled-coil-helix-coiled-coil-helix domain-containing protein 2, mitochondrial CHCHD2	Q9Y6H1	16	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
472	Cold shock domain-containing protein E1 CSDE1	O75534	89	19	25	14	9	1.32	0.74	0.47
473	Cold-inducible RNA-binding protein CIRBP	Q14011	19	2	5	0	2	2.50	0.00	1.00
474	Collagen alpha-1(XVII) chain COL17A1	Q9UMD9	150	0	4	4	4	#DIV/0!	#DIV/0!	#DIV/0!
475	COMM domain-containing protein 1 COMMD1	Q8N668	21	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
476	COMM domain-containing protein 2 COMMD2	Q86X83	23	0	4	4	0	#DIV/0!	#DIV/0!	#DIV/0!
477	COMM domain-containing protein 3 COMMD3	Q9UBI1	22	7	8	7	3	1.14	1.00	0.43
478	COMM domain-containing protein 4 COMMD4	Q9H0A8	22	6	4	7	3	0.67	1.17	0.50
479	COMM domain-containing protein 6 COMMD6	Q7Z4G1	10	2	0	2	0	0.00	1.00	0.00
480	COMM domain-containing protein 7 COMMD7	Q86VX2	23	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
481	COMM domain-containing protein 8 COMMD8	Q9NX08	21	4	3	0	0	0.75	0.00	0.00
482	COMM domain-containing protein 9 COMMD9	Q9P000	22	6	2	6	3	0.33	1.00	0.50
483	Complement component 1 Q subcomponent-binding protein, mitochondrial C1QBP	Q07021	31	12	9	11	17	0.75	0.92	1.42
484	Complex III assembly factor LYRM7 LYRM7	Q5U5X0	12	2	2	0	0	1.00	0.00	0.00
485	Constitutive coactivator of PPAR-gamma-like protein 1 FAM120A	Q9NZB2	122	5	4	3	6	0.80	0.60	1.20
486	COP9 signalosome complex subunit 1 GPS1	Q13098	56	6	13	14	14	2.17	2.33	2.33
487	COP9 signalosome complex subunit 2 COPS2	P61201	52	6	5	8	10	0.83	1.33	1.67
488	COP9 signalosome complex subunit 3 COPS3	Q9UNS2	48	5	12	12	10	2.40	2.40	2.00
489	COP9 signalosome complex subunit 4 COPS4	Q9BT78	46	7	13	14	11	1.86	2.00	1.57

490	COP9 signalosome complex subunit 5 COPS5	Q92905	38	9	13	14	12	1.44	1.56	1.33
491	COP9 signalosome complex subunit 6 COPS6	Q7L5N1	36	8	11	16	14	1.38	2.00	1.75
492	COP9 signalosome complex subunit 7a COPS7A	Q9UBW8	30	9	2	8	7	0.22	0.89	0.78
493	COP9 signalosome complex subunit 8 COPS8	Q99627	23	2	8	5	2	4.00	2.50	1.00
494	Copine-1 CPNE1	Q99829	59	8	8	4	5	1.00	0.50	0.63
495	Copine-3 CPNE3	O75131	60	8	9	12	17	1.13	1.50	2.13
496	Copper transport protein ATOX1 ATOX1	O00244	7	6	6	7	0	1.00	1.17	0.00
497	Core-binding factor subunit beta CBFB	Q13951	22	4	3	0	2	0.75	0.00	0.50
498	Cornifin-A SPRR1A	P35321	10	20	11	12	17	0.55	0.60	0.85
499	Coronin-1B CORO1B	Q9BR76	54	8	13	13	10	1.63	1.63	1.25
500	Coronin-1C CORO1C	Q9ULV4	53	21	29	30	28	1.38	1.43	1.33
501	Coronin-7 CORO7	P57737	101	0	0	3	2	#DIV/0!	#DIV/0!	#DIV/0!
502	Costars family protein ABRACL ABRACL	Q9P1F3	9	5	3	3	3	0.60	0.60	0.60
503	Creatine kinase U-type, mitochondrial CKMT1A	P12532	47	12	12	9	10	1.00	0.75	0.83
504	Crk-like protein CRKL	P46109	34	9	7	9	4	0.78	1.00	0.44
505	CTP synthase 1 CTPS1	P17812	67	19	25	30	28	1.32	1.58	1.47
506	CTP synthase 2 CTPS2	Q9NRF8	66	0	5	5	7	#DIV/0!	#DIV/0!	#DIV/0!
507	Cullin-1 CUL1	Q13616	90	3	3	0	3	1.00	0.00	1.00
508	Cullin-2 CUL2	Q13617	87	5	0	3	0	0.00	0.60	0.00
509	Cullin-3 CUL3	Q13618	89	13	6	12	8	0.46	0.92	0.62
510	Cullin-4A CUL4A	Q13619	88	5	5	5	7	1.00	1.00	1.40
511	Cullin-associated NEDD8-dissociated protein 1 CAND1	Q86VP6	136	82	84	79	79	1.02	0.96	0.96
512	C-X-C motif chemokine 10 CXCL10	P02778	11	0	7	0	0	#DIV/0!	#DIV/0!	#DIV/0!
513	Cyclin-D1-binding protein 1 CCNDBP1	O95273	40	0	4	0	0	#DIV/0!	#DIV/0!	#DIV/0!
514	Cyclin-dependent kinase 1 CDK1	P06493	34	3	0	0	0	0.00	0.00	0.00
515	Cyclin-dependent kinase 11B CDK11B	P21127 (+1)	93	3	2	0	2	0.67	0.00	0.67
516	Cyclin-dependent kinase 6 CDK6	Q00534	37	3	6	6	0	2.00	2.00	0.00
517	Cyclin-G-associated kinase GAK	O14976	143	2	0	0	0	0.00	0.00	0.00
518	Cystatin-A CSTA	P01040	11	6	8	7	5	1.33	1.17	0.83
519	Cystatin-B CSTB	P04080	11	35	29	31	33	0.83	0.89	0.94
520	Cysteine and glycine-rich protein 1 CSRP1	P21291	21	34	43	45	37	1.26	1.32	1.09
521	Cysteine and glycine-rich protein 2 CSRP2	Q16527	21	3	2	0	0	0.67	0.00	0.00
522	Cysteine and histidine-rich domain-containing protein 1 CHORDC1	Q9UHD1	37	7	6	6	5	0.86	0.86	0.71
523	Cysteine protease ATG4B ATG4B	Q9Y4P1	44	0	2	0	2	#DIV/0!	#DIV/0!	#DIV/0!
524	Cysteine-rich protein 2 CRIP2	P52943	22	6	6	5	5	1.00	0.83	0.83
525	Cysteine--tRNA ligase, cytoplasmic CARS	P49589	85	21	23	34	24	1.10	1.62	1.14
526	Cytochrome b5 type B CYB5B	O43169	16	6	3	5	2	0.50	0.83	0.33
527	Cytochrome b-c1 complex subunit 2, mitochondrial UQCRC2	P22695	48	0	3	0	4	#DIV/0!	#DIV/0!	#DIV/0!
528	Cytochrome b-c1 complex subunit 7 UQCRB	P14927	14	3	0	0	0	0.00	0.00	0.00
529	Cytochrome b-c1 complex subunit 8 UQCRQ	O14949	10	2	0	0	0	0.00	0.00	0.00
530	Cytochrome c CYCS	P99999	12	6	7	7	5	1.17	1.17	0.83
531	Cytochrome c oxidase assembly factor 3 homolog, mitochondrial COA3	Q9Y2R0	12	7	5	3	0	0.71	0.43	0.00
532	Cytochrome c oxidase protein 20 homolog COX20	Q5RI15	13	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
533	Cytochrome c oxidase subunit 2 MT-CO2	P00403	26	8	7	4	2	0.88	0.50	0.25
534	Cytochrome c oxidase subunit 4 isoform 1, mitochondrial COX4I1	P13073	20	0	0	0	6	#DIV/0!	#DIV/0!	#DIV/0!
535	Cytochrome c oxidase subunit 5A, mitochondrial COX5A	P20674	17	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
536	Cytochrome c oxidase subunit 6C COX6C	P09669	9	4	0	0	0	0.00	0.00	0.00
537	Cytochrome c oxidase subunit NDUFA4 NDUFA4	O00483	9	3	6	0	3	2.00	0.00	1.00
538	Cytochrome P450 20A1 CYP20A1	Q6UW02	52	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
539	Cytoglobin CYGB	Q8WWM9	21	20	19	16	8	0.95	0.80	0.40
540	Cytoplasmic aconitate hydratase ACO1	P21399	98	16	11	16	12	0.69	1.00	0.75
541	Cytoplasmic dynein 1 heavy chain 1 DYNC1H1	Q14204	532	425	579	524	572	1.36	1.23	1.35
542	Cytoplasmic dynein 1 intermediate chain 2 DYNC1I2	Q13409	71	10	12	18	21	1.20	1.80	2.10
543	Cytoplasmic dynein 1 light intermediate chain 1 DYNC1LI1	Q9Y6G9	57	3	4	3	0	1.33	1.00	0.00
544	Cytoplasmic dynein 1 light intermediate chain 2 DYNC1LI2	O43237	54	2	5	8	10	2.50	4.00	5.00
545	Cytoplasmic FMR1-interacting protein 1 CYFIP1	Q7L576	145	50	51	63	57	1.02	1.26	1.14
546	Cytoskeleton-associated protein 4 CKAP4	Q07065	66	17	17	29	33	1.00	1.71	1.94
547	Cytoskeleton-associated protein 5 CKAP5	Q14008	226	0	3	2	6	#DIV/0!	#DIV/0!	#DIV/0!
548	Cytosol aminopeptidase LAP3	P28838	56	15	14	19	14	0.93	1.27	0.93
549	Cytosolic acyl coenzyme A thioester hydrolase ACOT7	O00154	42	26	34	34	34	1.31	1.31	1.31
550	Cytosolic Fe-S cluster assembly factor NUBP2 NUBP2	Q9Y5Y2	29	7	6	6	3	0.86	0.86	0.43
551	Cytosolic non-specific dipeptidase CNDP2	Q96KP4	53	40	33	41	36	0.83	1.03	0.90
552	Cytosolic purine 5'-nucleotidase NT5C2	P49902	65	0	2	4	5	#DIV/0!	#DIV/0!	#DIV/0!
553	D-3-phosphoglycerate dehydrogenase PHGDH	O43175	57	23	21	20	17	0.91	0.87	0.74
554	DAZ-associated protein 1 DAZAP1	Q96EP5	43	0	3	2	0	#DIV/0!	#DIV/0!	#DIV/0!
555	DCC-interacting protein 13-alpha APPL1	Q9UKG1	80	0	3	0	2	#DIV/0!	#DIV/0!	#DIV/0!
556	DCN1-like protein 1 DCUN1D1	Q96GG9	30	0	11	9	4	#DIV/0!	#DIV/0!	#DIV/0!
557	D-dopachrome decarboxylase DDT	P30046	13	12	10	12	11	0.83	1.00	0.92
558	DDRGK domain-containing protein 1 DDRGK1	Q96HY6	36	3	5	5	3	1.67	1.67	1.00
559	Dedicator of cytokinesis protein 5 DOCK5	Q9H7D0	215	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
560	Dedicator of cytokinesis protein 7 DOCK7	Q96N67	243	9	4	9	6	0.44	1.00	0.67
561	Dehydrogenase/reductase SDR family member 4 DHRS4	Q9BTZ2	30	0	2	4	0	#DIV/0!	#DIV/0!	#DIV/0!
562	Dehydrogenase/reductase SDR family member 7 DHRS7	Q9Y394	38	18	16	10	8	0.89	0.56	0.44
563	Delta(24)-sterol reductase DHCR24	Q15392	60	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
564	Delta(3,5)-Delta(2,4)-dienoyl-CoA isomerase, mitochondrial ECH1	Q13011	36	9	10	11	9	1.11	1.22	1.00
565	Delta-1-pyrroline-5-carboxylate dehydrogenase, mitochondrial ALDH4A1	P30038	62	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
566	Delta-1-pyrroline-5-carboxylate synthase ALDH18A1	P54886	87	13	14	11	10	1.08	0.85	0.77
567	Density-regulated protein DENR	O43583	22	6	0	5	0	0.00	0.83	0.00
568	Deoxycytidylate deaminase DCTD	P32321	20	5	4	6	5	0.80	1.20	1.00
569	Deoxyribose-phosphate aldolase DERA	Q9Y315	35	11	6	8	5	0.55	0.73	0.45
570	Deoxyuridine 5'-triphosphate nucleotidohydrolase, mitochondrial DUT	P33316	27	2	0	4	0	0.00	2.00	0.00
571	Derlin-1 DERL1	Q9BUN8	29	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!

572	Dermcidin DCD	P81605	11	4	10	3	2	2.50	0.75	0.50
573	Desmocollin-1 DSC1	Q08554	100	0	4	0	0	#DIV/0!	#DIV/0!	#DIV/0!
574	Desmoglein-1 DSG1	Q02413	114	3	10	4	0	3.33	1.33	0.00
575	Desmoplakin DSP	P15924	332	385	268	176	161	0.70	0.46	0.42
576	Destrin DSTN	P60981	19	73	56	56	62	0.77	0.77	0.85
577	Deubiquitinating protein VCIP135 VCPIP1	Q96JH7	134	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
578	Developmentally-regulated GTP-binding protein 1 DRG1	Q9Y295	41	4	0	4	3	0.00	1.00	0.75
579	Developmentally-regulated GTP-binding protein 2 DRG2	P55039	41	2	3	0	0	1.50	0.00	0.00
580	Diablo homolog, mitochondrial DIABLO	Q9NR28	27	2	7	6	2	3.50	3.00	1.00
581	Diacylglycerol kinase alpha DGKA	P23743	83	9	10	14	12	1.11	1.56	1.33
582	Dihydrolipoyl dehydrogenase, mitochondrial DLD	P09622	54	20	17	17	17	0.85	0.85	0.85
583	Dihydrolipoyllysine-residue acetyltransferase component of pyruvate dehydrogenase c	P10515	69	15	11	14	15	0.73	0.93	1.00
584	Dihydrolipoyllysine-residue succinyltransferase component of 2-oxoglutarate dehydrog	P36957	49	20	21	19	22	1.05	0.95	1.10
585	Dihydropteridine reductase QDPR	P09417	26	15	16	17	13	1.07	1.13	0.87
586	Dihydropyrimidinase-related protein 2 DPYSL2	Q16555	62	20	21	27	29	1.05	1.35	1.45
587	Dihydropyrimidinase-related protein 3 DPYSL3	Q14195	62	0	5	5	4	#DIV/0!	#DIV/0!	#DIV/0!
588	Dipeptidyl peptidase 1 CTSC	P53634	52	19	13	17	12	0.68	0.89	0.63
589	Dipeptidyl peptidase 3 DPP3	Q9NY33	83	51	43	52	53	0.84	1.02	1.04
590	Dipeptidyl peptidase 9 DPP9	Q86TI2	98	6	3	2	4	0.50	0.33	0.67
591	Diphosphoinositol polyphosphate phosphohydrolase 2 NUDT4	Q9NZJ9	20	0	3	2	0	#DIV/0!	#DIV/0!	#DIV/0!
592	Diphosphomevalonate decarboxylase MVD	P53602	43	5	12	8	10	2.40	1.60	2.00
593	Disks large homolog 1 DLG1	Q12959	100	2	0	0	3	0.00	0.00	1.50
594	DNA damage-binding protein 1 DDB1	Q16531	127	14	17	14	16	1.21	1.00	1.14
595	DNA dC->dU-editing enzyme APOBEC-3C APOBEC3C	Q9NRW3	23	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
596	DNA repair protein RAD50 RAD50	Q92878	154	0	2	2	2	#DIV/0!	#DIV/0!	#DIV/0!
597	DNA replication licensing factor MCM7 MCM7	P33993	81	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
598	DNA-(apurinic or apyrimidinic site) lyase APEX1	P27695	36	8	15	13	10	1.88	1.63	1.25
599	DNA-dependent protein kinase catalytic subunit PRKDC	P78527	469	42	113	61	120	2.69	1.45	2.86
600	DNA-directed RNA polymerase II subunit RPB2 POLR2B	P30876	134	2	3	4	0	1.50	2.00	0.00
601	DNA-directed RNA polymerase II subunit RPB3 POLR2C	P19387	31	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
602	DNA-directed RNA polymerase II subunit RPB7 POLR2G	P62487	19	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
603	DNA-directed RNA polymerases I and III subunit RPAC1 POLR1C	O15160	39	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
604	DNA-directed RNA polymerases I, II, and III subunit RPABC1 POLR2E	P19388	25	0	4	0	0	#DIV/0!	#DIV/0!	#DIV/0!
605	DNA-directed RNA polymerases I, II, and III subunit RPABC3 POLR2H	P52434	17	3	5	5	4	1.67	1.67	1.33
606	DNA-directed RNA polymerases I, II, and III subunit RPABC5 POLR2L	P62875	8	4	0	0	3	0.00	0.00	0.75
607	DnaJ homolog subfamily A member 1 DNAJA1	P31689	45	12	9	12	14	0.75	1.00	1.17
608	DnaJ homolog subfamily A member 2 DNAJA2	O60884	46	3	3	8	8	1.00	2.67	2.67
609	DnaJ homolog subfamily B member 1 DNAJB1	P25685	38	9	6	5	4	0.67	0.56	0.44
610	DnaJ homolog subfamily B member 11 DNAJB11	Q9UBS4	41	3	4	3	5	1.33	1.00	1.67
611	DnaJ homolog subfamily B member 6 DNAJB6	O75190	36	3	7	2	0	2.33	0.67	0.00
612	DnaJ homolog subfamily C member 10 DNAJC10	Q8IXB1	91	0	2	4	2	#DIV/0!	#DIV/0!	#DIV/0!
613	DnaJ homolog subfamily C member 13 DNAJC13	O75165	254	3	0	4	3	0.00	1.33	1.00
614	DnaJ homolog subfamily C member 3 DNAJC3	Q13217	58	2	8	5	9	4.00	2.50	4.50
615	DnaJ homolog subfamily C member 5 DNAJC5	Q9H3Z4	22	4	8	9	4	2.00	2.25	1.00
616	DnaJ homolog subfamily C member 7 DNAJC7	Q99615	56	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
617	DnaJ homolog subfamily C member 8 DNAJC8	O75937	30	4	0	0	0	0.00	0.00	0.00
618	Dolichol-phosphate mannosyltransferase subunit 1 DPM1	O60762	30	12	11	13	8	0.92	1.08	0.67
619	Dolichol-phosphate mannosyltransferase subunit 3 DPM3	Q9P2X0	10	6	5	6	0	0.83	1.00	0.00
620	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase 48 kDa subunit DDOST	P39656	51	7	7	5	9	1.00	0.71	1.29
621	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 1 RPN1	P04843	69	29	28	24	42	0.97	0.83	1.45
622	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 2 RPN2	P04844	69	12	10	9	12	0.83	0.75	1.00
623	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit DAD1 DAD1	P61803	12	11	11	15	8	1.00	1.36	0.73
624	Dolichyl-phosphate beta-glucosyltransferase ALG5	Q9Y673	37	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
625	Drebrin DBN1	Q16643	71	36	29	35	33	0.81	0.97	0.92
626	Drebrin-like protein DBNL	Q9UJU6	48	10	9	7	10	0.90	0.70	1.00
627	D-tyrosyl-tRNA(Tyr) deacylase 1 DTD1	Q8TEA8	23	3	6	4	4	2.00	1.33	1.33
628	Dual specificity mitogen-activated protein kinase kinase 1 MAP2K1	Q02750	43	17	14	10	13	0.82	0.59	0.76
629	Dual specificity mitogen-activated protein kinase kinase 2 MAP2K2	P36507	44	6	7	9	6	1.17	1.50	1.00
630	Dual specificity protein phosphatase 14 DUSP14	O95147	22	0	0	0	4	#DIV/0!	#DIV/0!	#DIV/0!
631	Dual specificity protein phosphatase 23 DUSP23	Q9BVJ7	17	8	2	11	5	0.25	1.38	0.63
632	Dual specificity protein phosphatase 3 DUSP3	P51452	20	9	8	6	5	0.89	0.67	0.56
633	Dynactin subunit 1 DCTN1	Q14203	142	36	55	61	61	1.53	1.69	1.69
634	Dynactin subunit 2 DCTN2	Q13561	44	7	5	8	4	0.71	1.14	0.57
635	Dynactin subunit 3 DCTN3	O75935	21	5	6	5	4	1.20	1.00	0.80
636	Dynactin subunit 5 DCTN5	Q9BTE1	20	3	3	0	4	1.00	0.00	1.33
637	Dynactin subunit 6 DCTN6	O00399	21	3	3	3	0	1.00	1.00	0.00
638	Dynamin-1-like protein DNM1L	O00429	82	43	42	49	40	0.98	1.14	0.93
639	Dynamin-2 DNM2	P50570	98	17	23	20	19	1.35	1.18	1.12
640	Dynamin-like 120 kDa protein, mitochondrial OPA1	O60313	112	3	6	5	5	2.00	1.67	1.67
641	Dynein light chain 1, cytoplasmic DYNLL1	P63167	10	27	22	24	15	0.81	0.89	0.56
642	Dynein light chain roadblock-type 1 DYNLRB1	Q9NP97	11	7	2	7	0	0.29	1.00	0.00
643	Dynein light chain Tctex-type 1 DYNLT1	P63172	12	9	5	5	6	0.56	0.56	0.67
644	Dystonin DST	Q03001	861	99	67	41	43	0.68	0.41	0.43
645	E2/E3 hybrid ubiquitin-protein ligase UBE2O UBE2O	Q9C0C9	141	0	0	4	3	#DIV/0!	#DIV/0!	#DIV/0!
646	E3 SUMO-protein ligase RanBP2 RANBP2	P49792	358	2	2	5	4	1.00	2.50	2.00
647	E3 ubiquitin/ISG15 ligase TRIM25 TRIM25	Q14258	71	6	3	3	5	0.50	0.50	0.83
648	E3 ubiquitin-protein ligase CHIP STUB1	Q9UNE7	35	4	7	7	4	1.75	1.75	1.00
649	E3 ubiquitin-protein ligase HECTD1 HECTD1	Q9ULT8	289	9	2	8	3	0.22	0.89	0.33
650	E3 ubiquitin-protein ligase HECTD3 HECTD3	Q5T447	97	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
651	E3 ubiquitin-protein ligase HUWE1 HUWE1	Q7Z6Z7	482	64	83	99	117	1.30	1.55	1.83
652	E3 ubiquitin-protein ligase KCMF1 KCMF1	Q9P0J7	42	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
653	E3 ubiquitin-protein ligase listerin LTN1	O94822	201	0	2	3	2	#DIV/0!	#DIV/0!	#DIV/0!

654	E3 ubiquitin-protein ligase NEDD4-like NEDD4L	Q96PU5	112	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
655	E3 ubiquitin-protein ligase RBX1 RBX1	P62877	12	6	6	4	5	1.00	0.67	0.83
656	E3 ubiquitin-protein ligase RNF213 RNF213	Q63HN8	591	2	3	4	3	1.50	2.00	1.50
657	E3 ubiquitin-protein ligase UBR4 UBR4	Q5T4S7	574	76	113	142	131	1.49	1.87	1.72
658	E3 UFM1-protein ligase 1 UFL1	O94874	90	6	7	11	8	1.17	1.83	1.33
659	Early endosome antigen 1 EEA1	Q15075	162	26	37	50	47	1.42	1.92	1.81
660	Echinoderm microtubule-associated protein-like 2 EML2	O95834	71	2	3	0	0	1.50	0.00	0.00
661	EF-hand domain-containing protein D2 EFHD2	Q96C19	27	25	19	29	25	0.76	1.16	1.00
662	EGF domain-specific O-linked N-acetylglucosamine transferase EOGT	Q5NDL2	62	2	0	2	2	0.00	1.00	1.00
663	EH domain-containing protein 1 EHD1	Q9H4M9	61	28	27	21	20	0.96	0.75	0.71
664	EH domain-containing protein 2 EHD2	Q9NZN4	61	12	19	10	12	1.58	0.83	1.00
665	EH domain-containing protein 4 EHD4	Q9H223	61	11	7	12	6	0.64	1.09	0.55
666	ELAV-like protein 1 ELAVL1	Q15717	36	6	14	11	8	2.33	1.83	1.33
667	Electron transfer flavoprotein subunit alpha, mitochondrial ETFA	P13804	35	13	13	13	10	1.00	1.00	0.77
668	Electron transfer flavoprotein subunit beta ETFB	P38117	28	20	24	19	18	1.20	0.95	0.90
669	ELKS/Rab6-interacting/CAST family member 1 ERC1	Q8IUD2	128	0	7	9	7	#DIV/0!	#DIV/0!	#DIV/0!
670	Elongation factor 1-alpha 1 EEF1A1	P68104	50	314	325	325	363	1.04	1.04	1.16
671	Elongation factor 1-beta EEF1B2	P24534	25	10	7	7	4	0.70	0.70	0.40
672	Elongation factor 1-delta EEF1D	P29692	31	46	40	39	40	0.87	0.85	0.87
673	Elongation factor 1-gamma EEF1G	P26641	50	81	83	88	99	1.02	1.09	1.22
674	Elongation factor 2 EEF2	P13639	95	378	339	392	363	0.90	1.04	0.96
675	Elongation factor G, mitochondrial GFM1	Q96RP9	83	4	0	0	0	0.00	0.00	0.00
676	Elongation factor Ts, mitochondrial TSFM	P43897	35	5	0	3	2	0.00	0.60	0.40
677	Elongation factor Tu GTP-binding domain-containing protein 1 EFTUD1	Q7Z2Z2	125	0	3	9	6	#DIV/0!	#DIV/0!	#DIV/0!
678	Elongation factor Tu, mitochondrial TUFM	P49411	50	36	44	28	34	1.22	0.78	0.94
679	Elongator complex protein 1 IKBKAP	O95163	150	3	3	4	3	1.00	1.33	1.00
680	Emerin EMD	P50402	29	4	4	2	2	1.00	0.50	0.50
681	Endonuclease G, mitochondrial ENDOG	Q14249	33	2	0	0	0	0.00	0.00	0.00
682	Endophilin-A2 SH3GL1	Q99961	41	9	10	5	7	1.11	0.56	0.78
683	Endophilin-B1 SH3GLB1	Q9Y371	41	5	6	9	11	1.20	1.80	2.20
684	Endoplasmic reticulum aminopeptidase 1 ERAP1	Q9NZ08	107	3	4	5	8	1.33	1.67	2.67
685	Endoplasmic reticulum resident protein 29 ERP29	P30040	29	23	26	25	27	1.13	1.09	1.17
686	Endoplasmic reticulum resident protein 44 ERP44	Q9BS26	47	20	23	28	23	1.15	1.40	1.15
687	Endoplasmic reticulum-Golgi intermediate compartment protein 1 ERGIC1	Q969X5	33	5	4	4	2	0.80	0.80	0.40
688	Endoplasmin HSP90B1	P14625	92	243	189	181	186	0.78	0.74	0.77
689	Enhancer of mRNA-decapping protein 4 EDC4	Q6P2E9	152	0	4	6	3	#DIV/0!	#DIV/0!	#DIV/0!
690	Enhancer of rudimentary homolog ERH	P84090	12	7	3	3	0	0.43	0.43	0.00
691	Enolase-phosphatase E1 ENOPH1	Q9UHY7	29	13	7	6	14	0.54	0.46	1.08
692	Enoyl-CoA delta isomerase 1, mitochondrial ECI1	P42126	33	15	16	16	10	1.07	1.07	0.67
693	Enoyl-CoA hydratase, mitochondrial ECHS1	P30084	31	15	18	19	26	1.20	1.27	1.73
694	Envoplakin EVPL	Q92817	232	18	7	13	17	0.39	0.72	0.94
695	Ephrin type-A receptor 2 EPHA2	P29317	108	3	5	2	0	1.67	0.67	0.00
696	Ephrin-B1 EFNB1	P98172	38	3	2	0	0	0.67	0.00	0.00
697	Epidermal growth factor receptor EGFR	P00533	134	25	22	27	18	0.88	1.08	0.72
698	Epidermal growth factor receptor kinase substrate 8-like protein 2 EPS8L2	Q9H6S3	81	20	17	21	16	0.85	1.05	0.80
699	Epidermal growth factor receptor substrate 15 EPS15	P42566	99	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
700	Epididymal secretory protein E1 NPC2	P61916	17	9	13	5	8	1.44	0.56	0.89
701	Epiplakin EPPK1	P58107	556	549	599	565	650	1.09	1.03	1.18
702	Epithelial splicing regulatory protein 1 ESRP1	Q6NXG1	76	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
703	Epsin-3 EPN3	Q9H201	68	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
704	ER lumen protein-retaining receptor 1 KDELR1	P24390	25	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
705	ER membrane protein complex subunit 1 EMC1	Q8N766	112	4	0	2	2	0.00	0.50	0.50
706	ER membrane protein complex subunit 3 EMC3	Q9P0I2	30	0	3	2	3	#DIV/0!	#DIV/0!	#DIV/0!
707	ER membrane protein complex subunit 4 EMC4	Q5J8M3	20	2	0	2	0	0.00	1.00	0.00
708	Erlin-2 ERLIN2	O94905	38	3	5	2	0	1.67	0.67	0.00
709	ERO1-like protein alpha ERO1L	Q96HE7	54	74	47	53	47	0.64	0.72	0.64
710	Erythrocyte band 7 integral membrane protein STOM	P27105	32	28	27	22	38	0.96	0.79	1.36
711	ES1 protein homolog, mitochondrial C21orf33	P30042	28	3	4	4	2	1.33	1.33	0.67
712	Ester hydrolase C11orf54 C11orf54	Q9H0W9	35	0	0	5	3	#DIV/0!	#DIV/0!	#DIV/0!
713	Estradiol 17-beta-dehydrogenase 12 HSD17B12	Q53GQ0	34	32	32	21	40	1.00	0.66	1.25
714	Ethanolamine-phosphate cytidylyltransferase PCYT2	Q99447	44	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
715	Ethylmalonyl-CoA decarboxylase ECHDC1	Q9NTX5	34	5	0	4	2	0.00	0.80	0.40
716	Eukaryotic initiation factor 4A-I EIF4A1	P60842	46	138	148	165	158	1.07	1.20	1.14
717	Eukaryotic initiation factor 4A-III EIF4A3	P38919	47	0	11	12	15	#DIV/0!	#DIV/0!	#DIV/0!
718	Eukaryotic peptide chain release factor GTP-binding subunit ERF3A GSPT1	P15170	56	10	21	28	28	2.10	2.80	2.80
719	Eukaryotic peptide chain release factor subunit 1 ETF1	P62495	49	9	6	8	9	0.67	0.89	1.00
720	Eukaryotic translation elongation factor 1 epsilon-1 EEF1E1	O43324	20	18	13	15	14	0.72	0.83	0.78
721	Eukaryotic translation initiation factor 1 EIF1	P41567	13	7	7	7	9	1.00	1.00	1.29
722	Eukaryotic translation initiation factor 1A, X-chromosomal EIF1AX	P47813	16	21	20	21	15	0.95	1.00	0.71
723	Eukaryotic translation initiation factor 2 subunit 1 EIF2S1	P05198	36	31	25	24	24	0.81	0.77	0.77
724	Eukaryotic translation initiation factor 2 subunit 2 EIF2S2	P20042	38	7	8	12	12	1.14	1.71	1.71
725	Eukaryotic translation initiation factor 2 subunit 3 EIF2S3	P41091	51	19	18	27	23	0.95	1.42	1.21
726	Eukaryotic translation initiation factor 3 subunit A EIF3A	Q14152	167	93	85	92	87	0.91	0.99	0.94
727	Eukaryotic translation initiation factor 3 subunit B EIF3B	P55884	92	52	50	46	50	0.96	0.88	0.96
728	Eukaryotic translation initiation factor 3 subunit C EIF3C	Q99613	105	46	66	52	50	1.43	1.13	1.09
729	Eukaryotic translation initiation factor 3 subunit D EIF3D	O15371	64	20	22	22	19	1.10	1.10	0.95
730	Eukaryotic translation initiation factor 3 subunit E EIF3E	P60228	52	40	31	33	32	0.78	0.83	0.80
731	Eukaryotic translation initiation factor 3 subunit F EIF3F	O00303	38	21	24	20	21	1.14	0.95	1.00
732	Eukaryotic translation initiation factor 3 subunit G EIF3G	O75821	36	10	9	11	14	0.90	1.10	1.40
733	Eukaryotic translation initiation factor 3 subunit H EIF3H	O15372	40	20	21	15	21	1.05	0.75	1.05
734	Eukaryotic translation initiation factor 3 subunit I EIF3I	Q13347	37	29	25	25	26	0.86	0.86	0.90
735	Eukaryotic translation initiation factor 3 subunit J EIF3J	O75822	29	4	7	7	8	1.75	1.75	2.00

736	Eukaryotic translation initiation factor 3 subunit K EIF3K	Q9UBQ5	25	15	14	16	15	0.93	1.07	1.00
737	Eukaryotic translation initiation factor 3 subunit L EIF3L	Q9Y262	67	28	27	23	22	0.96	0.82	0.79
738	Eukaryotic translation initiation factor 3 subunit M EIF3M	Q7L2H7	43	34	33	36	22	0.97	1.06	0.65
739	Eukaryotic translation initiation factor 4 gamma 1 EIF4G1	Q04637	175	96	97	94	99	1.01	0.98	1.03
740	Eukaryotic translation initiation factor 4 gamma 2 EIF4G2	P78344	102	12	18	15	18	1.50	1.25	1.50
741	Eukaryotic translation initiation factor 4B EIF4B	P23588	69	7	9	9	8	1.29	1.29	1.14
742	Eukaryotic translation initiation factor 4E EIF4E	P06730	25	8	6	5	11	0.75	0.63	1.38
743	Eukaryotic translation initiation factor 4H EIF4H	Q15056	27	11	16	19	22	1.45	1.73	2.00
744	Eukaryotic translation initiation factor 5 EIF5	P55010	49	11	10	9	6	0.91	0.82	0.55
745	Eukaryotic translation initiation factor 5A-1 EIF5A	P63241	17	64	58	61	69	0.91	0.95	1.08
746	Eukaryotic translation initiation factor 5B EIF5B	O60841	139	22	35	39	24	1.59	1.77	1.09
747	Eukaryotic translation initiation factor 6 EIF6	P56537	27	36	32	31	42	0.89	0.86	1.17
748	Exocyst complex component 2 EXOC2	Q96KP1	104	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
749	Exocyst complex component 6B EXOC6B	Q9Y2D4	94	3	0	0	3	0.00	0.00	1.00
750	Exocyst complex component 7 EXOC7	Q9UPT5	83	0	0	5	4	#DIV/0!	#DIV/0!	#DIV/0!
751	Exosome complex component MTR3 EXOSC6	Q5RKV6	28	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
752	Exosome complex component RRP4 EXOSC2	Q13868	33	3	2	0	0	0.67	0.00	0.00
753	Exosome complex component RRP41 EXOSC4	Q9NPD3	26	0	4	2	3	#DIV/0!	#DIV/0!	#DIV/0!
754	Exportin-1 XPO1	O14980	123	63	61	47	50	0.97	0.75	0.79
755	Exportin-2 CSE1L	P55060	110	80	60	68	58	0.75	0.85	0.73
756	Exportin-4 XPO4	Q9C0E2	130	0	2	0	2	#DIV/0!	#DIV/0!	#DIV/0!
757	Exportin-5 XPO5	Q9HAV4	136	4	5	6	8	1.25	1.50	2.00
758	Exportin-7 XPO7	Q9UIA9	124	8	7	3	6	0.88	0.38	0.75
759	Exportin-T XPOT	O43592	110	15	10	13	17	0.67	0.87	1.13
760	Extended synaptotagmin-1 ESYT1	Q9BSJ8	123	65	77	90	86	1.18	1.38	1.32
761	Extended synaptotagmin-2 ESYT2	A0FGR8	102	2	0	3	5	0.00	1.50	2.50
762	Ezrin EZR	P15311	69	139	128	116	100	0.92	0.83	0.72
763	FACT complex subunit SPT16 SUPT16H	Q9Y5B9	120	9	10	6	8	1.11	0.67	0.89
764	FACT complex subunit SSRP1 SSRP1	Q08945	81	12	10	11	9	0.83	0.92	0.75
765	F-actin-capping protein subunit alpha-1 CAPZA1	P52907	33	45	39	37	34	0.87	0.82	0.76
766	F-actin-capping protein subunit alpha-2 CAPZA2	P47755	33	32	30	29	30	0.94	0.91	0.94
767	F-actin-capping protein subunit beta CAPZB	P47756	31	48	50	59	67	1.04	1.23	1.40
768	Far upstream element-binding protein 1 FUBP1	Q96AE4	68	9	11	17	19	1.22	1.89	2.11
769	Far upstream element-binding protein 2 KHSRP	Q92945	73	10	10	14	14	1.00	1.40	1.40
770	Far upstream element-binding protein 3 FUBP3	Q96I24	62	0	0	4	0	#DIV/0!	#DIV/0!	#DIV/0!
771	Farnesyl pyrophosphate synthase FDPS	P14324	48	23	23	18	21	1.00	0.78	0.91
772	FAS-associated factor 2 FAF2	Q96CS3	53	5	7	8	6	1.40	1.60	1.20
773	Fascin FSCN1	Q16658	55	111	99	130	125	0.89	1.17	1.13
774	Fatty acid desaturase 2 FADS2	O95864	52	4	6	0	3	1.50	0.00	0.75
775	Fatty acid synthase FASN	P49327	273	473	469	543	463	0.99	1.15	0.98
776	Fatty acid-binding protein, epidermal FABP5	Q01469	15	51	45	59	45	0.88	1.16	0.88
777	Fatty aldehyde dehydrogenase ALDH3A2	P51648	55	4	0	5	5	0.00	1.25	1.25
778	F-box only protein 2 FBXO2	Q9UK22	33	9	6	11	13	0.67	1.22	1.44
779	F-box only protein 50 NCCRP1	Q6ZVX7	31	3	0	2	3	0.00	0.67	1.00
780	Fermitin family homolog 1 FERMT1	Q9BQL6	77	7	15	13	21	2.14	1.86	3.00
781	Ferritin heavy chain FTH1	P02794	21	18	21	16	13	1.17	0.89	0.72
782	Ferritin light chain FTL	P02792	20	12	12	11	11	1.00	0.92	0.92
783	FH1/FH2 domain-containing protein 1 FHOD1	Q9Y613	127	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
784	Fibronectin FN1	P02751	263	83	83	98	65	1.00	1.18	0.78
785	Filaggrin FLG	P20930	435	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
786	Filaggrin-2 FLG2	Q5D862	248	2	3	0	0	1.50	0.00	0.00
787	Filamin-A FLNA	P21333	281	793	625	652	597	0.79	0.82	0.75
788	Filamin-B FLNB	O75369	278	915	700	741	693	0.77	0.81	0.76
789	Filamin-binding LIM protein 1 FBLIM1	Q8WUP2	41	6	7	8	7	1.17	1.33	1.17
790	FK506-binding protein 15 FKBP15	Q5T1M5	134	0	0	3	4	#DIV/0!	#DIV/0!	#DIV/0!
791	Flavin reductase (NADPH) BLVRB	P30043	22	49	58	48	48	1.18	0.98	0.98
792	Focal adhesion kinase 1 PTK2	Q05397	119	3	0	0	3	0.00	0.00	1.00
793	Four and a half LIM domains protein 1 FHL1	Q13642	36	4	5	0	0	1.25	0.00	0.00
794	Four and a half LIM domains protein 2 FHL2	Q14192	32	22	16	26	19	0.73	1.18	0.86
795	Fragile X mental retardation syndrome-related protein 1 FXR1	P51114	70	0	3	2	2	#DIV/0!	#DIV/0!	#DIV/0!
796	Fructose-2,6-bisphosphatase TIGAR TIGAR	Q9NQ88	30	12	14	18	15	1.17	1.50	1.25
797	Fructose-bisphosphate aldolase A ALDOA	P04075	39	158	150	178	153	0.95	1.13	0.97
798	Fructose-bisphosphate aldolase C ALDOC	P09972	39	14	19	17	14	1.36	1.21	1.00
799	Fumarate hydratase, mitochondrial FH	P07954	55	13	17	16	11	1.31	1.23	0.85
800	Fumarylacetoacetase FAH	P16930	46	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
801	Galectin-1 LGALS1	P09382	15	104	111	99	97	1.07	0.95	0.93
802	Galectin-3 LGALS3	P17931	26	14	19	24	28	1.36	1.71	2.00
803	Galectin-3-binding protein LGALS3BP	Q08380	65	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
804	Galectin-7 LGALS7	P47929	15	89	78	79	74	0.88	0.89	0.83
805	Gamma-aminobutyric acid receptor-associated protein-like 2 GABARAPL2	P60520	14	0	0	4	4	#DIV/0!	#DIV/0!	#DIV/0!
806	Gamma-glutamyl hydrolase GGH	Q92820	36	2	5	5	5	2.50	2.50	2.50
807	Gamma-glutamylaminecyclotransferase GGACT	Q9BVM4	17	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
808	Gamma-glutamylcyclotransferase GGCT	O75223	21	10	8	5	4	0.80	0.50	0.40
809	Gamma-synuclein SNCG	O76070	13	2	0	0	0	0.00	0.00	0.00
810	Ganglioside GM2 activator GM2A	P17900	21	10	7	10	10	0.70	1.00	1.00
811	GDP-fucose protein O-fucosyltransferase 1 POFUT1	Q9H488	44	0	3	3	4	#DIV/0!	#DIV/0!	#DIV/0!
812	Gelsolin GSN	P06396	86	56	66	61	71	1.18	1.09	1.27
813	Gem-associated protein 5 GEMIN5	Q8TEQ6	169	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
814	General vesicular transport factor p115 USO1	O60763	108	39	41	39	36	1.05	1.00	0.92
815	Geranylgeranyl transferase type-2 subunit alpha RABGGTA	Q92696	65	0	2	0	3	#DIV/0!	#DIV/0!	#DIV/0!
816	Geranylgeranyl transferase type-2 subunit beta RABGGTB	P53611	37	0	0	5	2	#DIV/0!	#DIV/0!	#DIV/0!
817	Glia maturation factor beta GMFB	P60983	17	13	9	10	9	0.69	0.77	0.69

818	Glucosamine 6-phosphate N-acetyltransferase GNPNAT1	Q96EK6	21	9	10	10	16	1.11	1.11	1.78
819	Glucosamine-6-phosphate isomerase 1 GNPDA1	P46926	33	6	9	8	6	1.50	1.33	1.00
820	Glucosamine-6-phosphate isomerase 2 GNPDA2	Q8TDQ7	31	0	5	0	0	#DIV/0!	#DIV/0!	#DIV/0!
821	Glucose-6-phosphate 1-dehydrogenase G6PD	P11413	59	83	54	55	58	0.65	0.66	0.70
822	Glucose-6-phosphate isomerase GPI	P06744	63	82	77	65	58	0.94	0.79	0.71
823	Glucosidase 2 subunit beta PRKCSH	P14314	59	22	23	20	23	1.05	0.91	1.05
824	Glucosylceramidase GBA	P04062	60	2	3	9	5	1.50	4.50	2.50
825	Glutamate dehydrogenase 1, mitochondrial GLUD1	P00367	61	14	19	18	15	1.36	1.29	1.07
826	Glutamate--cysteine ligase catalytic subunit GCLC	P48506	73	10	19	18	24	1.90	1.80	2.40
827	Glutamate--cysteine ligase regulatory subunit GCLM	P48507	31	9	6	3	6	0.67	0.33	0.67
828	Glutamate-rich WD repeat-containing protein 1 GRWD1	Q9BQ67	49	4	4	4	4	1.00	1.00	1.00
829	Glutaminase kidney isoform, mitochondrial GLS	O94925	73	14	10	12	15	0.71	0.86	1.07
830	Glutamine-dependent NAD(+) synthetase NADSYN1	Q6IA69	79	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
831	Glutamine--fructose-6-phosphate aminotransferase [isomerizing] 1 GFPT1	Q06210	79	33	27	39	44	0.82	1.18	1.33
832	Glutamine-rich protein 1 QRICH1	Q2TAL8	86	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
833	Glutamine--tRNA ligase QARS	P47897	88	55	38	47	41	0.69	0.85	0.75
834	Glutaredoxin-1 GLRX	P35754	12	7	7	8	0	1.00	1.14	0.00
835	Glutaredoxin-3 GLRX3	O76003	37	36	34	38	39	0.94	1.06	1.08
836	Glutathione peroxidase 1 GPX1	P07203	22	25	15	24	20	0.60	0.96	0.80
837	Glutathione reductase, mitochondrial GSR	P00390	56	4	4	7	5	1.00	1.75	1.25
838	Glutathione S-transferase kappa 1 GSTK1	Q9Y2Q3	25	21	27	23	18	1.29	1.10	0.86
839	Glutathione S-transferase omega-1 GSTO1	P78417	28	43	38	38	51	0.88	0.88	1.19
840	Glutathione S-transferase P GSTP1	P09211	23	220	237	231	189	1.08	1.05	0.86
841	Glutathione S-transferase theta-1 GSTT1	P30711	27	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
842	Glutathione synthetase GSS	P48637	52	13	19	17	15	1.46	1.31	1.15
843	Glyceraldehyde-3-phosphate dehydrogenase GAPDH	P04406	36	407	574	497	474	1.41	1.22	1.16
844	Glycerol-3-phosphate dehydrogenase, mitochondrial GPD2	P43304	81	8	13	17	17	1.63	2.13	2.13
845	Glycine cleavage system H protein, mitochondrial GCSH	P23434	19	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
846	Glycine--tRNA ligase GARS	P41250	83	79	79	72	60	1.00	0.91	0.76
847	Glycogen [starch] synthase, muscle GYS1	P13807	84	11	2	3	5	0.18	0.27	0.45
848	Glycogen debranching enzyme AGL	P35573	175	5	7	13	10	1.40	2.60	2.00
849	Glycogen phosphorylase, brain form PYGB	P11216	97	100	70	79	72	0.70	0.79	0.72
850	Glycogen phosphorylase, liver form PYGL	P06737	97	63	55	62	60	0.87	0.98	0.95
851	Glycogenin-1 GYG1	P46976	39	0	0	5	6	#DIV/0!	#DIV/0!	#DIV/0!
852	Glycolipid transfer protein GLTP	Q9NZD2	24	9	4	3	4	0.44	0.33	0.44
853	Glycylpeptide N-tetradecanoyltransferase 1 NMT1	P30419	57	2	0	5	0	0.00	2.50	0.00
854	Glyoxalase domain-containing protein 4 GLOD4	Q9HC38	35	15	17	18	13	1.13	1.20	0.87
855	Glyoxylate reductase/hydroxypyruvate reductase GRHPR	Q9UBQ7	36	7	8	11	7	1.14	1.57	1.00
856	GMP synthase [glutamine-hydrolyzing] GMPS	P49915	77	3	8	13	18	2.67	4.33	6.00
857	Golgi apparatus protein 1 GLG1	Q92896	135	3	6	11	12	2.00	3.67	4.00
858	Golgi phosphoprotein 3 GOLPH3	Q9H4A6	34	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
859	Golgi reassembly-stacking protein 2 GORASP2	Q9H8Y8	47	3	4	3	4	1.33	1.00	1.33
860	Golgi resident protein GCP60 ACBD3	Q9H3P7	61	10	12	18	14	1.20	1.80	1.40
861	Golgi SNAP receptor complex member 1 GOSR1	O95249	29	0	4	4	0	#DIV/0!	#DIV/0!	#DIV/0!
862	Golgi SNAP receptor complex member 2 GOSR2	O14653	25	0	4	0	0	#DIV/0!	#DIV/0!	#DIV/0!
863	Golgi to ER traffic protein 4 homolog GET4	Q7L5D6	37	2	2	0	0	1.00	0.00	0.00
864	Golgi-associated PDZ and coiled-coil motif-containing protein GOPC	Q9HD26	51	0	0	5	4	#DIV/0!	#DIV/0!	#DIV/0!
865	Golgin subfamily A member 2 GOLGA2	Q08379	113	5	2	7	7	0.40	1.40	1.40
866	Golgin subfamily A member 3 GOLGA3	Q08378	167	0	7	14	11	#DIV/0!	#DIV/0!	#DIV/0!
867	Golgin subfamily A member 4 GOLGA4	Q13439	261	0	0	4	4	#DIV/0!	#DIV/0!	#DIV/0!
868	Golgin subfamily A member 7 GOLGA7	Q7Z5G4	16	9	3	7	9	0.33	0.78	1.00
869	Golgin subfamily B member 1 GOLGB1	Q14789	376	10	35	36	41	3.50	3.60	4.10
870	Golgi-specific brefeldin A-resistance guanine nucleotide exchange factor 1 GBF1	Q92538	206	8	16	17	13	2.00	2.13	1.63
871	GPN-loop GTPase 1 GPN1	Q9HCN4	42	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
872	Growth factor receptor-bound protein 2 GRB2	P62993	25	5	3	4	2	0.60	0.80	0.40
873	GrpE protein homolog 1, mitochondrial GRPEL1	Q9HAV7	24	9	11	13	8	1.22	1.44	0.89
874	GTP:AMP phosphotransferase AK3, mitochondrial AK3	Q9UIJ7	26	14	16	11	11	1.14	0.79	0.79
875	GTPase NRas NRAS	P01111	21	13	10	14	8	0.77	1.08	0.62
876	GTPase-activating protein and VPS9 domain-containing protein 1 GAPVD1	Q14C86	165	2	0	8	7	0.00	4.00	3.50
877	GTP-binding nuclear protein Ran RAN	P62826	24	77	79	91	94	1.03	1.18	1.22
878	GTP-binding protein Rheb RHEB	Q15382	20	6	6	6	5	1.00	1.00	0.83
879	GTP-binding protein SAR1a SAR1A	Q9NR31	22	20	13	13	18	0.65	0.65	0.90
880	GTP-binding protein SAR1b SAR1B	Q9Y6B6	22	10	15	12	13	1.50	1.20	1.30
881	Guanine nucleotide exchange factor VAV2 VAV2	P52735	101	0	7	2	4	#DIV/0!	#DIV/0!	#DIV/0!
882	Guanine nucleotide-binding protein G(i) subunit alpha-1 GNAI1	P63096	40	16	16	15	0	1.00	0.94	0.00
883	Guanine nucleotide-binding protein G(i) subunit alpha-2 GNAI2	P04899	40	50	51	42	40	1.02	0.84	0.80
884	Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-12 GNG12	Q9UBI6	8	13	15	8	9	1.15	0.62	0.69
885	Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-5 GNG5	P63218	7	11	11	13	5	1.00	1.18	0.45
886	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-1 GNB1	P62873	37	24	40	27	26	1.67	1.13	1.08
887	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-2 GNB2	P62879	37	28	24	22	19	0.86	0.79	0.68
888	Guanine nucleotide-binding protein G(k) subunit alpha GNAI3	P08754	41	36	36	34	27	1.00	0.94	0.75
889	Guanine nucleotide-binding protein G(q) subunit alpha GNAQ	P50148	42	5	3	3	0	0.60	0.60	0.00
890	Guanine nucleotide-binding protein G(s) subunit alpha isoforms short GNAS	P63092 (+1)	46	5	8	7	2	1.60	1.40	0.40
891	Guanine nucleotide-binding protein subunit alpha-11 GNA11	P29992	42	3	7	5	0	2.33	1.67	0.00
892	Guanine nucleotide-binding protein subunit alpha-13 GNA13	Q14344	44	0	6	5	0	#DIV/0!	#DIV/0!	#DIV/0!
893	Guanine nucleotide-binding protein subunit beta-2-like 1 GNB2L1	P63244	35	57	53	46	51	0.93	0.81	0.89
894	Guanine nucleotide-binding protein-like 1 GNL1	P36915	69	0	8	10	10	#DIV/0!	#DIV/0!	#DIV/0!
895	Guanylate kinase GUK1	Q16774	22	6	0	2	0	0.00	0.33	0.00
896	Guanylate-binding protein 6 GBP6	Q6ZN66	72	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
897	H/ACA ribonucleoprotein complex subunit 2 NHP2	Q9NX24	17	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
898	Haloacid dehalogenase-like hydrolase domain-containing protein 2 HDHD2	Q9H0R4	29	0	4	3	4	#DIV/0!	#DIV/0!	#DIV/0!
899	HEAT repeat-containing protein 2 HEATR2	Q86Y56	94	2	0	0	2	0.00	0.00	1.00

900	HEAT repeat-containing protein 3 HEATR3	Q7Z4Q2	75	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
901	Heat shock 70 kDa protein 1A/1B HSPA1A	P08107	70	159	98	114	127	0.62	0.72	0.80
902	Heat shock 70 kDa protein 4 HSPA4	P34932	94	74	71	63	56	0.96	0.85	0.76
903	Heat shock 70 kDa protein 4L HSPA4L	O95757	95	44	33	43	43	0.75	0.98	0.98
904	Heat shock cognate 71 kDa protein HSPA8	P11142	71	302	246	258	239	0.81	0.85	0.79
905	Heat shock protein 105 kDa HSPH1	Q92598	97	64	51	66	54	0.80	1.03	0.84
906	Heat shock protein 75 kDa, mitochondrial TRAP1	Q12931	80	30	15	19	21	0.50	0.63	0.70
907	Heat shock protein beta-1 HSPB1	P04792	23	129	108	113	134	0.84	0.88	1.04
908	Heat shock protein HSP 90-alpha HSP90AA1	P07900	85	285	235	246	244	0.82	0.86	0.86
909	Heat shock protein HSP 90-beta HSP90AB1	P08238	83	261	227	241	249	0.87	0.92	0.95
910	Heat shock-related 70 kDa protein 2 HSPA2	P54652	70	0	33	0	0	#DIV/0!	#DIV/0!	#DIV/0!
911	Hematological and neurological expressed 1 protein HN1	Q9UK76	16	6	0	2	0	0.00	0.33	0.00
912	Hematological and neurological expressed 1-like protein HN1L	Q9H910	20	4	0	0	0	0.00	0.00	0.00
913	Heme oxygenase 2 HMOX2	P30519	36	22	14	16	15	0.64	0.73	0.68
914	Heme-binding protein 1 HEBP1	Q9NRV9	21	5	3	5	3	0.60	1.00	0.60
915	Heme-binding protein 2 HEBP2	Q9Y5Z4	23	0	9	8	4	#DIV/0!	#DIV/0!	#DIV/0!
916	Hemoglobin subunit alpha HBA1	P69905	15	41	37	27	29	0.90	0.66	0.71
917	Hemoglobin subunit beta HBB	P68871	16	4	6	4	0	1.50	1.00	0.00
918	Hepatocyte growth factor-regulated tyrosine kinase substrate HGS	O14964	86	14	15	17	11	1.07	1.21	0.79
919	Hepatoma-derived growth factor HDGF	P51858	27	12	11	11	6	0.92	0.92	0.50
920	Heterogeneous nuclear ribonucleoprotein A/B HNRNPAB	Q99729	36	6	12	9	12	2.00	1.50	2.00
921	Heterogeneous nuclear ribonucleoprotein A0 HNRNPA0	Q13151	31	3	5	6	8	1.67	2.00	2.67
922	Heterogeneous nuclear ribonucleoprotein A1 HNRNPA1	P09651	39	44	58	56	54	1.32	1.27	1.23
923	Heterogeneous nuclear ribonucleoprotein A3 HNRNPA3	P51991	40	6	6	8	14	1.00	1.33	2.33
924	Heterogeneous nuclear ribonucleoprotein D0 HNRNPD	Q14103	38	25	26	30	24	1.04	1.20	0.96
925	Heterogeneous nuclear ribonucleoprotein D-like HNRNPDL	O14979	46	9	14	16	12	1.56	1.78	1.33
926	Heterogeneous nuclear ribonucleoprotein F HNRNPF	P52597	46	36	28	30	32	0.78	0.83	0.89
927	Heterogeneous nuclear ribonucleoprotein H HNRNPH1	P31943	49	21	21	23	38	1.00	1.10	1.81
928	Heterogeneous nuclear ribonucleoprotein H2 HNRNPH2	P55795	49	0	0	15	16	#DIV/0!	#DIV/0!	#DIV/0!
929	Heterogeneous nuclear ribonucleoprotein H3 HNRNPH3	P31942	37	2	7	6	8	3.50	3.00	4.00
930	Heterogeneous nuclear ribonucleoprotein K HNRNPK	P61978	51	88	77	70	69	0.88	0.80	0.78
931	Heterogeneous nuclear ribonucleoprotein L HNRNPL	P14866	64	5	14	21	22	2.80	4.20	4.40
932	Heterogeneous nuclear ribonucleoprotein M HNRNPM	P52272	78	21	27	39	38	1.29	1.86	1.81
933	Heterogeneous nuclear ribonucleoprotein Q SYNCRIP	O60506	70	35	35	41	40	1.00	1.17	1.14
934	Heterogeneous nuclear ribonucleoprotein R HNRNPR	O43390	71	12	18	18	20	1.50	1.50	1.67
935	Heterogeneous nuclear ribonucleoprotein U HNRNPU	Q00839	91	32	40	33	42	1.25	1.03	1.31
936	Heterogeneous nuclear ribonucleoprotein U-like protein 1 HNRNPUL1	Q9BUJ2	96	0	0	4	3	#DIV/0!	#DIV/0!	#DIV/0!
937	Heterogeneous nuclear ribonucleoprotein U-like protein 2 HNRNPUL2	Q1KMD3	85	10	9	15	16	0.90	1.50	1.60
938	Heterogeneous nuclear ribonucleoproteins A2/B1 HNRNPA2B1	P22626	37	35	40	56	57	1.14	1.60	1.63
939	Heterogeneous nuclear ribonucleoproteins C1/C2 HNRNPC	P07910	34	10	15	21	25	1.50	2.10	2.50
940	Hexokinase-1 HK1	P19367	102	7	12	10	19	1.71	1.43	2.71
941	High mobility group protein B1 HMGB1	P09429	25	29	18	21	30	0.62	0.72	1.03
942	High mobility group protein B3 HMGB3	O15347	23	14	16	13	20	1.14	0.93	1.43
943	High mobility group protein HMG-I/HMG-Y HMGA1	P17096	12	6	11	0	4	1.83	0.00	0.67
944	Hippocalcin-like protein 1 HPCAL1	P37235	22	0	3	4	0	#DIV/0!	#DIV/0!	#DIV/0!
945	Histidine triad nucleotide-binding protein 1 HINT1	P49773	14	27	16	21	26	0.59	0.78	0.96
946	Histidine--tRNA ligase, cytoplasmic HARS	P12081	57	22	15	18	23	0.68	0.82	1.05
947	Histone acetyltransferase type B catalytic subunit HAT1	O14929	50	0	0	2	4	#DIV/0!	#DIV/0!	#DIV/0!
948	Histone H1.2 HIST1H1C	P16403	21	3	9	3	9	3.00	1.00	3.00
949	Histone H1.5 HIST1H1B	P16401	23	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
950	Histone H2A type 2-C HIST2H2AC	Q16777 (+1)	14	4	4	5	8	1.00	1.25	2.00
951	Histone H2B type 1-L HIST1H2BL	Q99880	14	24	8	5	31	0.33	0.21	1.29
952	Histone H4 HIST1H4A	P62805	11	29	11	9	35	0.38	0.31	1.21
953	Histone-binding protein RBBP4 RBBP4	Q09028	48	3	5	6	4	1.67	2.00	1.33
954	Histone-binding protein RBBP7 RBBP7	Q16576	48	0	6	5	0	#DIV/0!	#DIV/0!	#DIV/0!
955	Histone-lysine N-methyltransferase setd3 SETD3	Q86TU7	67	0	4	0	4	#DIV/0!	#DIV/0!	#DIV/0!
956	HLA class I histocompatibility antigen, A-2 alpha chain HLA-A	P01892 (+1)	41	8	9	6	8	1.13	0.75	1.00
957	HLA class I histocompatibility antigen, Cw-6 alpha chain HLA-C	Q29963	41	0	11	0	0	#DIV/0!	#DIV/0!	#DIV/0!
958	Homer protein homolog 3 HOMER3	Q9NSC5	40	4	4	2	2	1.00	0.50	0.50
959	Hornerin HRNR	Q86YZ3	282	3	34	10	9	11.33	3.33	3.00
960	Hsc70-interacting protein ST13	P50502	41	28	24	22	14	0.86	0.79	0.50
961	Hsp70-binding protein 1 HSPBP1	Q9NZL4	39	6	3	10	5	0.50	1.67	0.83
962	Hsp90 co-chaperone Cdc37 CDC37	Q16543	44	13	17	13	17	1.31	1.00	1.31
963	Huntingtin HTT	P42858	348	6	0	0	0	0.00	0.00	0.00
964	Huntingtin-interacting protein 1-related protein HIP1R	O75146	119	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
965	Huntingtin-interacting protein K HYPK	Q9NX55	15	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
966	Hydroxyacyl-coenzyme A dehydrogenase, mitochondrial HADH	Q16836	34	14	11	12	10	0.79	0.86	0.71
967	Hydroxyacylglutathione hydrolase, mitochondrial HAGH	Q16775	34	3	5	5	0	1.67	1.67	0.00
968	Hydroxymethylglutaryl-CoA lyase, mitochondrial HMGCL	P35914	34	2	0	4	0	0.00	2.00	0.00
969	Hydroxymethylglutaryl-CoA synthase, cytoplasmic HMGCS1	Q01581	57	38	25	17	16	0.66	0.45	0.42
970	Hypoxanthine-guanine phosphoribosyltransferase HPRT1	P00492	25	22	19	19	18	0.86	0.86	0.82
971	Hypoxia up-regulated protein 1 HYOU1	Q9Y4L1	111	122	83	86	91	0.68	0.70	0.75
972	Immunity-related GTPase family Q protein IRGQ	Q8WZA9	63	0	3	5	5	#DIV/0!	#DIV/0!	#DIV/0!
973	Importin subunit alpha-1 KPNA2	P52292	58	8	5	8	9	0.63	1.00	1.13
974	Importin subunit alpha-3 KPNA4	O00629	58	22	21	12	12	0.95	0.55	0.55
975	Importin subunit alpha-4 KPNA3	O00505	58	12	5	10	8	0.42	0.83	0.67
976	Importin subunit alpha-5 KPNA1	P52294	60	0	0	0	10	#DIV/0!	#DIV/0!	#DIV/0!
977	Importin subunit alpha-7 KPNA6	O60684	60	6	11	9	12	1.83	1.50	2.00
978	Importin subunit beta-1 KPNB1	Q14974	97	121	89	100	101	0.74	0.83	0.83
979	Importin-11 IPO11	Q9UI26	113	0	4	3	4	#DIV/0!	#DIV/0!	#DIV/0!
980	Importin-4 IPO4	Q8TEX9	119	7	14	13	6	2.00	1.86	0.86
981	Importin-5 IPO5	O00410	124	76	80	69	84	1.05	0.91	1.11

982	Importin-7 IPO7	O95373	120	66	58	73	63	0.88	1.11	0.95
983	Importin-9 IPO9	Q96P70	116	5	5	3	4	1.00	0.60	0.80
984	Inorganic pyrophosphatase PPA1	Q15181	33	31	35	31	27	1.13	1.00	0.87
985	Inorganic pyrophosphatase 2, mitochondrial PPA2	Q9H2U2	38	13	18	24	18	1.38	1.85	1.38
986	Inosine triphosphate pyrophosphatase ITPA	Q9BY32	21	5	0	3	0	0.00	0.60	0.00
987	Inosine-5'-monophosphate dehydrogenase 1 IMPDH1	P20839	55	0	0	7	6	#DIV/0!	#DIV/0!	#DIV/0!
988	Inosine-5'-monophosphate dehydrogenase 2 IMPDH2	P12268	56	28	30	32	23	1.07	1.14	0.82
989	Inositol 1,4,5-trisphosphate receptor type 3 ITPR3	Q14573	304	14	11	5	14	0.79	0.36	1.00
990	Inositol monophosphatase 1 IMPA1	P29218	30	9	7	9	10	0.78	1.00	1.11
991	Inositol monophosphatase 3 IMPAD1	Q9NX62	39	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
992	Inositol-trisphosphate 3-kinase C ITPKC	Q96DU7	75	0	4	0	0	#DIV/0!	#DIV/0!	#DIV/0!
993	Insulin-degrading enzyme IDE	P14735	118	11	11	12	13	1.00	1.09	1.18
994	Insulin-like growth factor 2 mRNA-binding protein 2 IGF2BP2	Q9Y6M1	66	3	9	8	7	3.00	2.67	2.33
995	Integrin alpha-2 ITGA2	P17301	129	40	41	52	45	1.03	1.30	1.13
996	Integrin alpha-3 ITGA3	P26006	117	20	29	30	29	1.45	1.50	1.45
997	Integrin alpha-6 ITGA6	P23229	127	16	12	16	15	0.75	1.00	0.94
998	Integrin alpha-V ITGAV	P06756	116	22	22	34	26	1.00	1.55	1.18
999	Integrin beta-1 ITGB1	P05556	88	63	52	61	68	0.83	0.97	1.08
1000	Integrin beta-4 ITGB4	P16144	202	114	112	84	84	0.98	0.74	0.74
1001	Integrin beta-6 ITGB6	P18564	86	16	7	15	9	0.44	0.94	0.56
1002	Integrin-linked protein kinase ILK	Q13418	51	9	5	8	8	0.56	0.89	0.89
1003	Intercellular adhesion molecule 1 ICAM1	P05362	58	0	15	0	13	#DIV/0!	#DIV/0!	#DIV/0!
1004	Interferon regulatory factor 6 IRF6	O14896	53	22	17	16	15	0.77	0.73	0.68
1005	Interferon-induced guanylate-binding protein 1 GBP1	P32455	68	0	19	4	6	#DIV/0!	#DIV/0!	#DIV/0!
1006	Interferon-induced transmembrane protein 3 IFITM3	Q01628	15	5	3	3	3	0.60	0.60	0.60
1007	Interferon-induced, double-stranded RNA-activated protein kinase EIF2AK2	P19525	62	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1008	Interleukin enhancer-binding factor 2 ILF2	Q12905	43	9	12	11	11	1.33	1.22	1.22
1009	Interleukin enhancer-binding factor 3 ILF3	Q12906	95	20	29	30	24	1.45	1.50	1.20
1010	Interleukin-1 alpha IL1A	P01583	31	9	10	4	8	1.11	0.44	0.89
1011	Interleukin-1 beta IL1B	P01584	31	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1012	Interleukin-1 receptor antagonist protein IL1RN	P18510	20	9	9	5	7	1.00	0.56	0.78
1013	Interleukin-18 IL18	Q14116	22	14	19	16	20	1.36	1.14	1.43
1014	Interleukin-36 gamma IL36G	Q9NZH8	19	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1015	Intraflagellar transport protein 25 homolog HSPB11	Q9Y547	16	5	3	2	0	0.60	0.40	0.00
1016	Intraflagellar transport protein 27 homolog IFT27	Q9BW83	20	4	0	0	0	0.00	0.00	0.00
1017	Inverted formin-2 INF2	Q27J81	136	7	12	12	16	1.71	1.71	2.29
1018	Involucrin IVL	P07476	68	52	43	45	47	0.83	0.87	0.90
1019	Isoamyl acetate-hydrolyzing esterase 1 homolog IAH1	Q2TAA2	28	5	0	3	2	0.00	0.60	0.40
1020	Isochorismatase domain-containing protein 2, mitochondrial ISOC2	Q96AB3	22	5	6	5	0	1.20	1.00	0.00
1021	Isocitrate dehydrogenase [NAD] subunit alpha, mitochondrial IDH3A	P50213	40	7	15	11	11	2.14	1.57	1.57
1022	Isocitrate dehydrogenase [NAD] subunit beta, mitochondrial IDH3B	O43837	42	3	5	5	2	1.67	1.67	0.67
1023	Isocitrate dehydrogenase [NADP] cytoplasmic IDH1	O75874	47	54	55	44	45	1.02	0.81	0.83
1024	Isocitrate dehydrogenase [NADP], mitochondrial IDH2	P48735	51	15	17	10	14	1.13	0.67	0.93
1025	Isoleucine--tRNA ligase, cytoplasmic IARS	P41252	145	64	58	59	67	0.91	0.92	1.05
1026	Isoleucine--tRNA ligase, mitochondrial IARS2	Q9NSE4	114	10	7	11	8	0.70	1.10	0.80
1027	Isopentenyl-diphosphate Delta-isomerase 1 IDI1	Q13907	26	43	43	45	54	1.00	1.05	1.26
1028	IST1 homolog IST1	P53990	40	0	4	0	4	#DIV/0!	#DIV/0!	#DIV/0!
1029	Junction plakoglobin JUP	P14923	82	65	64	49	69	0.98	0.75	1.06
1030	Junctional adhesion molecule A F11R	Q9Y624	33	9	6	6	3	0.67	0.67	0.33
1031	Keratin, type I cytoskeletal 10 KRT10	P13645	59	404	422	387	378	1.04	0.96	0.94
1032	Keratin, type I cytoskeletal 13 KRT13	P13646	50	18	36	20	8	2.00	1.11	0.44
1033	Keratin, type I cytoskeletal 14 KRT14	P02533	52	211	208	158	162	0.99	0.75	0.77
1034	Keratin, type I cytoskeletal 16 KRT16	P08779	51	124	154	81	58	1.24	0.65	0.47
1035	Keratin, type I cytoskeletal 17 KRT17	Q04695	48	321	325	296	295	1.01	0.92	0.92
1036	Keratin, type I cytoskeletal 18 KRT18	P05783	48	20	19	17	20	0.95	0.85	1.00
1037	Keratin, type I cytoskeletal 19 KRT19	P08727	44	130	108	103	83	0.83	0.79	0.64
1038	Keratin, type I cytoskeletal 27 KRT27	Q7Z3Y8	50	15	0	0	0	0.00	0.00	0.00
1039	Keratin, type I cytoskeletal 9 KRT9	P35527	62	369	395	321	327	1.07	0.87	0.89
1040	Keratin, type II cytoskeletal 1 KRT1	P04264	66	609	629	563	567	1.03	0.92	0.93
1041	Keratin, type II cytoskeletal 1b KRT77	Q7Z794	62	0	16	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1042	Keratin, type II cytoskeletal 2 epidermal KRT2	P35908	65	358	443	333	347	1.24	0.93	0.97
1043	Keratin, type II cytoskeletal 2 oral KRT76	Q01546	66	15	0	0	0	0.00	0.00	0.00
1044	Keratin, type II cytoskeletal 3 KRT3	P12035	64	0	25	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1045	Keratin, type II cytoskeletal 4 KRT4	P19013	57	0	49	36	8	#DIV/0!	#DIV/0!	#DIV/0!
1046	Keratin, type II cytoskeletal 5 KRT5	P13647	62	359	400	337	338	1.11	0.94	0.94
1047	Keratin, type II cytoskeletal 6A KRT6A	P02538	60	322	386	297	271	1.20	0.92	0.84
1048	Keratin, type II cytoskeletal 6B KRT6B	P04259	60	219	267	193	113	1.22	0.88	0.52
1049	Keratin, type II cytoskeletal 7 KRT7	P08729	51	235	189	194	191	0.80	0.83	0.81
1050	Keratin, type II cytoskeletal 78 KRT78	Q8N1N4	57	3	10	0	0	3.33	0.00	0.00
1051	Keratin, type II cytoskeletal 8 KRT8	P05787	54	87	55	68	66	0.63	0.78	0.76
1052	Keratin, type II cytoskeletal 80 KRT80	Q6KB66	51	0	4	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1053	Keratinocyte proline-rich protein KPRP	Q5T749	64	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1054	KH domain-containing, RNA-binding, signal transduction-associated protein 1 KHDRBS1	Q07666	48	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1055	KIF1-binding protein KIAA1279	Q96EK5	72	0	2	0	5	#DIV/0!	#DIV/0!	#DIV/0!
1056	Kinectin KTN1	Q86UP2	156	0	11	22	22	#DIV/0!	#DIV/0!	#DIV/0!
1057	Kinesin light chain 1 KLC1	Q07866	65	16	23	21	17	1.44	1.31	1.06
1058	Kinesin light chain 2 KLC2	Q9H0B6	69	0	17	13	15	#DIV/0!	#DIV/0!	#DIV/0!
1059	Kinesin-1 heavy chain KIF5B	P33176	110	90	90	89	84	1.00	0.99	0.93
1060	Kinesin-like protein KIF1C KIF1C	O43896	123	0	2	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1061	Kynureninase KYNU	Q16719	52	9	6	4	2	0.67	0.44	0.22
1062	Kynurenine--oxoglutarate transaminase 3 CCBL2	Q6YP21	51	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1063	Lactoylglutathione lyase GLO1	Q04760	21	24	20	22	14	0.83	0.92	0.58

1064	Ladinin-1 LAD1	O00515	57	8	11	11	10	1.38	1.38	1.25
1065	Lamin-B1 LMNB1	P20700	66	0	0	0	9	#DIV/0!	#DIV/0!	#DIV/0!
1066	Lamin-B2 LMNB2	Q03252	68	0	13	5	10	#DIV/0!	#DIV/0!	#DIV/0!
1067	Laminin subunit alpha-3 LAMA3	Q16787	367	7	15	9	0	2.14	1.29	0.00
1068	Laminin subunit beta-1 LAMB1	P07942	198	0	0	4	0	#DIV/0!	#DIV/0!	#DIV/0!
1069	Laminin subunit beta-3 LAMB3	Q13751	130	65	57	54	55	0.88	0.83	0.85
1070	Laminin subunit gamma-1 LAMC1	P11047	178	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1071	Laminin subunit gamma-2 LAMC2	Q13753	131	60	42	49	45	0.70	0.82	0.75
1072	L-aminoadipate-semialdehyde dehydrogenase-phosphopantetheinyl transferase AASD	Q9NRN7	36	3	7	9	5	2.33	3.00	1.67
1073	LanC-like protein 1 LANCL1	O43813	45	4	4	0	3	1.00	0.00	0.75
1074	Lanosterol 14-alpha demethylase CYP51A1	Q16850	57	7	4	2	2	0.57	0.29	0.29
1075	Lanosterol synthase LSS	P48449	83	17	17	24	23	1.00	1.41	1.35
1076	La-related protein 1 LARP1	Q6PKG0	124	9	13	14	9	1.44	1.56	1.00
1077	La-related protein 4B LARP4B	Q92615	81	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1078	Large neutral amino acids transporter small subunit 1 SLC7A5	Q01650	55	10	9	11	9	0.90	1.10	0.90
1079	Large proline-rich protein BAG6 BAG6	P46379	119	7	13	9	7	1.86	1.29	1.00
1080	LDLR chaperone MESD MESDC2	Q14696	26	9	15	10	10	1.67	1.11	1.11
1081	LETM1 and EF-hand domain-containing protein 1, mitochondrial LETM1	O95202	83	10	9	14	16	0.90	1.40	1.60
1082	Leucine zipper protein 1 LUZP1	Q86V48	120	2	0	4	3	0.00	2.00	1.50
1083	Leucine-rich PPR motif-containing protein, mitochondrial LRPPRC	P42704	158	40	61	68	64	1.53	1.70	1.60
1084	Leucine-rich repeat flightless-interacting protein 1 LRRFIP1	Q32MZ4	89	34	26	26	25	0.76	0.76	0.74
1085	Leucine-rich repeat-containing protein 15 LRRC15	Q8TF66	64	0	8	0	4	#DIV/0!	#DIV/0!	#DIV/0!
1086	Leucine-rich repeat-containing protein 40 LRRC40	Q9H9A6	68	0	6	5	5	#DIV/0!	#DIV/0!	#DIV/0!
1087	Leucine-rich repeat-containing protein 47 LRRC47	Q8N1G4	63	10	11	14	17	1.10	1.40	1.70
1088	Leucine-rich repeat-containing protein 57 LRRC57	Q8N9N7	27	2	2	0	0	1.00	0.00	0.00
1089	Leucine-rich repeat-containing protein 59 LRRC59	Q96AG4	35	24	27	27	25	1.13	1.13	1.04
1090	Leucine--tRNA ligase, cytoplasmic LARS	Q9P2J5	134	48	49	58	46	1.02	1.21	0.96
1091	Leucyl-cystinyl aminopeptidase LNPEP	Q9UIQ6	117	0	7	17	11	#DIV/0!	#DIV/0!	#DIV/0!
1092	Leukocyte elastase inhibitor SERPINB1	P30740	43	28	31	30	26	1.11	1.07	0.93
1093	Leukotriene A-4 hydrolase LTA4H	P09960	69	40	34	41	36	0.85	1.03	0.90
1094	Leupaxin LPXN	O60711	43	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1095	LIM and senescent cell antigen-like-containing domain protein 1 LIMS1	P48059	37	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1096	LIM and SH3 domain protein 1 LASP1	Q14847	30	21	18	23	20	0.86	1.10	0.95
1097	LIM domain and actin-binding protein 1 LIMA1	Q9UHB6	85	68	78	75	81	1.15	1.10	1.19
1098	Lipoma-preferred partner LPP	Q93052	66	0	2	0	4	#DIV/0!	#DIV/0!	#DIV/0!
1099	Lipopolysaccharide-responsive and beige-like anchor protein LRBA	P50851	319	16	11	10	16	0.69	0.63	1.00
1100	Liprin-beta-1 PPFIBP1	Q86W92	114	2	0	0	0	0.00	0.00	0.00
1101	LisH domain and HEAT repeat-containing protein KIAA1468 KIAA1468	Q9P260	135	0	0	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1102	L-lactate dehydrogenase A chain LDHA	P00338	37	326	393	393	367	1.21	1.21	1.13
1103	L-lactate dehydrogenase B chain LDHB	P07195	37	83	90	78	106	1.08	0.94	1.28
1104	Lon protease homolog, mitochondrial LONP1	P36776	106	5	9	13	15	1.80	2.60	3.00
1105	Long-chain-fatty-acid--CoA ligase 3 ACSL3	O95573	80	15	13	15	19	0.87	1.00	1.27
1106	Long-chain-fatty-acid--CoA ligase 4 ACSL4	O60488	79	0	0	0	5	#DIV/0!	#DIV/0!	#DIV/0!
1107	Low molecular weight phosphotyrosine protein phosphatase ACP1	P24666	18	5	7	5	0	1.40	1.00	0.00
1108	Low-density lipoprotein receptor LDLR	P01130	95	29	36	21	23	1.24	0.72	0.79
1109	Lupus La protein SSB	P05455	47	22	24	22	21	1.09	1.00	0.95
1110	L-xylulose reductase DCXR	Q7Z4W1	26	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1111	Lys-63-specific deubiquitinase BRCC36 BRCC3	P46736	36	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1112	Lysine--tRNA ligase KARS	Q15046	68	41	37	40	37	0.90	0.98	0.90
1113	Lysophosphatidylcholine acyltransferase 1 LPCAT1	Q8NF37	59	2	0	0	0	0.00	0.00	0.00
1114	Lysophospholipase-like protein 1 LYPLAL1	Q5VWZ2	26	0	4	4	3	#DIV/0!	#DIV/0!	#DIV/0!
1115	Lysosomal alpha-mannosidase MAN2B1	O00754	114	5	5	4	6	1.00	0.80	1.20
1116	Lysosomal protective protein CTSA	P10619	54	0	0	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1117	Lysosome membrane protein 2 SCARB2	Q14108	54	10	13	14	12	1.30	1.40	1.20
1118	Lysosome-associated membrane glycoprotein 1 LAMP1	P11279	45	31	25	27	25	0.81	0.87	0.81
1119	Lysosome-associated membrane glycoprotein 2 LAMP2	P13473	45	17	16	17	18	0.94	1.00	1.06
1120	Macrophage migration inhibitory factor MIF	P14174	12	26	18	22	25	0.69	0.85	0.96
1121	Macrophage-capping protein CAPG	P40121	38	32	33	38	36	1.03	1.19	1.13
1122	Major vault protein MVP	Q14764	99	112	88	92	86	0.79	0.82	0.77
1123	Malate dehydrogenase, cytoplasmic MDH1	P40925	36	34	30	33	33	0.88	0.97	0.97
1124	Malate dehydrogenase, mitochondrial MDH2	P40926	36	70	68	73	68	0.97	1.04	0.97
1125	Maleylacetoacetate isomerase GSTZ1	O43708	24	3	0	5	0	0.00	1.67	0.00
1126	Malignant T-cell-amplified sequence 1 MCTS1	Q9ULC4	21	13	8	8	8	0.62	0.62	0.62
1127	Mannose-1-phosphate guanyltransferase alpha GMPPA	Q96IJ6	46	0	0	4	0	#DIV/0!	#DIV/0!	#DIV/0!
1128	Mannose-1-phosphate guanyltransferase beta GMPPB	Q9Y5P6	40	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1129	Mannosyl-oligosaccharide glucosidase MOGS	Q13724	92	4	5	7	9	1.25	1.75	2.25
1130	MAP7 domain-containing protein 1 MAP7D1	Q3KQU3	93	0	5	5	7	#DIV/0!	#DIV/0!	#DIV/0!
1131	Matrin-3 MATR3	P43243	95	20	15	16	19	0.75	0.80	0.95
1132	Matrix metalloproteinase-14 MMP14	P50281	66	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1133	Medium-chain specific acyl-CoA dehydrogenase, mitochondrial ACADM	P11310	47	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1134	Melanoma-associated antigen D2 MAGED2	Q9UNF1	65	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1135	Membrane magnesium transporter 1 MMGT1	Q8N4V1	15	4	0	0	0	0.00	0.00	0.00
1136	Membrane-associated progesterone receptor component 1 PGRMC1	O00264	22	0	5	6	6	#DIV/0!	#DIV/0!	#DIV/0!
1137	Membrane-associated progesterone receptor component 2 PGRMC2	O15173	24	9	11	12	14	1.22	1.33	1.56
1138	Mesencephalic astrocyte-derived neurotrophic factor MANF	P55145	21	9	9	5	5	1.00	0.56	0.56
1139	Metallothionein-2 MT2A	P02795	6	12	6	10	11	0.50	0.83	0.92
1140	Methionine adenosyltransferase 2 subunit beta MAT2B	Q9NZL9	38	0	7	12	10	#DIV/0!	#DIV/0!	#DIV/0!
1141	Methionine aminopeptidase 1 METAP1	P53582	43	0	3	4	3	#DIV/0!	#DIV/0!	#DIV/0!
1142	Methionine synthase MTR	Q99707	141	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1143	Methionine--tRNA ligase, cytoplasmic MARS	P56192	101	34	22	24	27	0.65	0.71	0.79
1144	Methylosome protein 50 WDR77	Q9BQA1	37	6	5	11	7	0.83	1.83	1.17
1145	Methylsterol monooxygenase 1 MSMO1	Q15800	35	3	2	0	0	0.67	0.00	0.00

1146	Methylthioribose-1-phosphate isomerase MRI1	Q9BV20	39	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1147	Methyltransferase-like protein 13 METTL13	Q8N6R0	79	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1148	Mevalonate kinase MVK	Q03426	42	6	8	5	5	1.33	0.83	0.83
1149	MICAL-like protein 1 MICALL1	Q8N3F8	93	7	3	0	2	0.43	0.00	0.29
1150	Microsomal glutathione S-transferase 1 MGST1	P10620	18	19	22	20	14	1.16	1.05	0.74
1151	Microtubule-actin cross-linking factor 1, isoforms 1/2/3/5 MACF1	Q9UPN3	838	115	194	233	195	1.69	2.03	1.70
1152	Microtubule-associated protein 1B MAP1B	P46821	271	3	0	3	0	0.00	1.00	0.00
1153	Microtubule-associated protein 4 MAP4	P27816	121	108	84	85	99	0.78	0.79	0.92
1154	Microtubule-associated protein RP/EB family member 1 MAPRE1	Q15691	30	15	17	24	19	1.13	1.60	1.27
1155	Minor histocompatibility antigen H13 HM13	Q8TCT9	41	0	3	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1156	Mitochondrial 2-oxoglutarate/malate carrier protein SLC25A11	Q02978	34	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1157	Mitochondrial fission 1 protein FIS1	Q9Y3D6	17	9	8	7	10	0.89	0.78	1.11
1158	Mitochondrial import inner membrane translocase subunit Tim13 TIMM13	Q9Y5L4	11	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
1159	Mitochondrial import inner membrane translocase subunit TIM50 TIMM50	Q3ZCQ8	40	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1160	Mitochondrial import receptor subunit TOM22 homolog TOMM22	Q9NS69	16	6	4	3	4	0.67	0.50	0.67
1161	Mitochondrial import receptor subunit TOM34 TOMM34	Q15785	35	0	4	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1162	Mitochondrial-processing peptidase subunit alpha PMPCA	Q10713	58	0	4	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1163	Mitochondrial-processing peptidase subunit beta PMPCB	O75439	54	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1164	Mitogen-activated protein kinase 1 MAPK1	P28482	41	27	20	23	26	0.74	0.85	0.96
1165	Mitogen-activated protein kinase 14 MAPK14	Q16539	41	12	6	12	8	0.50	1.00	0.67
1166	Mitotic checkpoint protein BUB3 BUB3	O43684	37	5	3	3	3	0.60	0.60	0.60
1167	Mitotic interactor and substrate of PLK1 MISP	Q8IVT2	75	15	16	11	9	1.07	0.73	0.60
1168	MMS19 nucleotide excision repair protein homolog MMS19	Q96T76	113	8	13	11	9	1.63	1.38	1.13
1169	MOB kinase activator 1A MOB1A	Q9H8S9	25	2	9	4	0	4.50	2.00	0.00
1170	MOB-like protein phocein MOB4	Q9Y3A3	26	4	5	2	0	1.25	0.50	0.00
1171	Moesin MSN	P26038	68	233	205	221	215	0.88	0.95	0.92
1172	Monocarboxylate transporter 4 SLC16A3	O15427	49	2	6	3	10	3.00	1.50	5.00
1173	Monofunctional C1-tetrahydrofolate synthase, mitochondrial MTHFD1L	Q6UB35	106	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1174	Monoglyceride lipase MGLL	Q99685	33	3	2	3	0	0.67	1.00	0.00
1175	mRNA turnover protein 4 homolog MRTO4	Q9UKD2	28	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1176	Multifunctional methyltransferase subunit TRM112-like protein TRMT112	Q9UI30	14	10	9	7	9	0.90	0.70	0.90
1177	Multifunctional protein ADE2 PAICS	P22234	47	29	34	33	39	1.17	1.14	1.34
1178	Myb-binding protein 1A MYBBP1A	Q9BQG0	149	0	5	12	11	#DIV/0!	#DIV/0!	#DIV/0!
1179	Mycophenolic acid acyl-glucuronide esterase, mitochondrial ABHD10	Q9NUJ1	34	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1180	Myelin protein zero-like protein 2 MPZL2	O60487	24	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1181	Myeloid differentiation primary response protein MyD88 MYD88	Q99836	33	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1182	Myeloid-associated differentiation marker MYADM	Q96S97	35	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1183	Myoferlin MYOF	Q9NZM1	235	109	123	132	136	1.13	1.21	1.25
1184	Myosin light polypeptide 6 MYL6	P60660	17	54	45	50	39	0.83	0.93	0.72
1185	Myosin regulatory light chain 12B MYL12B	O14950 (+1)	20	54	36	30	36	0.67	0.56	0.67
1186	Myosin-10 MYH10	P35580	229	75	53	66	57	0.71	0.88	0.76
1187	Myosin-9 MYH9	P35579	227	959	1127	1094	1129	1.18	1.14	1.18
1188	Myotrophin MTPN	P58546	13	14	12	10	13	0.86	0.71	0.93
1189	Myristoylated alanine-rich C-kinase substrate MARCKS	P29966	32	9	7	16	15	0.78	1.78	1.67
1190	N(4)-(beta-N-acetylglucosaminyl)-L-asparaginase AGA	P20933	37	2	0	0	0	0.00	0.00	0.00
1191	Na(+)/H(+) exchange regulatory cofactor NHE-RF1 SLC9A3R1	O14745	39	0	0	0	4	#DIV/0!	#DIV/0!	#DIV/0!
1192	N-acetyl-D-glucosamine kinase NAGK	Q9UJ70	37	19	23	25	19	1.21	1.32	1.00
1193	N-acetylglucosamine-6-sulfatase GNS	P15586	62	4	0	0	4	0.00	0.00	1.00
1194	NAD(P)H dehydrogenase [quinone] 1 NQO1	P15559	31	18	23	21	24	1.28	1.17	1.33
1195	NAD(P)H-hydrate epimerase APOA1BP	Q8NCW5	32	4	5	3	3	1.25	0.75	0.75
1196	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13 NDUFA13	Q9P0J0	17	4	0	0	4	0.00	0.00	1.00
1197	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 NDUFA5	Q16718	13	2	0	0	2	0.00	0.00	1.00
1198	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6 NDUFA6	P56556	18	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1199	NADH dehydrogenase [ubiquinone] iron-sulfur protein 3, mitochondrial NDUFS3	O75489	30	0	7	13	8	#DIV/0!	#DIV/0!	#DIV/0!
1200	NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial NDUFS8	O00217	24	2	0	0	0	0.00	0.00	0.00
1201	NADH-cytochrome b5 reductase 1 CYB5R1	Q9UHQ9	34	5	7	2	2	1.40	0.40	0.40
1202	NADH-cytochrome b5 reductase 3 CYB5R3	P00387	34	32	34	31	33	1.06	0.97	1.03
1203	NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial NDUFS1	P28331	79	0	0	0	5	#DIV/0!	#DIV/0!	#DIV/0!
1204	NADP-dependent malic enzyme ME1	P48163	64	7	5	7	8	0.71	1.00	1.14
1205	NADPH--cytochrome P450 reductase POR	P16435	77	8	13	20	19	1.63	2.50	2.38
1206	N-alpha-acetyltransferase 10 NAA10	P41227	26	11	9	9	12	0.82	0.82	1.09
1207	N-alpha-acetyltransferase 15, NatA auxiliary subunit NAA15	Q9BXJ9	101	24	34	35	27	1.42	1.46	1.13
1208	N-alpha-acetyltransferase 25, NatB auxiliary subunit NAA25	Q14CX7	112	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1209	N-alpha-acetyltransferase 50 NAA50	Q9GZZ1	19	21	13	15	11	0.62	0.71	0.52
1210	Nardilysin NRD1	O43847	132	8	14	16	12	1.75	2.00	1.50
1211	Nascent polypeptide-associated complex subunit alpha, muscle-specific form NACA	E9PAV3	205	14	9	12	12	0.64	0.86	0.86
1212	Nck-associated protein 1 NCKAP1	Q9Y2A7	129	27	27	13	29	1.00	0.48	1.07
1213	NEDD8 NEDD8	Q15843	9	6	6	6	6	1.00	1.00	1.00
1214	NEDD8-activating enzyme E1 regulatory subunit NAE1	Q13564	60	5	6	6	5	1.20	1.20	1.00
1215	NEDD8-conjugating enzyme Ubc12 UBE2M	P61081	21	11	9	9	10	0.82	0.82	0.91
1216	Neuroblast differentiation-associated protein AHNAK AHNAK	Q09666	629	1012	1071	1169	1099	1.06	1.16	1.09
1217	Neuroblastoma-amplified sequence NBAS	A2RRP1	269	0	4	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1218	Neurolysin, mitochondrial NLN	Q9BYT8	81	0	0	5	6	#DIV/0!	#DIV/0!	#DIV/0!
1219	Neutral alpha-glucosidase AB GANAB	Q14697	107	144	117	117	97	0.81	0.81	0.67
1220	Neutral amino acid transporter B(0) SLC1A5	Q15758	57	8	7	2	3	0.88	0.25	0.38
1221	Neutral cholesterol ester hydrolase 1 NCEH1	Q6PIU2	46	3	0	7	2	0.00	2.33	0.67
1222	Neutrophil gelatinase-associated lipocalin LCN2	P80188	23	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1223	NHP2-like protein 1 NHP2L1	P55769	14	8	3	8	7	0.38	1.00	0.88
1224	Niban-like protein 1 FAM129B	Q96TA1	84	33	32	32	30	0.97	0.97	0.91
1225	Nicastrin NCSTN	Q92542	78	2	2	0	5	1.00	0.00	2.50
1226	Nicotinamide N-methyltransferase NNMT	P40261	30	2	7	3	0	3.50	1.50	0.00
1227	Nicotinamide phosphoribosyltransferase NAMPT	P43490	56	73	51	52	57	0.70	0.71	0.78

1228	Nicotinate phosphoribosyltransferase NAPRT	Q6XQN6	58	0	6	8	5	#DIV/0!	#DIV/0!	#DIV/0!
1229	Niemann-Pick C1 protein NPC1	O15118	142	3	0	6	3	0.00	2.00	1.00
1230	Nodal modulator 3 NOMO3	P69849 (+2)	134	6	0	0	3	0.00	0.00	0.50
1231	Non-histone chromosomal protein HMG-14 HMGN1	P05114	11	2	2	3	2	1.00	1.50	1.00
1232	Non-POU domain-containing octamer-binding protein NONO	Q15233	54	6	9	11	13	1.50	1.83	2.17
1233	Non-specific lipid-transfer protein SCP2	P22307	59	27	10	17	13	0.37	0.63	0.48
1234	Non-syndromic hearing impairment protein 5 DFNA5	O60443	55	14	16	17	13	1.14	1.21	0.93
1235	NSFL1 cofactor p47 NSFL1C	Q9UNZ2	41	6	10	12	8	1.67	2.00	1.33
1236	N-terminal Xaa-Pro-Lys N-methyltransferase 1 NTMT1	Q9BV86	25	3	2	4	0	0.67	1.33	0.00
1237	Nuclear cap-binding protein subunit 1 NCBP1	Q09161	92	4	6	7	8	1.50	1.75	2.00
1238	Nuclear factor NF-kappa-B p100 subunit NFKB2	Q00653	97	4	2	2	0	0.50	0.50	0.00
1239	Nuclear factor NF-kappa-B p105 subunit NFKB1	P19838	105	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1240	Nuclear migration protein nudC NUDC	Q9Y266	38	20	18	18	22	0.90	0.90	1.10
1241	Nuclear pore complex protein Nup133 NUP133	Q8WUM0	129	2	7	6	7	3.50	3.00	3.50
1242	Nuclear pore complex protein Nup155 NUP155	O75694	155	4	6	9	11	1.50	2.25	2.75
1243	Nuclear pore complex protein Nup160 NUP160	Q12769	162	2	6	7	7	3.00	3.50	3.50
1244	Nuclear pore complex protein Nup205 NUP205	Q92621	228	6	17	14	13	2.83	2.33	2.17
1245	Nuclear pore complex protein Nup85 NUP85	Q9BW27	75	2	4	0	7	2.00	0.00	3.50
1246	Nuclear pore complex protein Nup93 NUP93	Q8N1F7	93	16	13	16	16	0.81	1.00	1.00
1247	Nuclear pore complex protein Nup98-Nup96 NUP98	P52948	198	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1248	Nuclear protein localization protein 4 homolog NPLOC4	Q8TAT6	68	9	11	16	12	1.22	1.78	1.33
1249	Nuclear receptor 2C2-associated protein NR2C2AP	Q86WQ0	16	0	0	4	0	#DIV/0!	#DIV/0!	#DIV/0!
1250	Nuclear receptor-binding protein NRBP1	Q9UHY1	60	6	2	7	9	0.33	1.17	1.50
1251	Nuclear transport factor 2 NUTF2	P61970	14	17	9	10	12	0.53	0.59	0.71
1252	Nuclease-sensitive element-binding protein 1 YBX1	P67809	36	26	25	23	28	0.96	0.88	1.08
1253	Nucleobindin-1 NUCB1	Q02818	54	11	5	4	8	0.45	0.36	0.73
1254	Nucleolar and coiled-body phosphoprotein 1 NOLC1	Q14978	74	4	0	0	0	0.00	0.00	0.00
1255	Nucleolar protein 56 NOP56	O00567	66	0	5	8	7	#DIV/0!	#DIV/0!	#DIV/0!
1256	Nucleolar protein 58 NOP58	Q9Y2X3	60	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
1257	Nucleolar RNA helicase 2 DDX21	Q9NR30	87	2	2	0	3	1.00	0.00	1.50
1258	Nucleolin NCL	P19338	77	84	83	69	76	0.99	0.82	0.90
1259	Nucleophosmin NPM1	P06748	33	43	46	51	38	1.07	1.19	0.88
1260	Nucleoplasmin-3 NPM3	O75607	19	9	8	7	5	0.89	0.78	0.56
1261	Nucleoporin NUP188 homolog NUP188	Q5SRE5	196	3	0	0	0	0.00	0.00	0.00
1262	Nucleoporin Nup43 NUP43	Q8NFH3	42	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1263	Nucleoporin p54 NUP54	Q7Z3B4	55	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1264	Nucleoprotein TPR TPR	P12270	267	18	16	16	21	0.89	0.89	1.17
1265	Nucleoredoxin NXN	Q6DKJ4	48	11	9	10	9	0.82	0.91	0.82
1266	Nucleoside diphosphate kinase A NME1	P15531	17	59	42	58	62	0.71	0.98	1.05
1267	Nucleoside diphosphate kinase B NME2	P22392	17	80	68	70	96	0.85	0.88	1.20
1268	Nucleosome assembly protein 1-like 1 NAP1L1	P55209	45	14	12	9	10	0.86	0.64	0.71
1269	Nucleosome assembly protein 1-like 4 NAP1L4	Q99733	43	14	14	12	12	1.00	0.86	0.86
1270	Nucleotide exchange factor SIL1 SIL1	Q9H173	52	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1271	NudC domain-containing protein 3 NUDCD3	Q8IVD9	41	5	2	4	4	0.40	0.80	0.80
1272	Obg-like ATPase 1 OLA1	Q9NTK5	45	23	18	18	21	0.78	0.78	0.91
1273	OCIA domain-containing protein 2 OCIAD2	Q56VL3	17	16	13	10	13	0.81	0.63	0.81
1274	Oligoribonuclease, mitochondrial REXO2	Q9Y3B8	27	3	6	0	5	2.00	0.00	1.67
1275	Omega-amidase NIT2 NIT2	Q9NQR4	31	18	16	18	15	0.89	1.00	0.83
1276	Optineurin OPTN	Q96CV9	66	0	5	5	4	#DIV/0!	#DIV/0!	#DIV/0!
1277	ORM1-like protein 2 ORMDL2	Q53FV1	17	4	0	2	0	0.00	0.50	0.00
1278	ORM1-like protein 3 ORMDL3	Q8N138	17	3	3	0	6	1.00	0.00	2.00
1279	Ornithine aminotransferase, mitochondrial OAT	P04181	49	41	32	28	29	0.78	0.68	0.71
1280	Osteoclast-stimulating factor 1 OSTF1	Q92882	24	7	8	9	7	1.14	1.29	1.00
1281	OTU domain-containing protein 6B OTUD6B	Q8N6M0	34	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1282	Ovarian cancer-associated gene 2 protein OVCA2	Q8WZ82	24	5	7	11	7	1.40	2.20	1.40
1283	Oxidoreductase HTATIP2 HTATIP2	Q9BUP3	27	0	5	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1284	Oxygen-dependent coproporphyrinogen-III oxidase, mitochondrial CPOX	P36551	50	2	6	4	3	3.00	2.00	1.50
1285	Oxysterol-binding protein 1 OSBP	P22059	89	5	9	4	6	1.80	0.80	1.20
1286	Oxysterol-binding protein-related protein 3 OSBPL3	Q9H4L5	101	0	6	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1287	Oxysterol-binding protein-related protein 8 OSBPL8	Q9BZF1	101	5	3	5	0	0.60	1.00	0.00
1288	Palladin PALLD	Q8WX93	151	27	35	27	28	1.30	1.00	1.04
1289	Parafibromin CDC73	Q6P1J9	61	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1290	Parathymosin PTMS	P20962	12	0	5	4	0	#DIV/0!	#DIV/0!	#DIV/0!
1291	Partner of Y14 and mago WIBG	Q9BRP8	23	0	2	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1292	Paxillin PXN	P49023	65	14	14	18	17	1.00	1.29	1.21
1293	PDZ and LIM domain protein 1 PDLIM1	O00151	36	51	50	58	55	0.98	1.14	1.08
1294	PDZ and LIM domain protein 2 PDLIM2	Q96JY6	37	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1295	PDZ and LIM domain protein 4 PDLIM4	P50479	35	6	5	5	5	0.83	0.83	0.83
1296	PDZ and LIM domain protein 5 PDLIM5	Q96HC4	64	20	16	14	20	0.80	0.70	1.00
1297	PDZ and LIM domain protein 7 PDLIM7	Q9NR12	50	6	4	4	4	0.67	0.67	0.67
1298	PDZ domain-containing protein GIPC1 GIPC1	O14908	36	26	21	16	18	0.81	0.62	0.69
1299	Peflin PEF1	Q9UBV8	30	4	4	8	3	1.00	2.00	0.75
1300	Peptidyl-prolyl cis-trans isomerase A PPIA	P62937	18	142	118	126	162	0.83	0.89	1.14
1301	Peptidyl-prolyl cis-trans isomerase B PPIB	P23284	24	77	88	85	80	1.14	1.10	1.04
1302	Peptidyl-prolyl cis-trans isomerase C PPIC	P45877	23	4	8	3	3	2.00	0.75	0.75
1303	Peptidyl-prolyl cis-trans isomerase D PPID	Q08752	41	0	2	3	3	#DIV/0!	#DIV/0!	#DIV/0!
1304	Peptidyl-prolyl cis-trans isomerase F, mitochondrial PPIF	P30405	22	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1305	Peptidyl-prolyl cis-trans isomerase FKBP10 FKBP10	Q96AY3	64	0	0	4	4	#DIV/0!	#DIV/0!	#DIV/0!
1306	Peptidyl-prolyl cis-trans isomerase FKBP1A FKBP1A	P62942	12	17	15	12	11	0.88	0.71	0.65
1307	Peptidyl-prolyl cis-trans isomerase FKBP2 FKBP2	P26885	16	11	3	10	11	0.27	0.91	1.00
1308	Peptidyl-prolyl cis-trans isomerase FKBP3 FKBP3	Q00688	25	11	12	11	10	1.09	1.00	0.91
1309	Peptidyl-prolyl cis-trans isomerase FKBP4 FKBP4	Q02790	52	49	40	33	47	0.82	0.67	0.96

1310	Peptidyl-prolyl cis-trans isomerase FKBP5 FKBP5	Q13451	51	2	7	5	5	3.50	2.50	2.50
1311	Peptidyl-prolyl cis-trans isomerase FKBP9 FKBP9	O95302	63	3	3	4	5	1.00	1.33	1.67
1312	Peptidyl-prolyl cis-trans isomerase H PPIH	O43447	19	3	5	3	3	1.67	1.00	1.00
1313	Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1 PIN1	Q13526	18	2	0	3	0	0.00	1.50	0.00
1314	Peptidyl-prolyl cis-trans isomerase-like 1 PPIL1	Q9Y3C6	18	5	4	4	2	0.80	0.80	0.40
1315	Peptidyl-prolyl cis-trans isomerase-like 3 PPIL3	Q9H2H8	18	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1316	Peptidyl-tRNA hydrolase 2, mitochondrial PTRH2	Q9Y3E5	19	5	0	0	0	0.00	0.00	0.00
1317	Perilipin-3 PLIN3	O60664	47	16	15	19	21	0.94	1.19	1.31
1318	Periplakin PPL	O60437	205	12	11	13	12	0.92	1.08	1.00
1319	Peroxiredoxin-1 PRDX1	Q06830	22	117	138	130	102	1.18	1.11	0.87
1320	Peroxiredoxin-2 PRDX2	P32119	22	63	52	57	55	0.83	0.90	0.87
1321	Peroxiredoxin-4 PRDX4	Q13162	31	45	41	44	46	0.91	0.98	1.02
1322	Peroxiredoxin-5, mitochondrial PRDX5	P30044	22	50	54	53	55	1.08	1.06	1.10
1323	Peroxiredoxin-6 PRDX6	P30041	25	57	64	65	72	1.12	1.14	1.26
1324	Peroxisomal acyl-coenzyme A oxidase 1 ACOX1	Q15067	74	4	3	0	0	0.75	0.00	0.00
1325	Peroxisomal multifunctional enzyme type 2 HSD17B4	P51659	80	3	4	5	5	1.33	1.67	1.67
1326	PERQ amino acid-rich with GYF domain-containing protein 2 GIGYF2	Q6Y7W6	150	0	0	4	4	#DIV/0!	#DIV/0!	#DIV/0!
1327	Persulfide dioxygenase ETHE1, mitochondrial ETHE1	O95571	28	16	20	18	24	1.25	1.13	1.50
1328	Pescadillo homolog PES1	O00541	68	0	3	5	5	#DIV/0!	#DIV/0!	#DIV/0!
1329	PHD finger-like domain-containing protein 5A PHF5A	Q7RTV0	12	6	7	7	9	1.17	1.17	1.50
1330	Phenylalanine--tRNA ligase alpha subunit FARSA	Q9Y285	58	2	6	9	7	3.00	4.50	3.50
1331	Phenylalanine--tRNA ligase beta subunit FARSB	Q9NSD9	66	11	17	18	19	1.55	1.64	1.73
1332	Phosducin-like protein 3 PDCL3	Q9H2J4	28	7	13	9	16	1.86	1.29	2.29
1333	Phosphate carrier protein, mitochondrial SLC25A3	Q00325	40	10	19	13	23	1.90	1.30	2.30
1334	Phosphatidylethanolamine-binding protein 1 PEBP1	P30086	21	53	44	42	36	0.83	0.79	0.68
1335	Phosphatidylinositide phosphatase SAC1 SACM1L	Q9NTJ5	67	2	0	0	0	0.00	0.00	0.00
1336	Phosphatidylinositol 5-phosphate 4-kinase type-2 gamma PIP4K2C	Q8TBX8	47	6	9	11	4	1.50	1.83	0.67
1337	Phosphatidylinositol transfer protein alpha isoform PITPNA	Q00169	32	8	14	10	8	1.75	1.25	1.00
1338	Phosphatidylinositol transfer protein beta isoform PITPNB	P48739	32	21	21	24	19	1.00	1.14	0.90
1339	Phosphatidylinositol-binding clathrin assembly protein PICALM	Q13492	71	7	9	6	8	1.29	0.86	1.14
1340	Phosphoacetylglucosamine mutase PGM3	O95394	60	13	13	15	20	1.00	1.15	1.54
1341	Phosphoenolpyruvate carboxykinase [GTP], mitochondrial PCK2	Q16822	71	5	5	11	7	1.00	2.20	1.40
1342	Phosphoglucomutase-1 PGM1	P36871	61	22	21	23	13	0.95	1.05	0.59
1343	Phosphoglucomutase-2 PGM2	Q96G03	68	10	21	24	28	2.10	2.40	2.80
1344	Phosphoglycerate kinase 1 PGK1	P00558	45	160	191	175	152	1.19	1.09	0.95
1345	Phosphoglycerate mutase 1 PGAM1	P18669	29	122	136	112	128	1.11	0.92	1.05
1346	Phosphoglycolate phosphatase PGP	A6NDG6	34	2	0	4	3	0.00	2.00	1.50
1347	Phospholipase A-2-activating protein PLAA	Q9Y263	87	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1348	Phospholipase D3 PLD3	Q8IV08	55	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1349	Phospholipid hydroperoxide glutathione peroxidase, mitochondrial GPX4	P36969	22	8	5	3	0	0.63	0.38	0.00
1350	Phosphomannomutase 2 PMM2	O15305	28	9	14	11	9	1.56	1.22	1.00
1351	Phosphomevalonate kinase PMVK	Q15126	22	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1352	Phosphopantothenate--cysteine ligase PPCS	Q9HAB8	34	5	4	0	0	0.80	0.00	0.00
1353	Phosphoribosyl pyrophosphate synthase-associated protein 2 PRPSAP2	O60256	41	3	2	0	0	0.67	0.00	0.00
1354	Phosphoribosylformylglycinamidine synthase PFAS	O15067	145	0	4	10	6	#DIV/0!	#DIV/0!	#DIV/0!
1355	Phosphoserine aminotransferase PSAT1	Q9Y617	40	21	10	25	27	0.48	1.19	1.29
1356	Phosphoserine phosphatase PSPH	P78330	25	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1357	Phostensin PPP1R18	Q6NYC8	68	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1358	Pirin PIR	O00625	32	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1359	PITH domain-containing protein 1 PITHD1	Q9GZP4	24	7	5	3	3	0.71	0.43	0.43
1360	Plakophilin-1 PKP1	Q13835	83	3	3	0	0	1.00	0.00	0.00
1361	Plakophilin-3 PKP3	Q9Y446	87	3	3	5	5	1.00	1.67	1.67
1362	Plasma alpha-L-fucosidase FUCA2	Q9BTY2	54	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1363	Plasma membrane calcium-transporting ATPase 4 ATP2B4	P23634	138	4	5	3	2	1.25	0.75	0.50
1364	Plasminogen activator inhibitor 1 SERPINE1	P05121	45	0	0	5	2	#DIV/0!	#DIV/0!	#DIV/0!
1365	Plasminogen activator inhibitor 1 RNA-binding protein SERBP1	Q8NC51	45	29	14	21	24	0.48	0.72	0.83
1366	Plasminogen activator inhibitor 2 SERPINB2	P05120	47	29	33	13	20	1.14	0.45	0.69
1367	Plastin-1 PLS1	Q14651	70	0	16	0	24	#DIV/0!	#DIV/0!	#DIV/0!
1368	Plastin-3 PLS3	P13797	71	170	122	132	140	0.72	0.78	0.82
1369	Platelet-activating factor acetylhydrolase IB subunit alpha PAFAH1B1	P43034	47	8	7	12	11	0.88	1.50	1.38
1370	Platelet-activating factor acetylhydrolase IB subunit beta PAFAH1B2	P68402	26	15	10	9	12	0.67	0.60	0.80
1371	Platelet-activating factor acetylhydrolase IB subunit gamma PAFAH1B3	Q15102	26	7	10	10	4	1.43	1.43	0.57
1372	Pleckstrin homology domain-containing family A member 1 PLEKHA1	Q9HB21	46	3	0	3	0	0.00	1.00	0.00
1373	Plectin PLEC	Q15149	532	968	993	895	937	1.03	0.92	0.97
1374	Plexin-A1 PLXNA1	Q9UIW2	211	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1375	Plexin-B2 PLXNB2	O15031	205	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1376	Poliovirus receptor PVR	P15151	45	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1377	Poly [ADP-ribose] polymerase 4 PARP4	Q9UKK3	193	11	10	11	8	0.91	1.00	0.73
1378	Poly(ADP-ribose) glycohydrolase ARH3 ADPRHL2	Q9NX46	39	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1379	Poly(rC)-binding protein 1 PCBP1	Q15365	37	39	46	44	45	1.18	1.13	1.15
1380	Poly(rC)-binding protein 2 PCBP2	Q15366	39	22	27	23	23	1.23	1.05	1.05
1381	Poly(U)-binding-splicing factor PUF60 PUF60	Q9UHX1	60	11	14	8	10	1.27	0.73	0.91
1382	Polyadenylate-binding protein 1 PABPC1	P11940	71	62	53	62	60	0.85	1.00	0.97
1383	Polyadenylate-binding protein 4 PABPC4	Q13310	71	18	17	21	20	0.94	1.17	1.11
1384	Polyadenylate-binding protein-interacting protein 1 PAIP1	Q9H074	54	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1385	Polymerase delta-interacting protein 2 POLDIP2	Q9Y2S7	42	2	0	0	3	0.00	0.00	1.50
1386	Polymerase I and transcript release factor PTRF	Q6NZI2	43	31	21	27	32	0.68	0.87	1.03
1387	Polypeptide N-acetylgalactosaminyltransferase 2 GALNT2	Q10471	65	10	7	6	5	0.70	0.60	0.50
1388	Polypeptide N-acetylgalactosaminyltransferase 3 GALNT3	Q14435	73	7	4	7	8	0.57	1.00	1.14
1389	Polypyrimidine tract-binding protein 1 PTBP1	P26599	57	30	36	29	28	1.20	0.97	0.93
1390	Porphobilinogen deaminase HMBS	P08397	39	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1391	PRA1 family protein 2 PRAF2	O60831	19	2	0	3	4	0.00	1.50	2.00

1392	PRA1 family protein 3 ARL6IP5	O75915	22	8	7	12	15	0.88	1.50	1.88
1393	Prefoldin subunit 1 PFDN1	O60925	14	6	2	0	0	0.33	0.00	0.00
1394	Prefoldin subunit 2 PFDN2	Q9UHV9	17	6	2	2	0	0.33	0.33	0.00
1395	Prefoldin subunit 3 VBP1	P61758	23	3	3	5	3	1.00	1.67	1.00
1396	Prefoldin subunit 4 PFDN4	Q9NQP4	15	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1397	Prefoldin subunit 5 PFDN5	Q99471	17	4	2	3	0	0.50	0.75	0.00
1398	Prefoldin subunit 6 PFDN6	O15212	15	4	0	3	0	0.00	0.75	0.00
1399	Prelamin-A/C LMNA	P02545	74	13	21	20	25	1.62	1.54	1.92
1400	Pre-mRNA-processing factor 19 PRPF19	Q9UMS4	55	0	5	6	5	#DIV/0!	#DIV/0!	#DIV/0!
1401	Pre-mRNA-processing factor 40 homolog A PRPF40A	O75400	109	0	4	3	4	#DIV/0!	#DIV/0!	#DIV/0!
1402	Pre-mRNA-processing factor 6 PRPF6	O94906	107	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1403	Pre-mRNA-processing-splicing factor 8 PRPF8	Q6P2Q9	274	26	24	36	36	0.92	1.38	1.38
1404	Pre-mRNA-splicing factor ATP-dependent RNA helicase PRP16 DHX38	Q92620	141	4	0	3	3	0.00	0.75	0.75
1405	Prenylated Rab acceptor protein 1 RABAC1	Q9UI14	21	3	0	0	0	0.00	0.00	0.00
1406	Prenylcysteine oxidase 1 PCYOX1	Q9UHG3	57	13	10	13	10	0.77	1.00	0.77
1407	Presequence protease, mitochondrial PITRM1	Q5JRX3	117	8	6	14	13	0.75	1.75	1.63
1408	PRKC apoptosis WT1 regulator protein PAWR	Q96IZ0	37	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1409	Probable ATP-dependent RNA helicase DDX17 DDX17	Q92841	80	0	13	20	25	#DIV/0!	#DIV/0!	#DIV/0!
1410	Probable ATP-dependent RNA helicase DDX23 DDX23	Q9BUQ8	96	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1411	Probable ATP-dependent RNA helicase DDX46 DDX46	Q7L014	117	0	3	5	5	#DIV/0!	#DIV/0!	#DIV/0!
1412	Probable ATP-dependent RNA helicase DDX5 DDX5	P17844	69	23	19	35	35	0.83	1.52	1.52
1413	Probable ATP-dependent RNA helicase DDX6 DDX6	P26196	54	13	9	7	4	0.69	0.54	0.31
1414	Probable cytosolic iron-sulfur protein assembly protein CIAO1 CIAO1	O76071	38	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1415	Probable E3 ubiquitin-protein ligase HERC4 HERC4	Q5GLZ8	119	0	3	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1416	Probable tRNA(His) guanylyltransferase THG1L	Q9NWX6	35	2	2	0	0	1.00	0.00	0.00
1417	Probable ubiquitin carboxyl-terminal hydrolase FAF-X USP9X	Q93008	292	18	13	20	14	0.72	1.11	0.78
1418	Procollagen galactosyltransferase 1 COLGALT1	Q8NBJ5	72	3	12	9	12	4.00	3.00	4.00
1419	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 1 PLOD1	Q02809	84	4	3	3	0	0.75	0.75	0.00
1420	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 2 PLOD2	O00469	85	59	46	47	44	0.78	0.80	0.75
1421	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 3 PLOD3	O60568	85	3	0	0	0	0.00	0.00	0.00
1422	Profilin-1 PFN1	P07737	15	168	156	169	178	0.93	1.01	1.06
1423	Profilin-2 PFN2	P35080	15	14	14	23	15	1.00	1.64	1.07
1424	Programmed cell death 6-interacting protein PDCD6IP	Q8WUM4	96	122	79	97	89	0.65	0.80	0.73
1425	Programmed cell death protein 10 PDCD10	Q9BUL8	25	10	14	13	18	1.40	1.30	1.80
1426	Programmed cell death protein 5 PDCD5	O14737	14	6	6	7	3	1.00	1.17	0.50
1427	Programmed cell death protein 6 PDCD6	O75340	22	9	9	12	6	1.00	1.33	0.67
1428	Prohibitin PHB	P35232	30	7	4	4	4	0.57	0.57	0.57
1429	Prohibitin-2 PHB2	Q99623	33	9	9	8	6	1.00	0.89	0.67
1430	Prolactin-inducible protein PIP	P12273	17	2	6	3	0	3.00	1.50	0.00
1431	Proliferating cell nuclear antigen PCNA	P12004	29	12	11	20	16	0.92	1.67	1.33
1432	Proliferation-associated protein 2G4 PA2G4	Q9UQ80	44	22	26	28	22	1.18	1.27	1.00
1433	Proline synthase co-transcribed bacterial homolog protein PROSC	O94903	30	7	8	6	6	1.14	0.86	0.86
1434	Proline-, glutamic acid- and leucine-rich protein 1 PELP1	Q8IZL8	120	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1435	Proline-rich AKT1 substrate 1 AKT1S1	Q96B36	27	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1436	Prolyl 3-hydroxylase 1 LEPRE1	Q32P28	83	0	3	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1437	Prolyl 4-hydroxylase subunit alpha-1 P4HA1	P13674	61	21	18	21	21	0.86	1.00	1.00
1438	Prolyl 4-hydroxylase subunit alpha-2 P4HA2	O15460	61	22	31	18	22	1.41	0.82	1.00
1439	Prolyl endopeptidase PREP	P48147	81	34	28	31	27	0.82	0.91	0.79
1440	Prosaposin PSAP	P07602	58	18	14	29	13	0.78	1.61	0.72
1441	Prostaglandin E synthase 2 PTGES2	Q9H7Z7	42	7	2	2	0	0.29	0.29	0.00
1442	Prostaglandin E synthase 3 PTGES3	Q15185	19	17	18	14	22	1.06	0.82	1.29
1443	Prostaglandin F2 receptor negative regulator PTGFRN	Q9P2B2	99	3	3	2	0	1.00	0.67	0.00
1444	Prostaglandin G/H synthase 2 PTGS2	P35354	69	0	12	13	18	#DIV/0!	#DIV/0!	#DIV/0!
1445	Prostaglandin reductase 1 PTGR1	Q14914	36	8	10	11	12	1.25	1.38	1.50
1446	Proteasomal ubiquitin receptor ADRM1 ADRM1	Q16186	42	8	8	6	6	1.00	0.75	0.75
1447	Proteasome activator complex subunit 1 PSME1	Q06323	29	6	10	9	2	1.67	1.50	0.33
1448	Proteasome activator complex subunit 2 PSME2	Q9UL46	27	15	19	22	17	1.27	1.47	1.13
1449	Proteasome activator complex subunit 3 PSME3	P61289	30	12	20	19	22	1.67	1.58	1.83
1450	Proteasome activator complex subunit 4 PSME4	Q14997	211	5	6	13	2	1.20	2.60	0.40
1451	Proteasome assembly chaperone 1 PSMG1	O95456	33	7	7	7	4	1.00	1.00	0.57
1452	Proteasome assembly chaperone 2 PSMG2	Q969U7	29	3	7	5	2	2.33	1.67	0.67
1453	Proteasome assembly chaperone 3 PSMG3	Q9BT73	13	7	3	4	0	0.43	0.57	0.00
1454	Proteasome inhibitor PI31 subunit PSMF1	Q92530	30	5	10	10	7	2.00	2.00	1.40
1455	Proteasome subunit alpha type-1 PSMA1	P25786	30	54	45	53	56	0.83	0.98	1.04
1456	Proteasome subunit alpha type-2 PSMA2	P25787	26	29	32	41	31	1.10	1.41	1.07
1457	Proteasome subunit alpha type-3 PSMA3	P25788	28	23	23	19	25	1.00	0.83	1.09
1458	Proteasome subunit alpha type-4 PSMA4	P25789	29	37	41	48	51	1.11	1.30	1.38
1459	Proteasome subunit alpha type-5 PSMA5	P28066	26	16	24	23	19	1.50	1.44	1.19
1460	Proteasome subunit alpha type-6 PSMA6	P60900	27	39	45	44	47	1.15	1.13	1.21
1461	Proteasome subunit alpha type-7 PSMA7	O14818	28	44	35	33	52	0.80	0.75	1.18
1462	Proteasome subunit beta type-1 PSMB1	P20618	26	41	37	39	41	0.90	0.95	1.00
1463	Proteasome subunit beta type-2 PSMB2	P49721	23	26	26	28	32	1.00	1.08	1.23
1464	Proteasome subunit beta type-3 PSMB3	P49720	23	24	25	31	22	1.04	1.29	0.92
1465	Proteasome subunit beta type-4 PSMB4	P28070	29	32	32	34	23	1.00	1.06	0.72
1466	Proteasome subunit beta type-5 PSMB5	P28074	28	44	45	45	40	1.02	1.02	0.91
1467	Proteasome subunit beta type-6 PSMB6	P28072	25	16	17	21	19	1.06	1.31	1.19
1468	Proteasome subunit beta type-7 PSMB7	Q99436	30	17	27	21	26	1.59	1.24	1.53
1469	Proteasome subunit beta type-8 PSMB8	P28062	30	0	5	8	0	#DIV/0!	#DIV/0!	#DIV/0!
1470	Proteasome-associated protein ECM29 homolog ECM29	Q5VYK3	204	8	15	20	12	1.88	2.50	1.50
1471	Protein AHNAK2 AHNAK2	Q8IVF2	617	55	46	47	47	0.84	0.85	0.85
1472	Protein arginine N-methyltransferase 1 PRMT1	Q99873	42	8	9	7	10	1.13	0.88	1.25
1473	Protein arginine N-methyltransferase 5 PRMT5	O14744	73	8	12	11	8	1.50	1.38	1.00

1474	Protein bicaudal D homolog 2 BICD2	Q8TD16	94	10	11	11	7	1.10	1.10	0.70
1475	Protein BRICK1 BRK1	Q8WUW1	9	5	7	6	4	1.40	1.20	0.80
1476	Protein C10 C12orf57	Q99622	13	6	2	0	0	0.33	0.00	0.00
1477	Protein canopy homolog 2 CNPY2	Q9Y2B0	21	3	2	0	3	0.67	0.00	1.00
1478	Protein CDV3 homolog CDV3	Q9UKY7	27	7	0	2	2	0.00	0.29	0.29
1479	Protein diaphanous homolog 1 DIAPH1	O60610	141	60	73	78	77	1.22	1.30	1.28
1480	Protein disulfide-isomerase P4HB	P07237	57	180	159	129	129	0.88	0.72	0.72
1481	Protein disulfide-isomerase A3 PDIA3	P30101	57	156	136	118	126	0.87	0.76	0.81
1482	Protein disulfide-isomerase A4 PDIA4	P13667	73	91	84	87	87	0.92	0.96	0.96
1483	Protein disulfide-isomerase A6 PDIA6	Q15084	48	64	67	62	67	1.05	0.97	1.05
1484	Protein disulfide-isomerase TMX3 TMX3	Q96JJ7	52	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1485	Protein DJ-1 PARK7	Q99497	20	53	58	51	59	1.09	0.96	1.11
1486	Protein ERGIC-53 LMAN1	P49257	58	0	8	2	7	#DIV/0!	#DIV/0!	#DIV/0!
1487	Protein FAM127A FAM127A	A6ZKI3	13	5	3	6	0	0.60	1.20	0.00
1488	Protein FAM162A FAM162A	Q96A26	17	0	3	5	5	#DIV/0!	#DIV/0!	#DIV/0!
1489	Protein FAM3C FAM3C	Q92520	25	5	0	0	0	0.00	0.00	0.00
1490	Protein FAM49B FAM49B	Q9NUQ9	37	8	16	11	9	2.00	1.38	1.13
1491	Protein FAM91A1 FAM91A1	Q658Y4	94	0	3	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1492	Protein farnesyltransferase/geranylgeranyltransferase type-1 subunit alpha FNTA	P49354	44	2	3	3	6	1.50	1.50	3.00
1493	Protein flightless-1 homolog FLII	Q13045	145	67	68	69	58	1.01	1.03	0.87
1494	Protein furry homolog-like FRYL	O94915	340	5	5	8	7	1.00	1.60	1.40
1495	Protein Hikeshi C11orf73	Q53FT3	22	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1496	Protein Hook homolog 3 HOOK3	Q86VS8	83	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1497	Protein kinase C and casein kinase substrate in neurons protein 2 PACSIN2	Q9UNF0	56	0	0	5	4	#DIV/0!	#DIV/0!	#DIV/0!
1498	Protein kinase C delta-binding protein PRKCDBP	Q969G5	28	5	2	7	6	0.40	1.40	1.20
1499	Protein lin-7 homolog C LIN7C	Q9NUP9	22	2	0	0	0	0.00	0.00	0.00
1500	Protein LYRIC MTDH	Q86UE4	64	0	0	5	8	#DIV/0!	#DIV/0!	#DIV/0!
1501	Protein mago nashi homolog 2 MAGOHB	Q96A72	17	8	5	12	8	0.63	1.50	1.00
1502	Protein MEMO1 MEMO1	Q9Y316	34	11	6	8	7	0.55	0.73	0.64
1503	Protein MON2 homolog MON2	Q7Z3U7	190	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1504	Protein NDRG1 NDRG1	Q92597	43	51	52	50	46	1.02	0.98	0.90
1505	Protein Niban FAM129A	Q9BZQ8	103	3	5	6	6	1.67	2.00	2.00
1506	Protein NipSnap homolog 1 NIPSNAP1	Q9BPW8	33	5	6	4	4	1.20	0.80	0.80
1507	Protein NipSnap homolog 2 GBAS	O75323	34	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1508	Protein NipSnap homolog 3A NIPSNAP3A	Q9UFN0	28	6	6	5	0	1.00	0.83	0.00
1509	Protein NOXP20 FAM114A1	Q8IWE2	61	0	0	4	0	#DIV/0!	#DIV/0!	#DIV/0!
1510	Protein O-GlcNAcase MGEA5	O60502	103	6	12	15	13	2.00	2.50	2.17
1511	Protein PBDC1 PBDC1	Q9BVG4	26	4	5	3	4	1.25	0.75	1.00
1512	Protein phosphatase 1 regulatory subunit 12A PPP1R12A	O14974	115	2	6	9	12	3.00	4.50	6.00
1513	Protein phosphatase 1 regulatory subunit 7 PPP1R7	Q15435	42	9	15	8	11	1.67	0.89	1.22
1514	Protein phosphatase 1F PPM1F	P49593	50	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1515	Protein phosphatase 1G PPM1G	O15355	59	4	4	4	7	1.00	1.00	1.75
1516	Protein phosphatase methylesterase 1 PPME1	Q9Y570	42	7	7	4	5	1.00	0.57	0.71
1517	Protein phosphatase Slingshot homolog 3 SSH3	Q8TE77	73	6	2	2	0	0.33	0.33	0.00
1518	Protein PML PML	P29590	98	4	6	4	3	1.50	1.00	0.75
1519	Protein PRRC1 PRRC1	Q96M27	47	0	2	5	3	#DIV/0!	#DIV/0!	#DIV/0!
1520	Protein PRRC2C PRRC2C	Q9Y520	317	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1521	Protein RER1 RER1	O15258	23	0	3	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1522	Protein S100-A10 S100A10	P60903	11	37	30	31	34	0.81	0.84	0.92
1523	Protein S100-A11 S100A11	P31949	12	47	32	46	48	0.68	0.98	1.02
1524	Protein S100-A13 S100A13	Q99584	11	3	2	5	5	0.67	1.67	1.67
1525	Protein S100-A14 S100A14	Q9HCY8	12	35	33	36	30	0.94	1.03	0.86
1526	Protein S100-A16 S100A16	Q96FQ6	12	51	34	39	41	0.67	0.76	0.80
1527	Protein S100-A2 S100A2	P29034	11	26	27	36	21	1.04	1.38	0.81
1528	Protein S100-A6 S100A6	P06703	10	8	7	11	8	0.88	1.38	1.00
1529	Protein S100-A7 S100A7	P31151	11	6	5	4	0	0.83	0.67	0.00
1530	Protein S100-A8 S100A8	P05109	11	45	37	47	36	0.82	1.04	0.80
1531	Protein S100-A9 S100A9	P06702	13	42	35	38	34	0.83	0.90	0.81
1532	Protein S100-P S100P	P25815	10	6	6	6	7	1.00	1.00	1.17
1533	Protein scribble homolog SCRIB	Q14160	175	0	0	5	2	#DIV/0!	#DIV/0!	#DIV/0!
1534	Protein SEC13 homolog SEC13	P55735	36	12	5	8	11	0.42	0.67	0.92
1535	Protein sel-1 homolog 1 SEL1L	Q9UBV2	89	0	3	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1536	Protein SET SET	Q01105	33	22	21	23	20	0.95	1.05	0.91
1537	Protein TFG TFG	Q92734	43	13	13	12	14	1.00	0.92	1.08
1538	Protein transport protein Sec16A SEC16A	O15027	234	5	4	5	4	0.80	1.00	0.80
1539	Protein transport protein Sec23A SEC23A	Q15436	86	22	24	24	17	1.09	1.09	0.77
1540	Protein transport protein Sec23B SEC23B	Q15437	86	11	11	3	9	1.00	0.27	0.82
1541	Protein transport protein Sec24A SEC24A	O95486	120	0	3	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1542	Protein transport protein Sec24B SEC24B	O95487	137	9	6	7	8	0.67	0.78	0.89
1543	Protein transport protein Sec24C SEC24C	P53992	118	20	16	18	20	0.80	0.90	1.00
1544	Protein transport protein Sec31A SEC31A	O94979	133	39	61	60	59	1.56	1.54	1.51
1545	Protein transport protein Sec61 subunit beta SEC61B	P60468	10	9	5	11	0	0.56	1.22	0.00
1546	Protein transport protein Sec61 subunit gamma SEC61G	P60059	8	7	5	5	3	0.71	0.71	0.43
1547	Protein unc-45 homolog A UNC45A	Q9H3U1	103	20	22	17	26	1.10	0.85	1.30
1548	Protein VAC14 homolog VAC14	Q08AM6	88	4	0	0	0	0.00	0.00	0.00
1549	Protein virilizer homolog KIAA1429	Q69YN4	202	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1550	Protein YIF1A YIF1A	O95070	32	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1551	Protein yippee-like 5 YPEL5	P62699	14	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1552	Protein-glutamine gamma-glutamyltransferase 2 TGM2	P21980	77	43	52	40	48	1.21	0.93	1.12
1553	Protein-L-isoaspartate(D-aspartate) O-methyltransferase PCMT1	P22061	25	21	17	15	19	0.81	0.71	0.90
1554	Protein-methionine sulfoxide oxidase MICAL1 MICAL1	Q8TDZ2	118	3	0	4	3	0.00	1.33	1.00
1555	Proteolipid protein 2 PLP2	Q04941	17	14	17	13	11	1.21	0.93	0.79

1556	Prothymosin alpha PTMA	P06454	12	10	7	13	14	0.70	1.30	1.40
1557	Protocadherin Fat 1 FAT1	Q14517	506	2	6	0	2	3.00	0.00	1.00
1558	Proto-oncogene tyrosine-protein kinase Src SRC	P12931	60	6	4	2	7	0.67	0.33	1.17
1559	Pseudouridine-5'-monophosphatase HDHD1	Q08623	25	6	8	0	6	1.33	0.00	1.00
1560	Purine nucleoside phosphorylase PNP	P00491	32	86	100	113	119	1.16	1.31	1.38
1561	Puromycin-sensitive aminopeptidase NPEPPS	P55786	103	56	40	31	34	0.71	0.55	0.61
1562	Putative adenosylhomocysteinase 2 AHCYL1	O43865	59	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1563	Putative cytochrome b-c1 complex subunit Rieske-like protein 1 UQCRFS1P1 PE=5	P0C7P4 (+1)	31	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1564	Putative deoxyribonuclease TATDN1 TATDN1	Q6P1N9	34	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1565	Putative GTP cyclohydrolase 1 type 2 NIF3L1 NIF3L1	Q9GZT8	42	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
1566	Putative hydrolase RBBP9 RBBP9	O75884	21	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1567	Putative keratin-87 protein KRT87P PE=5	A6NCN2	29	0	0	0	115	#DIV/0!	#DIV/0!	#DIV/0!
1568	Putative peptidyl-tRNA hydrolase PTRHD1 PTRHD1	Q6GMV3	16	3	3	0	3	1.00	0.00	1.00
1569	Putative pre-mRNA-splicing factor ATP-dependent RNA helicase DHX15 DHX15	O43143	91	14	16	23	26	1.14	1.64	1.86
1570	Putative pyridoxal-dependent decarboxylase domain-containing protein 2 PDXDC2P PE	Q6P474	52	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1571	Putative RNA-binding protein 3 RBM3	P98179	17	2	0	2	0	0.00	1.00	0.00
1572	Putative RNA-binding protein Luc7-like 2 LUC7L2	Q9Y383	47	2	0	0	0	0.00	0.00	0.00
1573	Putative small nuclear ribonucleoprotein G-like protein 15 SNRPGP15 PE=5	A8MWD9 (+1	9	6	4	3	4	0.67	0.50	0.67
1574	Pyridoxal kinase PDXK	O00764	35	23	25	21	21	1.09	0.91	0.91
1575	Pyruvate carboxylase, mitochondrial PC	P11498	130	2	8	8	5	4.00	4.00	2.50
1576	Pyruvate dehydrogenase E1 component subunit alpha, somatic form, mitochondrial PD	P08559	43	5	3	5	7	0.60	1.00	1.40
1577	Pyruvate dehydrogenase E1 component subunit beta, mitochondrial PDHB	P11177	39	15	14	12	11	0.93	0.80	0.73
1578	Pyruvate kinase PKM PKM	P14618	58	670	675	683	673	1.01	1.02	1.00
1579	Quinone oxidoreductase CRYZ	Q08257	35	5	15	11	11	3.00	2.20	2.20
1580	Quinone oxidoreductase PIG3 TP53I3	Q53FA7	36	24	27	26	23	1.13	1.08	0.96
1581	Rab GDP dissociation inhibitor alpha GDI1	P31150	51	40	38	36	30	0.95	0.90	0.75
1582	Rab GDP dissociation inhibitor beta GDI2	P50395	51	118	123	135	126	1.04	1.14	1.07
1583	Rab3 GTPase-activating protein catalytic subunit RAB3GAP1	Q15042	111	4	8	4	5	2.00	1.00	1.25
1584	Rab3 GTPase-activating protein non-catalytic subunit RAB3GAP2	Q9H2M9	156	4	17	18	7	4.25	4.50	1.75
1585	Rabankyrin-5 ANKFY1	Q9P2R3	128	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
1586	Rab-like protein 6 RABL6	Q3YEC7	80	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1587	RAC-alpha serine/threonine-protein kinase AKT1	P31749	56	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1588	RAD50-interacting protein 1 RINT1	Q6NUQ1	91	2	0	0	0	0.00	0.00	0.00
1589	Radixin RDX	P35241	69	83	65	77	75	0.78	0.93	0.90
1590	Raftlin RFTN1	Q14699	63	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1591	Ragulator complex protein LAMTOR1 LAMTOR1	Q6IAA8	18	7	8	8	3	1.14	1.14	0.43
1592	Ragulator complex protein LAMTOR2 LAMTOR2	Q9Y2Q5	14	14	9	11	10	0.64	0.79	0.71
1593	Ragulator complex protein LAMTOR3 LAMTOR3	Q9UHA4	14	3	2	3	7	0.67	1.00	2.33
1594	Ragulator complex protein LAMTOR5 LAMTOR5	O43504	10	5	0	7	0	0.00	1.40	0.00
1595	Ran GTPase-activating protein 1 RANGAP1	P46060	64	18	19	21	21	1.06	1.17	1.17
1596	Ran-binding protein 3 RANBP3	Q9H6Z4	60	0	2	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1597	Ran-specific GTPase-activating protein RANBP1	P43487	23	8	3	4	0	0.38	0.50	0.00
1598	Rap1 GTPase-GDP dissociation stimulator 1 RAP1GDS1	P52306	66	14	9	18	16	0.64	1.29	1.14
1599	Ras GTPase-activating protein 1 RASA1	P20936	116	6	9	0	10	1.50	0.00	1.67
1600	Ras GTPase-activating protein-binding protein 1 G3BP1	Q13283	52	32	23	25	15	0.72	0.78	0.47
1601	Ras GTPase-activating protein-binding protein 2 G3BP2	Q9UN86	54	8	10	7	4	1.25	0.88	0.50
1602	Ras GTPase-activating-like protein IQGAP1 IQGAP1	P46940	189	276	290	260	271	1.05	0.94	0.98
1603	Ras suppressor protein 1 RSU1	Q15404	32	7	9	10	8	1.29	1.43	1.14
1604	Ras-related C3 botulinum toxin substrate 1 RAC1	P63000	21	38	35	35	42	0.92	0.92	1.11
1605	Ras-related C3 botulinum toxin substrate 2 RAC2	P15153	21	41	19	19	21	0.46	0.46	0.51
1606	Ras-related GTP-binding protein A RRAGA	Q7L523	37	3	3	0	2	1.00	0.00	0.67
1607	Ras-related GTP-binding protein C RRAGC	Q9HB90	44	3	0	0	0	0.00	0.00	0.00
1608	Ras-related protein Rab-10 RAB10	P61026	23	34	38	36	34	1.12	1.06	1.00
1609	Ras-related protein Rab-11B RAB11B	Q15907	24	60	58	65	61	0.97	1.08	1.02
1610	Ras-related protein Rab-14 RAB14	P61106	24	62	58	54	45	0.94	0.87	0.73
1611	Ras-related protein Rab-18 RAB18	Q9NP72	23	44	34	37	29	0.77	0.84	0.66
1612	Ras-related protein Rab-1A RAB1A	P62820	23	93	90	90	74	0.97	0.97	0.80
1613	Ras-related protein Rab-1B RAB1B	Q9H0U4	22	60	65	65	54	1.08	1.08	0.90
1614	Ras-related protein Rab-21 RAB21	Q9UL25	24	11	18	12	9	1.64	1.09	0.82
1615	Ras-related protein Rab-22A RAB22A	Q9UL26	22	3	3	0	0	1.00	0.00	0.00
1616	Ras-related protein Rab-23 RAB23	Q9ULC3	27	2	2	2	0	1.00	1.00	0.00
1617	Ras-related protein Rab-25 RAB25	P57735	23	11	7	7	4	0.64	0.64	0.36
1618	Ras-related protein Rab-27A RAB27A	P51159	25	3	0	0	0	0.00	0.00	0.00
1619	Ras-related protein Rab-27B RAB27B	O00194	25	2	4	5	2	2.00	2.50	1.00
1620	Ras-related protein Rab-2A RAB2A	P61019	24	57	56	49	42	0.98	0.86	0.74
1621	Ras-related protein Rab-31 RAB31	Q13636	22	0	2	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1622	Ras-related protein Rab-32 RAB32	Q13637	25	16	14	11	9	0.88	0.69	0.56
1623	Ras-related protein Rab-34 RAB34	Q9BZG1	29	0	5	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1624	Ras-related protein Rab-35 RAB35	Q15286	23	11	17	12	14	1.55	1.09	1.27
1625	Ras-related protein Rab-38 RAB38	P57729	24	0	5	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1626	Ras-related protein Rab-3D RAB3D	O95716	24	15	15	15	7	1.00	1.00	0.47
1627	Ras-related protein Rab-43 RAB43	Q86YS6	23	11	8	10	10	0.73	0.91	0.91
1628	Ras-related protein Rab-4A RAB4A	P20338	24	7	0	10	8	0.00	1.43	1.14
1629	Ras-related protein Rab-5A RAB5A	P20339	24	19	21	19	11	1.11	1.00	0.58
1630	Ras-related protein Rab-5B RAB5B	P61020	24	17	18	18	16	1.06	1.06	0.94
1631	Ras-related protein Rab-5C RAB5C	P51148	23	35	33	47	46	0.94	1.34	1.31
1632	Ras-related protein Rab-6A RAB6A	P20340	24	52	43	45	38	0.83	0.87	0.73
1633	Ras-related protein Rab-7a RAB7A	P51149	23	78	78	79	70	1.00	1.01	0.90
1634	Ras-related protein Rab-8A RAB8A	P61006	24	11	7	0	11	0.64	0.00	1.00
1635	Ras-related protein Ral-A RALA	P11233	24	9	8	9	15	0.89	1.00	1.67
1636	Ras-related protein Ral-B RALB	P11234	23	10	9	6	8	0.90	0.60	0.80
1637	Ras-related protein Rap-1A RAP1A	P62834	21	0	22	19	0	#DIV/0!	#DIV/0!	#DIV/0!

1638	Ras-related protein Rap-1b RAP1B	P61224	21	40	39	30	30	0.98	0.75	0.75
1639	Ras-related protein Rap-2b RAP2B	P61225	21	15	10	9	8	0.67	0.60	0.53
1640	Ras-related protein R-Ras RRAS	P10301	23	10	8	8	10	0.80	0.80	1.00
1641	Ras-related protein R-Ras2 RRAS2	P62070	23	4	7	5	3	1.75	1.25	0.75
1642	Receptor expression-enhancing protein 5 REEP5	Q00765	21	17	16	16	21	0.94	0.94	1.24
1643	Receptor-type tyrosine-protein phosphatase F PTPRF	P10586	213	2	3	8	5	1.50	4.00	2.50
1644	Redox-regulatory protein FAM213A FAM213A	Q9BRX8	26	11	11	13	11	1.00	1.18	1.00
1645	Regulation of nuclear pre-mRNA domain-containing protein 1B RPRD1B	Q9NQG5	37	2	2	4	2	1.00	2.00	1.00
1646	Regulator of microtubule dynamics protein 1 RMDN1	Q96DB5	36	7	6	5	3	0.86	0.71	0.43
1647	Regulator of nonsense transcripts 1 UPF1	Q92900	124	15	13	16	20	0.87	1.07	1.33
1648	Regulator of nonsense transcripts 2 UPF2	Q9HAU5	148	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1649	RelA-associated inhibitor PPP1R13L	Q8WUF5	89	14	18	24	23	1.29	1.71	1.64
1650	Replication protein A 14 kDa subunit RPA3	P35244	14	0	3	3	4	#DIV/0!	#DIV/0!	#DIV/0!
1651	Replication protein A 32 kDa subunit RPA2	P15927	29	2	0	2	0	0.00	1.00	0.00
1652	Reticulocalbin-1 RCN1	Q15293	39	4	5	4	0	1.25	1.00	0.00
1653	Reticulocalbin-2 RCN2	Q14257	37	2	0	3	4	0.00	1.50	2.00
1654	Reticulon-4 RTN4	Q9NQC3	130	55	75	69	62	1.36	1.25	1.13
1655	Retinol dehydrogenase 11 RDH11	Q8TC12	35	7	6	3	3	0.86	0.43	0.43
1656	Retinol-binding protein 1 RBP1	P09455	16	0	0	4	4	#DIV/0!	#DIV/0!	#DIV/0!
1657	Rho GDP-dissociation inhibitor 1 ARHGDIA	P52565	23	35	30	23	40	0.86	0.66	1.14
1658	Rho GDP-dissociation inhibitor 2 ARHGDIB	P52566	23	8	11	5	5	1.38	0.63	0.63
1659	Rho GTPase-activating protein 1 ARHGAP1	Q07960	50	36	36	38	38	1.00	1.06	1.06
1660	Rho guanine nucleotide exchange factor 1 ARHGEF1	Q92888	102	5	3	4	3	0.60	0.80	0.60
1661	Rho guanine nucleotide exchange factor 7 ARHGEF7	Q14155	90	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1662	Rho-associated protein kinase 1 ROCK1	Q13464	158	0	0	7	3	#DIV/0!	#DIV/0!	#DIV/0!
1663	Rho-associated protein kinase 2 ROCK2	O75116	161	0	9	10	7	#DIV/0!	#DIV/0!	#DIV/0!
1664	Rho-related GTP-binding protein RhoB RHOB	P62745	22	6	10	0	0	1.67	0.00	0.00
1665	Rho-related GTP-binding protein RhoC RHOC	P08134	22	47	56	53	75	1.19	1.13	1.60
1666	Rho-related GTP-binding protein RhoE RND3	P61587	27	0	3	5	0	#DIV/0!	#DIV/0!	#DIV/0!
1667	Rho-related GTP-binding protein RhoG RHOG	P84095	21	26	19	11	11	0.73	0.42	0.42
1668	Rhotekin RTKN	Q9BST9	63	0	0	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1669	Ribonuclease inhibitor RNH1	P13489	50	75	72	61	62	0.96	0.81	0.83
1670	Ribonuclease P protein subunit p30 RPP30	P78346	29	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1671	Ribonucleases P/MRP protein subunit POP1 POP1	Q99575	115	2	0	0	0	0.00	0.00	0.00
1672	Ribonucleoside-diphosphate reductase large subunit RRM1	P23921	90	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1673	Ribonucleoside-diphosphate reductase subunit M2 RRM2	P31350	45	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1674	Ribose-phosphate pyrophosphokinase 1 PRPS1	P60891	35	7	13	13	11	1.86	1.86	1.57
1675	Ribosomal L1 domain-containing protein 1 RSL1D1	O76021	55	4	0	4	4	0.00	1.00	1.00
1676	Ribosomal protein S6 kinase alpha-1 RPS6KA1	Q15418	83	6	5	6	4	0.83	1.00	0.67
1677	Ribosomal protein S6 kinase alpha-3 RPS6KA3	P51812	84	7	0	0	0	0.00	0.00	0.00
1678	Ribosome maturation protein SBDS SBDS	Q9Y3A5	29	14	14	13	18	1.00	0.93	1.29
1679	Ribosome-binding protein 1 RRBP1	Q9P2E9	152	15	8	14	17	0.53	0.93	1.13
1680	RNA 3'-terminal phosphate cyclase RTCA	O00442	39	5	3	0	2	0.60	0.00	0.40
1681	RNA-binding motif protein, X chromosome RBMX	P38159	42	3	7	9	10	2.33	3.00	3.33
1682	RNA-binding protein 12B RBM12B	Q8IXT5	118	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1683	RNA-binding protein 14 RBM14	Q96PK6	69	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1684	RNA-binding protein 25 RBM25	P49756	100	4	0	0	2	0.00	0.00	0.50
1685	RNA-binding protein 39 RBM39	Q14498	59	6	6	5	5	1.00	0.83	0.83
1686	RNA-binding protein 4 RBM4	Q9BWF3	40	3	0	0	3	0.00	0.00	1.00
1687	RNA-binding protein EWS EWSR1	Q01844	68	0	0	0	4	#DIV/0!	#DIV/0!	#DIV/0!
1688	RNA-binding protein FUS FUS	P35637	53	5	4	8	8	0.80	1.60	1.60
1689	rRNA 2'-O-methyltransferase fibrillarin FBL	P22087	34	0	7	3	5	#DIV/0!	#DIV/0!	#DIV/0!
1690	RRP12-like protein RRP12	Q5JTH9	144	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1691	RuvB-like 1 RUVBL1	Q9Y265	50	18	23	17	24	1.28	0.94	1.33
1692	RuvB-like 2 RUVBL2	Q9Y230	51	15	19	22	19	1.27	1.47	1.27
1693	S-adenosylmethionine synthase isoform type-2 MAT2A	P31153	44	13	11	9	11	0.85	0.69	0.85
1694	SAP domain-containing ribonucleoprotein SARNP	P82979	24	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1695	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2 ATP2A2	P16615	115	99	82	100	84	0.83	1.01	0.85
1696	Scaffold attachment factor B2 SAFB2	Q14151	107	0	0	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1697	Sec1 family domain-containing protein 1 SCFD1	Q8WVM8	72	3	12	16	17	4.00	5.33	5.67
1698	SEC14-like protein 2 SEC14L2	O76054	46	6	3	4	6	0.50	0.67	1.00
1699	SEC23-interacting protein SEC23IP	Q9Y6Y8	111	9	7	12	10	0.78	1.33	1.11
1700	Secernin-1 SCRN1	Q12765	46	2	0	0	0	0.00	0.00	0.00
1701	Secretory carrier-associated membrane protein 1 SCAMP1	O15126	38	3	0	4	0	0.00	1.33	0.00
1702	Selenide, water dikinase 1 SEPHS1	P49903	43	2	0	3	0	0.00	1.50	0.00
1703	Selenoprotein S VIMP	Q9BQE4	21	3	4	0	0	1.33	0.00	0.00
1704	Sepiapterin reductase SPR	P35270	28	2	3	3	0	1.50	1.50	0.00
1705	Septin-11 SEPT11	Q9NVA2	49	5	0	0	5	0.00	0.00	1.00
1706	Septin-2 SEPT2	Q15019	41	7	6	9	11	0.86	1.29	1.57
1707	Septin-7 SEPT7	Q16181	51	7	6	4	7	0.86	0.57	1.00
1708	Septin-9 SEPT9	Q9UHD8	65	2	5	6	10	2.50	3.00	5.00
1709	Sequestosome-1 SQSTM1	Q13501	48	7	9	7	7	1.29	1.00	1.00
1710	Serine hydroxymethyltransferase, mitochondrial SHMT2	P34897	56	19	27	24	28	1.42	1.26	1.47
1711	Serine palmitoyltransferase 1 SPTLC1	O15269	53	2	2	0	0	1.00	0.00	0.00
1712	Serine/arginine repetitive matrix protein 1 SRRM1	Q8IYB3	102	2	8	3	4	4.00	1.50	2.00
1713	Serine/arginine repetitive matrix protein 2 SRRM2	Q9UQ35	300	4	4	0	6	1.00	0.00	1.50
1714	Serine/arginine-rich splicing factor 1 SRSF1	Q07955	28	14	14	17	11	1.00	1.21	0.79
1715	Serine/arginine-rich splicing factor 10 SRSF10	O75494	31	2	2	0	2	1.00	0.00	1.00
1716	Serine/arginine-rich splicing factor 11 SRSF11	Q05519	54	0	2	5	6	#DIV/0!	#DIV/0!	#DIV/0!
1717	Serine/arginine-rich splicing factor 2 SRSF2	Q01130	25	4	8	12	9	2.00	3.00	2.25
1718	Serine/arginine-rich splicing factor 3 SRSF3	P84103	19	16	13	8	12	0.81	0.50	0.75
1719	Serine/arginine-rich splicing factor 6 SRSF6	Q13247	40	2	0	2	0	0.00	1.00	0.00

1720	Serine/arginine-rich splicing factor 7 SRSF7	Q16629	27	6	7	10	12	1.17	1.67	2.00
1721	Serine/arginine-rich splicing factor 9 SRSF9	Q13242	26	4	0	4	0	0.00	1.00	0.00
1722	Serine/threonine-protein kinase 10 STK10	O94804	112	8	7	7	6	0.88	0.88	0.75
1723	Serine/threonine-protein kinase 24 STK24	Q9Y6E0	49	9	10	12	9	1.11	1.33	1.00
1724	Serine/threonine-protein kinase 26 STK26	Q9P289	47	7	0	0	0	0.00	0.00	0.00
1725	Serine/threonine-protein kinase mTOR MTOR	P42345	289	4	3	3	0	0.75	0.75	0.00
1726	Serine/threonine-protein kinase Nek7 NEK7	Q8TDX7	35	2	0	2	0	0.00	1.00	0.00
1727	Serine/threonine-protein kinase OSR1 OXSR1	O95747	58	6	14	13	11	2.33	2.17	1.83
1728	Serine/threonine-protein kinase PAK 2 PAK2	Q13177	58	17	13	17	21	0.76	1.00	1.24
1729	Serine/threonine-protein kinase WNK1 WNK1	Q9H4A3	251	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1730	Serine/threonine-protein phosphatase 2A 55 kDa regulatory subunit B alpha isoform P	P63151	52	8	10	11	10	1.25	1.38	1.25
1731	Serine/threonine-protein phosphatase 2A 56 kDa regulatory subunit delta isoform PPP	Q14738	70	11	11	11	13	1.00	1.00	1.18
1732	Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A alpha isoform P	P30153	65	105	97	87	75	0.92	0.83	0.71
1733	Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A beta isoform PP	P30154	66	0	14	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1734	Serine/threonine-protein phosphatase 2A activator PPP2R4	Q15257	41	12	4	5	8	0.33	0.42	0.67
1735	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform PPP2CA	P67775	36	33	29	30	21	0.88	0.91	0.64
1736	Serine/threonine-protein phosphatase 2A catalytic subunit beta isoform PPP2CB	P62714	36	31	25	0	0	0.81	0.00	0.00
1737	Serine/threonine-protein phosphatase 2B catalytic subunit alpha isoform PPP3CA	Q08209	59	17	11	14	19	0.65	0.82	1.12
1738	Serine/threonine-protein phosphatase 4 catalytic subunit PPP4C	P60510	35	12	10	7	7	0.83	0.58	0.58
1739	Serine/threonine-protein phosphatase 4 regulatory subunit 1 PPP4R1	Q8TF05	107	12	11	17	12	0.92	1.42	1.00
1740	Serine/threonine-protein phosphatase 5 PPP5C	P53041	57	0	0	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1741	Serine/threonine-protein phosphatase 6 catalytic subunit PPP6C	O00743	35	8	8	8	5	1.00	1.00	0.63
1742	Serine/threonine-protein phosphatase 6 regulatory subunit 3 PPP6R3	Q5H9R7	98	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1743	Serine/threonine-protein phosphatase CPPED1 CPPED1	Q9BRF8	36	2	0	0	3	0.00	0.00	1.50
1744	Serine/threonine-protein phosphatase PP1-alpha catalytic subunit PPP1CA	P62136	38	0	0	37	38	#DIV/0!	#DIV/0!	#DIV/0!
1745	Serine/threonine-protein phosphatase PP1-beta catalytic subunit PPP1CB	P62140	37	53	38	44	37	0.72	0.83	0.70
1746	Serine/threonine-protein phosphatase PP1-gamma catalytic subunit PPP1CC	P36873	37	24	33	38	37	1.38	1.58	1.54
1747	Serine-threonine kinase receptor-associated protein STRAP	Q9Y3F4	38	24	26	27	20	1.08	1.13	0.83
1748	Serine--tRNA ligase, cytoplasmic SARS	P49591	59	33	27	28	22	0.82	0.85	0.67
1749	Serotransferrin TF	P02787	77	45	41	24	21	0.91	0.53	0.47
1750	Serpin B3 SERPINB3	P29508	45	15	16	21	20	1.07	1.40	1.33
1751	Serpin B5 SERPINB5	P36952	42	136	118	131	132	0.87	0.96	0.97
1752	Serpin B6 SERPINB6	P35237	43	26	32	28	26	1.23	1.08	1.00
1753	Serpin B8 SERPINB8	P50452	43	0	8	5	5	#DIV/0!	#DIV/0!	#DIV/0!
1754	Serpin H1 SERPINH1	P50454	46	41	47	43	36	1.15	1.05	0.88
1755	Serrate RNA effector molecule homolog SRRT	Q9BXP5	101	7	7	3	6	1.00	0.43	0.86
1756	Serum albumin ALB	P02768	69	69	90	56	51	1.30	0.81	0.74
1757	Serum paraoxonase/arylesterase 2 PON2	Q15165	39	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1758	S-formylglutathione hydrolase ESD	P10768	31	24	22	29	27	0.92	1.21	1.13
1759	SH3 domain-binding glutamic acid-rich-like protein SH3BGRL	O75368	13	7	3	5	6	0.43	0.71	0.86
1760	SH3 domain-binding glutamic acid-rich-like protein 3 SH3BGRL3	Q9H299	10	14	13	16	17	0.93	1.14	1.21
1761	SH3 domain-binding protein 1 SH3BP1	Q9Y3L3	76	3	0	3	0	0.00	1.00	0.00
1762	SHC-transforming protein 1 SHC1	P29353	63	0	2	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1763	Shootin-1 KIAA1598	A0MZ66	72	2	0	0	2	0.00	0.00	1.00
1764	Sialic acid synthase NANS	Q9NR45	40	12	15	11	8	1.25	0.92	0.67
1765	Sigma non-opioid intracellular receptor 1 SIGMAR1	Q99720	25	3	2	6	0	0.67	2.00	0.00
1766	Signal peptidase complex catalytic subunit SEC11A SEC11A	P67812	21	14	14	12	9	1.00	0.86	0.64
1767	Signal peptidase complex subunit 2 SPCS2	Q15005	25	9	6	4	7	0.67	0.44	0.78
1768	Signal peptidase complex subunit 3 SPCS3	P61009	20	8	8	6	7	1.00	0.75	0.88
1769	Signal recognition particle 14 kDa protein SRP14	P37108	15	11	14	7	10	1.27	0.64	0.91
1770	Signal recognition particle 19 kDa protein SRP19	P09132	16	11	11	9	9	1.00	0.82	0.82
1771	Signal recognition particle 54 kDa protein SRP54	P61011	56	7	11	7	10	1.57	1.00	1.43
1772	Signal recognition particle 9 kDa protein SRP9	P49458	10	6	9	5	8	1.50	0.83	1.33
1773	Signal recognition particle receptor subunit alpha SRPR	P08240	70	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1774	Signal recognition particle receptor subunit beta SRPRB	Q9Y5M8	30	4	8	5	5	2.00	1.25	1.25
1775	Signal recognition particle subunit SRP68 SRP68	Q9UHB9	71	27	37	43	42	1.37	1.59	1.56
1776	Signal recognition particle subunit SRP72 SRP72	O76094	75	19	16	21	23	0.84	1.11	1.21
1777	Signal transducer and activator of transcription 1-alpha/beta STAT1	P42224	87	14	30	14	13	2.14	1.00	0.93
1778	Signal transducer and activator of transcription 3 STAT3	P40763	88	25	17	18	11	0.68	0.72	0.44
1779	Signal transducer and activator of transcription 6 STAT6	P42226	94	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1780	Signal transducing adapter molecule 1 STAM	Q92783	59	5	4	7	6	0.80	1.40	1.20
1781	Signal transducing adapter molecule 2 STAM2	O75886	58	0	5	4	6	#DIV/0!	#DIV/0!	#DIV/0!
1782	Single-stranded DNA-binding protein, mitochondrial SSBP1	Q04837	17	16	11	23	18	0.69	1.44	1.13
1783	Small glutamine-rich tetratricopeptide repeat-containing protein alpha SGTA	O43765	34	4	9	7	4	2.25	1.75	1.00
1784	Small integral membrane protein 13 SMIM13	P0DJ93	10	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1785	Small nuclear ribonucleoprotein E SNRPE	P62304	11	11	12	12	10	1.09	1.09	0.91
1786	Small nuclear ribonucleoprotein F SNRPF	P62306	10	4	7	4	6	1.75	1.00	1.50
1787	Small nuclear ribonucleoprotein Sm D1 SNRPD1	P62314	13	13	11	14	12	0.85	1.08	0.92
1788	Small nuclear ribonucleoprotein Sm D2 SNRPD2	P62316	14	31	28	30	17	0.90	0.97	0.55
1789	Small nuclear ribonucleoprotein Sm D3 SNRPD3	P62318	14	20	20	20	16	1.00	1.00	0.80
1790	Small nuclear ribonucleoprotein-associated proteins B and B' SNRPB	P14678 (+1)	25	5	4	4	3	0.80	0.80	0.60
1791	Small proline-rich protein 2D SPRR2D	P22532	8	7	2	2	2	0.29	0.29	0.29
1792	Small proline-rich protein 3 SPRR3	Q9UBC9	18	7	12	5	11	1.71	0.71	1.57
1793	Small ubiquitin-related modifier 2 SUMO2	P61956	11	0	0	4	3	#DIV/0!	#DIV/0!	#DIV/0!
1794	S-methyl-5'-thioadenosine phosphorylase MTAP	Q13126	31	29	22	30	35	0.76	1.03	1.21
1795	SNARE-associated protein Snapin SNAPIN	O95295	15	2	0	2	0	0.00	1.00	0.00
1796	Sodium/potassium-transporting ATPase subunit alpha-1 ATP1A1	P05023	113	18	16	19	21	0.89	1.06	1.17
1797	Sodium-coupled neutral amino acid transporter 2 SLC38A2	Q96QD8	56	3	3	7	7	1.00	2.33	2.33
1798	Solute carrier family 12 member 4 SLC12A4	Q9UP95	121	2	3	0	0	1.50	0.00	0.00
1799	Solute carrier family 2, facilitated glucose transporter member 1 SLC2A1	P11166	54	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1800	Sorbitol dehydrogenase SORD	Q00796	38	2	5	3	3	2.50	1.50	1.50
1801	Sorcin SRI	P30626	22	0	11	6	2	#DIV/0!	#DIV/0!	#DIV/0!

1802	Sorting nexin-1 SNX1	Q13596	59	3	10	15	9	3.33	5.00	3.00
1803	Sorting nexin-12 SNX12	Q9UMY4	20	10	11	10	10	1.10	1.00	1.00
1804	Sorting nexin-2 SNX2	O60749	58	0	8	12	13	#DIV/0!	#DIV/0!	#DIV/0!
1805	Sorting nexin-3 SNX3	O60493	19	17	19	19	15	1.12	1.12	0.88
1806	Sorting nexin-6 SNX6	Q9UNH7	47	6	6	3	0	1.00	0.50	0.00
1807	Sorting nexin-9 SNX9	Q9Y5X1	67	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
1808	SPATS2-like protein SPATS2L	Q9NUQ6	62	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1809	Spectrin alpha chain, non-erythrocytic 1 SPTAN1	Q13813	285	510	360	338	338	0.71	0.66	0.66
1810	Spectrin beta chain, non-erythrocytic 1 SPTBN1	Q01082	275	397	267	270	285	0.67	0.68	0.72
1811	Spermidine synthase SRM	P19623	34	19	23	19	18	1.21	1.00	0.95
1812	Spermine synthase SMS	P52788	41	8	9	3	7	1.13	0.38	0.88
1813	S-phase kinase-associated protein 1 SKP1	P63208	19	2	2	3	0	1.00	1.50	0.00
1814	Spliceosome RNA helicase DDX39B DDX39B	Q13838	49	44	35	53	44	0.80	1.20	1.00
1815	Splicing factor 1 SF1	Q15637	68	0	3	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1816	Splicing factor 3A subunit 1 SF3A1	Q15459	89	5	2	9	9	0.40	1.80	1.80
1817	Splicing factor 3A subunit 3 SF3A3	Q12874	59	4	0	4	0	0.00	1.00	0.00
1818	Splicing factor 3B subunit 1 SF3B1	O75533	146	16	28	42	37	1.75	2.63	2.31
1819	Splicing factor 3B subunit 2 SF3B2	Q13435	100	6	5	9	11	0.83	1.50	1.83
1820	Splicing factor 3B subunit 3 SF3B3	Q15393	136	11	15	20	15	1.36	1.82	1.36
1821	Splicing factor 3B subunit 5 SF3B5	Q9BWJ5	10	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1822	Splicing factor 3B subunit 6 SF3B6	Q9Y3B4	15	5	7	9	7	1.40	1.80	1.40
1823	Splicing factor U2AF 35 kDa subunit U2AF1	Q01081	28	9	10	12	7	1.11	1.33	0.78
1824	Splicing factor U2AF 65 kDa subunit U2AF2	P26368	54	6	5	9	10	0.83	1.50	1.67
1825	Splicing factor, proline- and glutamine-rich SFPQ	P23246	76	11	21	20	25	1.91	1.82	2.27
1826	SPRY domain-containing protein 7 SPRYD7	Q5W111	22	2	0	0	0	0.00	0.00	0.00
1827	Squalene synthase FDFT1	P37268	48	39	28	27	28	0.72	0.69	0.72
1828	Squamous cell carcinoma antigen recognized by T-cells 3 SART3	Q15020	110	0	0	7	2	#DIV/0!	#DIV/0!	#DIV/0!
1829	SRA stem-loop-interacting RNA-binding protein, mitochondrial SLIRP	Q9GZT3	12	11	5	11	7	0.45	1.00	0.64
1830	Src substrate cortactin CTTN	Q14247	62	32	43	30	37	1.34	0.94	1.16
1831	SRSF protein kinase 1 SRPK1	Q96SB4	74	0	0	2	3	#DIV/0!	#DIV/0!	#DIV/0!
1832	Staphylococcal nuclease domain-containing protein 1 SND1	Q7KZF4	102	52	49	46	49	0.94	0.88	0.94
1833	Stathmin STMN1	P16949	17	8	7	2	0	0.88	0.25	0.00
1834	STE20/SPS1-related proline-alanine-rich protein kinase STK39	Q9UEW8	59	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1835	STE20-like serine/threonine-protein kinase SLK	Q9H2G2	143	27	28	34	28	1.04	1.26	1.04
1836	Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating NSDHL	Q15738	42	18	15	18	12	0.83	1.00	0.67
1837	Stomatin-like protein 2, mitochondrial STOML2	Q9UJZ1	39	6	6	2	0	1.00	0.33	0.00
1838	Stress-70 protein, mitochondrial HSPA9	P38646	74	95	67	82	85	0.71	0.86	0.89
1839	Stress-induced-phosphoprotein 1 STIP1	P31948	63	54	43	66	66	0.80	1.22	1.22
1840	Striatin STRN	O43815	86	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1841	Striatin-interacting protein 1 STRIP1	Q5VSL9	96	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1842	Stromal cell-derived factor 2-like protein 1 SDF2L1	Q9HCN8	24	4	2	0	0	0.50	0.00	0.00
1843	Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial SDHA	P31040	73	2	7	8	10	3.50	4.00	5.00
1844	Succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial SDHB	P21912	32	2	5	5	5	2.50	2.50	2.50
1845	Succinyl-CoA ligase [ADP/GDP-forming] subunit alpha, mitochondrial SUCLG1	P53597	36	6	8	5	4	1.33	0.83	0.67
1846	Succinyl-CoA ligase [GDP-forming] subunit beta, mitochondrial SUCLG2	Q96I99	47	2	3	5	4	1.50	2.50	2.00
1847	Succinyl-CoA:3-ketoacid coenzyme A transferase 1, mitochondrial OXCT1	P55809	56	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1848	Sulfatase-modifying factor 2 SUMF2	Q8NBJ7	34	7	8	6	6	1.14	0.86	0.86
1849	Sulfide:quinone oxidoreductase, mitochondrial SQRDL	Q9Y6N5	50	50	43	31	32	0.86	0.62	0.64
1850	SUMO-activating enzyme subunit 1 SAE1	Q9UBE0	38	6	6	5	3	1.00	0.83	0.50
1851	SUMO-activating enzyme subunit 2 UBA2	Q9UBT2	71	7	7	6	7	1.00	0.86	1.00
1852	SUMO-conjugating enzyme UBC9 UBE2I	P63279	18	4	4	5	3	1.00	1.25	0.75
1853	Superkiller viralicidic activity 2-like 2 SKIV2L2	P42285	118	0	2	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1854	Superoxide dismutase [Cu-Zn] SOD1	P00441	16	10	8	9	7	0.80	0.90	0.70
1855	Superoxide dismutase [Mn], mitochondrial SOD2	P04179	25	9	25	15	16	2.78	1.67	1.78
1856	Suppressor of G2 allele of SKP1 homolog SUGT1	Q9Y2Z0	41	8	12	10	10	1.50	1.25	1.25
1857	Surfeit locus protein 4 SURF4	O15260	30	16	19	24	22	1.19	1.50	1.38
1858	Switch-associated protein 70 SWAP70	Q9UH65	69	2	7	9	10	3.50	4.50	5.00
1859	Symplekin SYMPK	Q92797	141	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1860	Synaptic vesicle membrane protein VAT-1 homolog VAT1	Q99536	42	31	33	34	27	1.06	1.10	0.87
1861	Synaptobrevin homolog YKT6 YKT6	O15498	22	16	16	19	14	1.00	1.19	0.88
1862	Synaptogyrin-2 SYNGR2	O43760	25	5	3	6	4	0.60	1.20	0.80
1863	Synaptojanin-2-binding protein SYNJ2BP	P57105	16	3	0	3	3	0.00	1.00	1.00
1864	Synaptophysin-like protein 1 SYPL1	Q16563	29	0	0	4	0	#DIV/0!	#DIV/0!	#DIV/0!
1865	Synaptosomal-associated protein 23 SNAP23	O00161	23	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1866	Syndecan-4 SDC4	P31431	22	2	14	3	0	7.00	1.50	0.00
1867	Synembryn-A RIC8A	Q9NPQ8	60	7	6	7	10	0.86	1.00	1.43
1868	Syntaxin-12 STX12	Q86Y82	32	2	6	7	7	3.00	3.50	3.50
1869	Syntaxin-7 STX7	O15400	30	9	8	6	5	0.89	0.67	0.56
1870	Syntaxin-binding protein 2 STXBP2	Q15833	66	11	13	17	17	1.18	1.55	1.55
1871	Syntaxin-binding protein 3 STXBP3	O00186	68	2	2	4	5	1.00	2.00	2.50
1872	Syntenin-1 SDCBP	O00560	32	12	10	7	5	0.83	0.58	0.42
1873	Syntenin-2 SDCBP2	Q9H190	32	0	3	0	3	#DIV/0!	#DIV/0!	#DIV/0!
1874	Talin-1 TLN1	Q9Y490	270	316	237	212	206	0.75	0.67	0.65
1875	TAR DNA-binding protein 43 TARDBP	Q13148	45	4	8	8	7	2.00	2.00	1.75
1876	Target of Myb protein 1 TOM1	O60784	54	2	0	3	5	0.00	1.50	2.50
1877	TATA-binding protein-associated factor 2N TAF15	Q92804	62	0	0	0	8	#DIV/0!	#DIV/0!	#DIV/0!
1878	Tax1-binding protein 3 TAX1BP3	O14907	14	8	6	8	6	0.75	1.00	0.75
1879	TBC1 domain family member 15 TBC1D15	Q8TC07	79	2	0	0	4	0.00	0.00	2.00
1880	TBC1 domain family member 2A TBC1D2	Q9BYX2	105	4	5	0	0	1.25	0.00	0.00
1881	TBC1 domain family member 9B TBC1D9B	Q66K14	141	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1882	T-complex protein 1 subunit alpha TCP1	P17987	60	87	85	90	101	0.98	1.03	1.16
1883	T-complex protein 1 subunit beta CCT2	P78371	57	132	99	80	83	0.75	0.61	0.63

1884	T-complex protein 1 subunit delta CCT4	P50991	58	83	81	74	58	0.98	0.89	0.70
1885	T-complex protein 1 subunit epsilon CCT5	P48643	60	92	105	108	93	1.14	1.17	1.01
1886	T-complex protein 1 subunit eta CCT7	Q99832	59	68	75	72	71	1.10	1.06	1.04
1887	T-complex protein 1 subunit gamma CCT3	P49368	61	70	76	66	75	1.09	0.94	1.07
1888	T-complex protein 1 subunit theta CCT8	P50990	60	102	76	66	78	0.75	0.65	0.76
1889	T-complex protein 1 subunit zeta CCT6A	P40227	58	75	74	74	70	0.99	0.99	0.93
1890	T-complex protein 11-like protein 1 TCP11L1	Q9NUJ3	57	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1891	Tenascin TNC	P24821	241	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1892	Testin TES	Q9UGI8	48	35	34	30	38	0.97	0.86	1.09
1893	Thimet oligopeptidase THOP1	P52888	79	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1894	Thiopurine S-methyltransferase TPMT	P51580	28	2	3	4	2	1.50	2.00	1.00
1895	Thioredoxin TXN	P10599	12	40	32	39	32	0.80	0.98	0.80
1896	Thioredoxin domain-containing protein 12 TXNDC12	O95881	19	5	3	3	0	0.60	0.60	0.00
1897	Thioredoxin domain-containing protein 17 TXNDC17	Q9BRA2	14	28	21	21	24	0.75	0.75	0.86
1898	Thioredoxin domain-containing protein 5 TXNDC5	Q8NBS9	48	24	20	20	21	0.83	0.83	0.88
1899	Thioredoxin domain-containing protein 9 TXNDC9	O14530	27	8	5	5	0	0.63	0.63	0.00
1900	Thioredoxin reductase 1, cytoplasmic TXNRD1	Q16881	71	0	12	3	4	#DIV/0!	#DIV/0!	#DIV/0!
1901	Thioredoxin-dependent peroxide reductase, mitochondrial PRDX3	P30048	28	49	33	33	35	0.67	0.67	0.71
1902	Thioredoxin-like protein 1 TXNL1	O43396	32	7	12	10	7	1.71	1.43	1.00
1903	Thioredoxin-related transmembrane protein 1 TMX1	Q9H3N1	32	15	11	11	14	0.73	0.73	0.93
1904	Thiosulfate sulfurtransferase TST	Q16762	33	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1905	THO complex subunit 4 ALYREF	Q86V81	27	0	3	3	2	#DIV/0!	#DIV/0!	#DIV/0!
1906	Threonine--tRNA ligase, cytoplasmic TARS	P26639	83	58	58	68	74	1.00	1.17	1.28
1907	Thrombospondin-1 THBS1	P07996	129	115	97	103	87	0.84	0.90	0.76
1908	THUMP domain-containing protein 1 THUMPD1	Q9NXG2	39	0	2	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1909	Thymidine phosphorylase TYMP	P19971	50	7	6	10	12	0.86	1.43	1.71
1910	Thymidylate kinase DTYMK	P23919	24	11	11	10	4	1.00	0.91	0.36
1911	Thymosin beta-10 TMSB10	P63313	5	4	0	0	4	0.00	0.00	1.00
1912	Thymosin beta-4 TMSB4X	P62328	5	17	14	12	7	0.82	0.71	0.41
1913	Thyroid adenoma-associated protein THADA	Q6YHU6	220	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1914	Thyroid hormone receptor-associated protein 3 THRAP3	Q9Y2W1	109	9	9	13	14	1.00	1.44	1.56
1915	Thyroid receptor-interacting protein 6 TRIP6	Q15654	50	0	2	5	3	#DIV/0!	#DIV/0!	#DIV/0!
1916	Tight junction protein ZO-1 TJP1	Q07157	195	23	38	43	37	1.65	1.87	1.61
1917	Tight junction protein ZO-2 TJP2	Q9UDY2	134	18	34	34	30	1.89	1.89	1.67
1918	TIP41-like protein TIPRL	O75663	31	3	6	4	7	2.00	1.33	2.33
1919	Tissue factor F3	P13726	33	37	34	27	26	0.92	0.73	0.70
1920	TLD domain-containing protein 1 TLDC1	Q6P9B6	51	8	11	10	8	1.38	1.25	1.00
1921	Toll-interacting protein TOLLIP	Q9H0E2	30	9	9	9	8	1.00	1.00	0.89
1922	Torsin-1A-interacting protein 1 TOR1AIP1	Q5JTV8	66	6	8	6	6	1.33	1.00	1.00
1923	Trafficking protein particle complex subunit 1 TRAPPC1	Q9Y5R8	17	3	0	0	0	0.00	0.00	0.00
1924	Trafficking protein particle complex subunit 2 TRAPPC2	P0DI81 (+1)	16	3	2	3	4	0.67	1.00	1.33
1925	Trafficking protein particle complex subunit 2-like protein TRAPPC2L	Q9UL33	16	3	0	0	0	0.00	0.00	0.00
1926	Trafficking protein particle complex subunit 3 TRAPPC3	O43617	20	11	8	5	8	0.73	0.45	0.73
1927	Trafficking protein particle complex subunit 4 TRAPPC4	Q9Y296	24	4	0	3	3	0.00	0.75	0.75
1928	Trafficking protein particle complex subunit 5 TRAPPC5	Q8IUR0	21	3	3	3	0	1.00	1.00	0.00
1929	Trafficking protein particle complex subunit 6B TRAPPC6B	Q86SZ2	18	5	4	3	6	0.80	0.60	1.20
1930	TRAF-type zinc finger domain-containing protein 1 TRAFD1	O14545	65	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1931	Transaldolase TALDO1	P37837	38	50	52	47	34	1.04	0.94	0.68
1932	Transcription and mRNA export factor ENY2 ENY2	Q9NPA8	12	4	0	3	0	0.00	0.75	0.00
1933	Transcription elongation factor B polypeptide 1 TCEB1	Q15369	12	7	7	16	11	1.00	2.29	1.57
1934	Transcription elongation factor B polypeptide 2 TCEB2	Q15370	13	16	10	9	11	0.63	0.56	0.69
1935	Transcription factor BTF3 BTF3	P20290	22	13	18	15	16	1.38	1.15	1.23
1936	Transcription factor BTF3 homolog 4 BTF3L4	Q96K17	17	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1937	Transcription factor p65 RELA	Q04206	60	0	4	5	3	#DIV/0!	#DIV/0!	#DIV/0!
1938	Transcription intermediary factor 1-beta TRIM28	Q13263	89	21	23	27	27	1.10	1.29	1.29
1939	Transcriptional activator protein Pur-alpha PURA	Q00577	35	0	2	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1940	Transcriptional activator protein Pur-beta PURB	Q96QR8	33	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1941	Transferrin receptor protein 1 TFRC	P02786	85	13	14	24	21	1.08	1.85	1.62
1942	Transformer-2 protein homolog beta TRA2B	P62995	34	7	5	4	7	0.71	0.57	1.00
1943	Transforming growth factor beta-1-induced transcript 1 protein TGFB1I1	O43294	50	0	3	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1944	Transforming growth factor-beta-induced protein ig-h3 TGFBI	Q15582	75	9	14	13	12	1.56	1.44	1.33
1945	Transforming protein RhoA RHOA	P61586	22	73	75	71	100	1.03	0.97	1.37
1946	Transgelin TAGLN	Q01995	23	100	106	109	95	1.06	1.09	0.95
1947	Transgelin-2 TAGLN2	P37802	22	147	167	142	140	1.14	0.97	0.95
1948	Transitional endoplasmic reticulum ATPase VCP	P55072	89	212	144	140	157	0.68	0.66	0.74
1949	Transketolase TKT	P29401	68	178	154	213	186	0.87	1.20	1.04
1950	Translation initiation factor eIF-2B subunit alpha EIF2B1	Q14232	34	10	10	5	3	1.00	0.50	0.30
1951	Translation initiation factor eIF-2B subunit beta EIF2B2	P49770	39	5	0	5	3	0.00	1.00	0.60
1952	Translation initiation factor eIF-2B subunit delta EIF2B4	Q9UI10	58	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1953	Translation initiation factor eIF-2B subunit epsilon EIF2B5	Q13144	80	2	0	0	0	0.00	0.00	0.00
1954	Translation machinery-associated protein 7 TMA7	Q9Y2S6	7	10	0	10	6	0.00	1.00	0.60
1955	Translational activator GCN1 GCN1L1	Q92616	293	51	68	69	74	1.33	1.35	1.45
1956	Translational activator of cytochrome c oxidase 1 TACO1	Q9BSH4	32	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1957	Translationally-controlled tumor protein TPT1	P13693	20	30	29	31	29	0.97	1.03	0.97
1958	Translin TSN	Q15631	26	13	16	15	9	1.23	1.15	0.69
1959	Translin-associated protein X TSNAX	Q99598	33	5	6	7	4	1.20	1.40	0.80
1960	Translocon-associated protein subunit alpha SSR1	P43307	32	0	4	5	3	#DIV/0!	#DIV/0!	#DIV/0!
1961	Translocon-associated protein subunit delta SSR4	P51571	19	14	10	14	13	0.71	1.00	0.93
1962	Transmembrane 9 superfamily member 2 TM9SF2	Q99805	76	0	4	4	0	#DIV/0!	#DIV/0!	#DIV/0!
1963	Transmembrane 9 superfamily member 3 TM9SF3	Q9HD45	68	0	0	2	2	#DIV/0!	#DIV/0!	#DIV/0!
1964	Transmembrane and coiled-coil domain-containing protein 1 TMCO1	Q9UM00	21	7	5	0	0	0.71	0.00	0.00
1965	Transmembrane emp24 domain-containing protein 1 TMED1	Q13445	25	2	2	2	0	1.00	1.00	0.00

1966	Transmembrane emp24 domain-containing protein 10 TMED10	P49755	25	41	33	33	40	0.80	0.80	0.98
1967	Transmembrane emp24 domain-containing protein 2 TMED2	Q15363	23	20	20	17	30	1.00	0.85	1.50
1968	Transmembrane emp24 domain-containing protein 3 TMED3	Q9Y3Q3	25	0	0	4	3	#DIV/0!	#DIV/0!	#DIV/0!
1969	Transmembrane emp24 domain-containing protein 4 TMED4	Q7Z7H5	26	6	6	5	7	1.00	0.83	1.17
1970	Transmembrane emp24 domain-containing protein 5 TMED5	Q9Y3A6	26	8	6	7	5	0.75	0.88	0.63
1971	Transmembrane emp24 domain-containing protein 7 TMED7	Q9Y3B3	25	9	11	11	9	1.22	1.22	1.00
1972	Transmembrane emp24 domain-containing protein 9 TMED9	Q9BVK6	27	15	20	15	16	1.33	1.00	1.07
1973	Transmembrane protein 109 TMEM109	Q9BVC6	26	2	0	0	4	0.00	0.00	2.00
1974	Transmembrane protein 189 TMEM189	A5PLL7	31	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
1975	Transmembrane protein 199 TMEM199	Q8N511	23	2	0	0	0	0.00	0.00	0.00
1976	Transmembrane protein 256 TMEM256	Q8N2U0	12	3	0	0	0	0.00	0.00	0.00
1977	Transmembrane protein 33 TMEM33	P57088	28	4	0	3	3	0.00	0.75	0.75
1978	Transmembrane protein 40 TMEM40	Q8WWA1	25	15	10	18	19	0.67	1.20	1.27
1979	Transmembrane protein 43 TMEM43	Q9BTV4	45	5	2	2	2	0.40	0.40	0.40
1980	Transportin-1 TNPO1	Q92973	102	26	30	30	33	1.15	1.15	1.27
1981	Transportin-2 TNPO2	O14787	101	0	9	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1982	Transportin-3 TNPO3	Q9Y5L0	104	4	0	4	2	0.00	1.00	0.50
1983	Trifunctional enzyme subunit alpha, mitochondrial HADHA	P40939	83	31	45	50	50	1.45	1.61	1.61
1984	Trifunctional enzyme subunit beta, mitochondrial HADHB	P55084	51	10	12	8	13	1.20	0.80	1.30
1985	Trifunctional purine biosynthetic protein adenosine-3 GART	P22102	108	43	37	38	38	0.86	0.88	0.88
1986	Triosephosphate isomerase TPI1	P60174	31	121	133	115	140	1.10	0.95	1.16
1987	Tripartite motif-containing protein 16 TRIM16	O95361	64	11	9	13	18	0.82	1.18	1.64
1988	Tripartite motif-containing protein 29 TRIM29	Q14134	66	18	17	22	24	0.94	1.22	1.33
1989	Tripeptidyl-peptidase 1 TPP1	O14773	61	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1990	Tripeptidyl-peptidase 2 TPP2	P29144	138	0	12	16	14	#DIV/0!	#DIV/0!	#DIV/0!
1991	Triple functional domain protein TRIO	O75962	347	0	2	0	2	#DIV/0!	#DIV/0!	#DIV/0!
1992	tRNA (cytosine(34)-C(5))-methyltransferase NSUN2	Q08J23	86	8	11	7	8	1.38	0.88	1.00
1993	tRNA (guanine(26)-N(2))-dimethyltransferase TRMT1	Q9NXH9	72	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
1994	tRNA pseudouridine synthase A, mitochondrial PUS1	Q9Y606	47	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
1995	tRNA-splicing ligase RtcB homolog RTCB	Q9Y3I0	55	5	6	10	11	1.20	2.00	2.20
1996	Trophoblast glycoprotein TPBG	Q13641	46	3	0	0	2	0.00	0.00	0.67
1997	Tropomodulin-3 TMOD3	Q9NYL9	40	14	9	10	10	0.64	0.71	0.71
1998	Tropomyosin alpha-1 chain TPM1	P09493	33	29	29	33	29	1.00	1.14	1.00
1999	Tropomyosin alpha-3 chain TPM3	P06753	33	34	39	43	45	1.15	1.26	1.32
2000	Tropomyosin alpha-4 chain TPM4	P67936	29	73	79	80	92	1.08	1.10	1.26
2001	Tryptophan--tRNA ligase, cytoplasmic WARS	P23381	53	34	31	23	29	0.91	0.68	0.85
2002	Tubulin alpha-1B chain TUBA1B	P68363	50	294	333	301	359	1.13	1.02	1.22
2003	Tubulin alpha-1C chain TUBA1C	Q9BQE3	50	323	343	334	361	1.06	1.03	1.12
2004	Tubulin alpha-4A chain TUBA4A	P68366	50	247	221	220	247	0.89	0.89	1.00
2005	Tubulin beta chain TUBB	P07437	50	364	354	367	386	0.97	1.01	1.06
2006	Tubulin beta-2B chain TUBB2B	Q9BVA1	50	125	124	194	196	0.99	1.55	1.57
2007	Tubulin beta-3 chain TUBB3	Q13509	50	190	193	164	184	1.02	0.86	0.97
2008	Tubulin beta-4A chain TUBB4A	P04350	50	179	175	199	195	0.98	1.11	1.09
2009	Tubulin beta-4B chain TUBB4B	P68371	50	270	272	286	288	1.01	1.06	1.07
2010	Tubulin beta-6 chain TUBB6	Q9BUF5	50	165	141	154	175	0.85	0.93	1.06
2011	Tubulin-folding cofactor B TBCB	Q99426	27	14	13	12	10	0.93	0.86	0.71
2012	Tubulin-specific chaperone A TBCA	O75347	13	12	5	7	3	0.42	0.58	0.25
2013	Tubulin-specific chaperone D TBCD	Q9BTW9	133	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2014	Tubulin--tyrosine ligase-like protein 12 TTLL12	Q14166	74	15	10	21	20	0.67	1.40	1.33
2015	Tumor necrosis factor receptor type 1-associated DEATH domain protein TRADD	Q15628	34	0	3	5	4	#DIV/0!	#DIV/0!	#DIV/0!
2016	Tumor protein D52 TPD52	P55327	24	4	8	9	5	2.00	2.25	1.25
2017	Tumor protein D54 TPD52L2	O43399	22	12	24	27	22	2.00	2.25	1.83
2018	Tumor suppressor candidate 2 TUSC2	O75896	12	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
2019	Tumor susceptibility gene 101 protein TSG101	Q99816	44	4	3	5	7	0.75	1.25	1.75
2020	Tumor-associated calcium signal transducer 2 TACSTD2	P09758	36	4	7	10	9	1.75	2.50	2.25
2021	Twinfilin-1 TWF1	Q12792	40	21	20	15	12	0.95	0.71	0.57
2022	Twinfilin-2 TWF2	Q6IBS0	40	11	15	20	16	1.36	1.82	1.45
2023	Type II inositol 3,4-bisphosphate 4-phosphatase INPP4B	O15327	105	3	5	5	3	1.67	1.67	1.00
2024	Tyrosine-protein kinase CSK CSK	P41240	51	2	2	0	0	1.00	0.00	0.00
2025	Tyrosine-protein phosphatase non-receptor type 1 PTPN1	P18031	50	4	7	8	8	1.75	2.00	2.00
2026	Tyrosine-protein phosphatase non-receptor type 11 PTPN11	Q06124	68	13	23	18	21	1.77	1.38	1.62
2027	Tyrosine-protein phosphatase non-receptor type 12 PTPN12	Q05209	88	3	0	3	3	0.00	1.00	1.00
2028	Tyrosine-protein phosphatase non-receptor type 23 PTPN23	Q9H3S7	179	4	2	2	2	0.50	0.50	0.50
2029	Tyrosine--tRNA ligase, cytoplasmic YARS	P54577	59	26	35	29	30	1.35	1.12	1.15
2030	U1 small nuclear ribonucleoprotein 70 kDa SNRNP70	P08621	52	4	3	5	4	0.75	1.25	1.00
2031	U1 small nuclear ribonucleoprotein A SNRPA	P09012	31	6	6	12	8	1.00	2.00	1.33
2032	U1 small nuclear ribonucleoprotein C SNRPC	P09234	17	4	0	4	0	0.00	1.00	0.00
2033	U2 small nuclear ribonucleoprotein A' SNRPA1	P09661	28	8	12	10	17	1.50	1.25	2.13
2034	U2 small nuclear ribonucleoprotein B'' SNRPB2	P08579	25	3	4	6	4	1.33	2.00	1.33
2035	U2 snRNP-associated SURP motif-containing protein U2SURP	O15042	118	0	0	7	5	#DIV/0!	#DIV/0!	#DIV/0!
2036	U4/U6 small nuclear ribonucleoprotein Prp31 PRPF31	Q8WWY3	55	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2037	U4/U6.U5 tri-snRNP-associated protein 2 USP39	Q53GS9	65	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2038	U5 small nuclear ribonucleoprotein 200 kDa helicase SNRNP200	O75643	245	25	33	35	38	1.32	1.40	1.52
2039	U6 snRNA-associated Sm-like protein LSm1 LSM1	O15116	15	3	0	0	0	0.00	0.00	0.00
2040	U6 snRNA-associated Sm-like protein LSm2 LSM2	Q9Y333	11	9	12	12	12	1.33	1.33	1.33
2041	U6 snRNA-associated Sm-like protein LSm3 LSM3	P62310	12	3	0	2	2	0.00	0.67	0.67
2042	U6 snRNA-associated Sm-like protein LSm4 LSM4	Q9Y4Z0	15	10	9	11	7	0.90	1.10	0.70
2043	U6 snRNA-associated Sm-like protein LSm6 LSM6	P62312	9	3	10	7	2	3.33	2.33	0.67
2044	U6 snRNA-associated Sm-like protein LSm8 LSM8	O95777	10	3	0	0	0	0.00	0.00	0.00
2045	Ubiquilin-1 UBQLN1	Q9UMX0	63	7	4	11	8	0.57	1.57	1.14
2046	Ubiquilin-2 UBQLN2	Q9UHD9	66	0	5	6	3	#DIV/0!	#DIV/0!	#DIV/0!
2047	Ubiquitin carboxyl-terminal hydrolase 14 USP14	P54578	56	34	24	31	29	0.71	0.91	0.85

2048	Ubiquitin carboxyl-terminal hydrolase 24 USP24	Q9UPU5	294	0	3	3	3	#DIV/0!	#DIV/0!	#DIV/0!
2049	Ubiquitin carboxyl-terminal hydrolase 47 USP47	Q96K76	157	0	10	7	7	#DIV/0!	#DIV/0!	#DIV/0!
2050	Ubiquitin carboxyl-terminal hydrolase 5 USP5	P45974	96	37	33	31	27	0.89	0.84	0.73
2051	Ubiquitin carboxyl-terminal hydrolase 7 USP7	Q93009	128	5	6	14	10	1.20	2.80	2.00
2052	Ubiquitin carboxyl-terminal hydrolase isozyme L1 UCHL1	P09936	25	9	14	9	3	1.56	1.00	0.33
2053	Ubiquitin carboxyl-terminal hydrolase isozyme L3 UCHL3	P15374	26	11	17	14	18	1.55	1.27	1.64
2054	Ubiquitin carboxyl-terminal hydrolase isozyme L5 UCHL5	Q9Y5K5	38	4	3	0	3	0.75	0.00	0.75
2055	Ubiquitin conjugation factor E4 B UBE4B	O95155	146	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
2056	Ubiquitin fusion degradation protein 1 homolog UFD1L	Q92890	35	7	6	10	11	0.86	1.43	1.57
2057	Ubiquitin thioesterase OTUB1 OTUB1	Q96FW1	31	20	17	22	19	0.85	1.10	0.95
2058	Ubiquitin thioesterase otulin OTULIN	Q96BN8	40	2	2	0	0	1.00	0.00	0.00
2059	Ubiquitin-40S ribosomal protein S27a RPS27A	P62979	18	95	105	109	103	1.11	1.15	1.08
2060	Ubiquitin-associated and SH3 domain-containing protein B UBASH3B	Q8TF42	73	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
2061	Ubiquitin-associated protein 2-like UBAP2L	Q14157	115	3	9	9	9	3.00	3.00	3.00
2062	Ubiquitin-conjugating enzyme E2 D2 UBE2D2	P62837	17	7	7	9	8	1.00	1.29	1.14
2063	Ubiquitin-conjugating enzyme E2 G1 UBE2G1	P62253	20	4	0	2	0	0.00	0.50	0.00
2064	Ubiquitin-conjugating enzyme E2 H UBE2H	P62256	21	5	4	6	3	0.80	1.20	0.60
2065	Ubiquitin-conjugating enzyme E2 K UBE2K	P61086	22	21	19	20	14	0.90	0.95	0.67
2066	Ubiquitin-conjugating enzyme E2 L3 UBE2L3	P68036	18	25	23	24	21	0.92	0.96	0.84
2067	Ubiquitin-conjugating enzyme E2 N UBE2N	P61088	17	35	37	39	31	1.06	1.11	0.89
2068	Ubiquitin-conjugating enzyme E2 R2 UBE2R2	Q712K3	27	0	0	0	3	#DIV/0!	#DIV/0!	#DIV/0!
2069	Ubiquitin-conjugating enzyme E2 variant 1 UBE2V1	Q13404	16	25	19	21	29	0.76	0.84	1.16
2070	Ubiquitin-conjugating enzyme E2 variant 2 UBE2V2	Q15819	16	15	16	15	0	1.07	1.00	0.00
2071	Ubiquitin-conjugating enzyme E2 Z UBE2Z	Q9H832	38	0	2	3	0	#DIV/0!	#DIV/0!	#DIV/0!
2072	Ubiquitin-fold modifier 1 UFM1	P61960	9	6	6	8	6	1.00	1.33	1.00
2073	Ubiquitin-fold modifier-conjugating enzyme 1 UFC1	Q9Y3C8	19	3	3	2	0	1.00	0.67	0.00
2074	Ubiquitin-like domain-containing CTD phosphatase 1 UBLCP1	Q8WVY7	37	7	0	0	0	0.00	0.00	0.00
2075	Ubiquitin-like modifier-activating enzyme 1 UBA1	P22314	118	163	170	177	165	1.04	1.09	1.01
2076	Ubiquitin-like modifier-activating enzyme 6 UBA6	A0AVT1	118	30	36	31	33	1.20	1.03	1.10
2077	Ubiquitin-like modifier-activating enzyme ATG7 ATG7	O95352	78	0	3	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2078	Ubiquitin-like protein 5 UBL5	Q9BZL1	9	7	3	7	3	0.43	1.00	0.43
2079	Ubiquitin-like protein ISG15 ISG15	P05161	18	7	5	3	4	0.71	0.43	0.57
2080	Ubiquitin-protein ligase E3A UBE3A	Q05086	101	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
2081	Ubiquitin-protein ligase E3C UBE3C	Q15386	124	5	3	0	0	0.60	0.00	0.00
2082	UBX domain-containing protein 1 UBXN1	Q04323	33	9	8	8	6	0.89	0.89	0.67
2083	UBX domain-containing protein 4 UBXN4	Q92575	57	0	3	4	3	#DIV/0!	#DIV/0!	#DIV/0!
2084	UDP-glucose 4-epimerase GALE	Q14376	38	15	21	15	16	1.40	1.00	1.07
2085	UDP-glucose 6-dehydrogenase UGDH	O60701	55	26	18	22	28	0.69	0.85	1.08
2086	UDP-glucose:glycoprotein glucosyltransferase 1 UGGT1	Q9NYU2	177	42	34	41	38	0.81	0.98	0.90
2087	UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase 110 kDa subunit	O15294	117	0	3	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2088	UDP-N-acetylhexosamine pyrophosphorylase UAP1	Q16222	59	10	14	6	12	1.40	0.60	1.20
2089	UMP-CMP kinase CMPK1	P30085	22	35	27	36	25	0.77	1.03	0.71
2090	Uncharacterized protein C2orf47, mitochondrial C2orf47	Q8WWC4	33	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
2091	Uncharacterized protein C7orf50 C7orf50	Q9BRJ6	22	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
2092	Unconventional myosin-Ib MYO1B	O43795	132	44	52	50	52	1.18	1.14	1.18
2093	Unconventional myosin-Ic MYO1C	O00159	122	50	45	35	38	0.90	0.70	0.76
2094	Unconventional myosin-Id MYO1D	O94832	116	3	3	0	2	1.00	0.00	0.67
2095	Unconventional myosin-Ie MYO1E	Q12965	127	17	13	12	9	0.76	0.71	0.53
2096	Unconventional myosin-IXb MYO9B	Q13459	243	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2097	Unconventional myosin-Va MYO5A	Q9Y4I1	215	2	0	0	0	0.00	0.00	0.00
2098	Unconventional myosin-VI MYO6	Q9UM54	150	9	19	27	29	2.11	3.00	3.22
2099	Unconventional myosin-XVIIIa MYO18A	Q92614	233	2	0	3	3	0.00	1.50	1.50
2100	UPF0160 protein MYG1, mitochondrial C12orf10	Q9HB07	42	0	0	3	3	#DIV/0!	#DIV/0!	#DIV/0!
2101	UPF0364 protein C6orf211 C6orf211	Q9H993	51	3	0	3	4	0.00	1.00	1.33
2102	UPF0553 protein C9orf64 C9orf64	Q5T6V5	39	0	3	2	2	#DIV/0!	#DIV/0!	#DIV/0!
2103	UPF0554 protein C2orf43 C2orf43	Q9H6V9	37	0	3	3	2	#DIV/0!	#DIV/0!	#DIV/0!
2104	UPF0556 protein C19orf10 C19orf10	Q969H8	19	15	14	13	18	0.93	0.87	1.20
2105	UPF0568 protein C14orf166 C14orf166	Q9Y224	28	19	21	17	24	1.11	0.89	1.26
2106	UPF0585 protein C16orf13 C16orf13	Q96S19	23	0	0	3	0	#DIV/0!	#DIV/0!	#DIV/0!
2107	UPF0696 protein C11orf68 C11orf68	Q9H3H3	27	3	3	2	0	1.00	0.67	0.00
2108	Up-regulated during skeletal muscle growth protein 5 USMG5	Q96IX5	6	5	7	5	4	1.40	1.00	0.80
2109	Uridine 5'-monophosphate synthase UMPS	P11172	52	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
2110	Uridine phosphorylase 1 UPP1	Q16831	34	12	14	9	6	1.17	0.75	0.50
2111	Uridine-cytidine kinase 2 UCK2	Q9BZX2	29	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2112	Uroporphyrinogen decarboxylase UROD	P06132	41	7	6	4	6	0.86	0.57	0.86
2113	UTP--glucose-1-phosphate uridylyltransferase UGP2	Q16851	57	30	31	34	39	1.03	1.13	1.30
2114	UV excision repair protein RAD23 homolog B RAD23B	P54727	43	17	11	14	7	0.65	0.82	0.41
2115	Vacuolar ATPase assembly integral membrane protein VMA21 VMA21	Q3ZAQ7	11	6	0	0	0	0.00	0.00	0.00
2116	Vacuolar protein sorting-associated protein 13C VPS13C	Q709C8	422	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
2117	Vacuolar protein sorting-associated protein 16 homolog VPS16	Q9H269	95	2	0	0	0	0.00	0.00	0.00
2118	Vacuolar protein sorting-associated protein 26A VPS26A	O75436	38	11	14	17	11	1.27	1.55	1.00
2119	Vacuolar protein sorting-associated protein 28 homolog VPS28	Q9UK41	25	4	0	8	8	0.00	2.00	2.00
2120	Vacuolar protein sorting-associated protein 29 VPS29	Q9UBQ0	21	11	15	13	20	1.36	1.18	1.82
2121	Vacuolar protein sorting-associated protein 35 VPS35	Q96QK1	92	59	56	62	58	0.95	1.05	0.98
2122	Vacuolar protein sorting-associated protein 45 VPS45	Q9NRW7	65	3	3	3	0	1.00	1.00	0.00
2123	Vacuolar protein sorting-associated protein 4A VPS4A	Q9UN37	49	0	0	10	11	#DIV/0!	#DIV/0!	#DIV/0!
2124	Vacuolar protein sorting-associated protein 4B VPS4B	O75351	49	21	14	19	22	0.67	0.90	1.05
2125	Vacuolar protein sorting-associated protein VTA1 homolog VTA1	Q9NP79	34	3	7	4	4	2.33	1.33	1.33
2126	Vacuolar protein-sorting-associated protein 25 VPS25	Q9BRG1	21	9	6	6	6	0.67	0.67	0.67
2127	Vacuolar protein-sorting-associated protein 36 VPS36	Q86VN1	44	2	0	0	0	0.00	0.00	0.00
2128	Vacuolar-sorting protein SNF8 SNF8	Q96H20	29	0	2	0	0	#DIV/0!	#DIV/0!	#DIV/0!
2129	Valine--tRNA ligase VARS	P26640	140	41	56	67	56	1.37	1.63	1.37

2130	Vasodilator-stimulated phosphoprotein VASP	P50552	40	16	15	19	11	0.94	1.19	0.69
2131	Very long-chain specific acyl-CoA dehydrogenase, mitochondrial ACADVL	P49748	70	4	6	6	8	1.50	1.50	2.00
2132	Very-long-chain enoyl-CoA reductase TECR	Q9NZ01	36	3	2	10	5	0.67	3.33	1.67
2133	Vesicle transport through interaction with t-SNAREs homolog 1B VTI1B	Q9UEU0	27	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2134	Vesicle-associated membrane protein 3 VAMP3	Q15836	11	20	16	15	19	0.80	0.75	0.95
2135	Vesicle-associated membrane protein 7 VAMP7	P51809	25	2	3	2	0	1.50	1.00	0.00
2136	Vesicle-associated membrane protein 8 VAMP8	Q9BV40	11	25	26	28	23	1.04	1.12	0.92
2137	Vesicle-associated membrane protein-associated protein A VAPA	Q9P0L0	28	18	19	22	23	1.06	1.22	1.28
2138	Vesicle-associated membrane protein-associated protein B/C VAPB	O95292	27	9	11	13	9	1.22	1.44	1.00
2139	Vesicle-fusing ATPase NSF	P46459	83	0	2	4	0	#DIV/0!	#DIV/0!	#DIV/0!
2140	Vesicle-trafficking protein SEC22b SEC22B	O75396	25	17	13	11	8	0.76	0.65	0.47
2141	Vesicular integral-membrane protein VIP36 LMAN2	Q12907	40	8	10	11	11	1.25	1.38	1.38
2142	Vigilin HDLBP	Q00341	141	17	35	40	44	2.06	2.35	2.59
2143	Vimentin VIM	P08670	54	256	157	189	170	0.61	0.74	0.66
2144	Vinculin VCL	P18206	124	163	181	147	181	1.11	0.90	1.11
2145	Voltage-dependent anion-selective channel protein 1 VDAC1	P21796	31	5	3	3	0	0.60	0.60	0.00
2146	Voltage-dependent anion-selective channel protein 2 VDAC2	P45880	32	3	5	2	2	1.67	0.67	0.67
2147	von Willebrand factor A domain-containing protein 5A VWA5A	O00534	86	0	4	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2148	V-type proton ATPase catalytic subunit A ATP6V1A	P38606	68	23	38	32	34	1.65	1.39	1.48
2149	V-type proton ATPase subunit B, brain isoform ATP6V1B2	P21281	57	13	14	11	16	1.08	0.85	1.23
2150	V-type proton ATPase subunit C 1 ATP6V1C1	P21283	44	5	4	5	4	0.80	1.00	0.80
2151	V-type proton ATPase subunit D ATP6V1D	Q9Y5K8	28	7	12	7	6	1.71	1.00	0.86
2152	V-type proton ATPase subunit d 1 ATP6V0D1	P61421	40	4	7	4	6	1.75	1.00	1.50
2153	V-type proton ATPase subunit E 1 ATP6V1E1	P36543	26	15	13	9	8	0.87	0.60	0.53
2154	V-type proton ATPase subunit F ATP6V1F	Q16864	13	2	0	0	0	0.00	0.00	0.00
2155	V-type proton ATPase subunit G 1 ATP6V1G1	O75348	14	3	0	6	4	0.00	2.00	1.33
2156	V-type proton ATPase subunit H ATP6V1H	Q9UI12	56	4	4	3	4	1.00	0.75	1.00
2157	WASH complex subunit 7 KIAA1033	Q2M389	136	0	3	0	0	#DIV/0!	#DIV/0!	#DIV/0!
2158	WASH complex subunit strumpellin KIAA0196	Q12768	134	4	4	0	4	1.00	0.00	1.00
2159	WD repeat-containing protein 1 WDR1	O75083	66	78	88	94	84	1.13	1.21	1.08
2160	WD repeat-containing protein 11 WDR11	Q9BZH6	137	0	2	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2161	WD repeat-containing protein 26 WDR26	Q9H7D7	72	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
2162	WD repeat-containing protein 44 WDR44	Q5JSH3	101	2	0	0	3	0.00	0.00	1.50
2163	WD repeat-containing protein 47 WDR47	O94967	102	0	0	0	2	#DIV/0!	#DIV/0!	#DIV/0!
2164	WD repeat-containing protein 82 WDR82	Q6UXN9	35	0	6	0	0	#DIV/0!	#DIV/0!	#DIV/0!
2165	Wiskott-Aldrich syndrome protein family member 2 WASF2	Q9Y6W5	54	0	6	4	5	#DIV/0!	#DIV/0!	#DIV/0!
2166	Xaa-Pro aminopeptidase 1 XPNPEP1	Q9NQW7	70	12	13	12	13	1.08	1.00	1.08
2167	Xaa-Pro dipeptidase PEPD	P12955	55	3	0	3	0	0.00	1.00	0.00
2168	X-ray repair cross-complementing protein 5 XRCC5	P13010	83	43	42	49	51	0.98	1.14	1.19
2169	X-ray repair cross-complementing protein 6 XRCC6	P12956	70	69	62	64	73	0.90	0.93	1.06
2170	Y-box-binding protein 3 YBX3	P16989	40	0	14	12	11	#DIV/0!	#DIV/0!	#DIV/0!
2171	YrdC domain-containing protein, mitochondrial YRDC	Q86U90	29	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2172	YTH domain-containing family protein 2 YTHDF2	Q9Y5A9	62	0	0	3	4	#DIV/0!	#DIV/0!	#DIV/0!
2173	YTH domain-containing family protein 3 YTHDF3	Q7Z739	64	0	2	4	4	#DIV/0!	#DIV/0!	#DIV/0!
2174	Zinc finger CCCH domain-containing protein 18 ZC3H18	Q86VM9	106	0	0	2	0	#DIV/0!	#DIV/0!	#DIV/0!
2175	Zinc finger protein 185 ZNF185	O15231	74	19	15	25	16	0.79	1.32	0.84
2176	Zinc finger protein ZPR1 ZPR1	O75312	51	3	0	0	0	0.00	0.00	0.00
2177	Zinc finger ZZ-type and EF-hand domain-containing protein 1 ZZEF1	O43149	331	3	0	0	0	0.00	0.00	0.00
2178	Zyxin ZYX	Q15942	61	55	39	38	32	0.71	0.69	0.58

upernatants under isotonic or hypertonic saline treatment, in presence or absence of cytomix

							ISO No cells					HTS No cells					Isotonic					Isotonic + cytomix					Hypertonic saline					Hypertonic saline + cytomix										
N.	compound	CmpdID	Pathway	medRt	parent	medRt	ISO_NC_1	ISO_NC_2	ISO_NC_3	ISO_NC_4	ISO_NC_5	HTS_NC_1	HTS_NC_2	HTS_NC_3	HTS_NC_4	HTS_NC_5	ISO_1	ISO_2	ISO_3	ISO_4	ISO_5	ISCM_1	ISCM_2	ISCM_3	ISCM_4	ISCM_5	HTS_1	HTS_2	HTS_3	HTS_4	HTS_5	HTSCMX_1	HTSCMX_2	HTSCMX_3	HTSCMX_4	HTSCMX_5	ISO			ISO + CMX	HTS	HTS + CMX
1	alanine	C00041	Aminoacids	+	90.05544	1.204317	9.93E+06	1.12E+07	1.12E+07	1.07E+07	1.15E+07	9.17E+06	9.30E+06	9.59E+06	9.74E+06	9.83E+06	1.40E+07	1.54E+07	1.53E+07	1.43E+07	1.41E+07	1.42E+07	1.44E+07	1.38E+07	1.55E+07	1.59E+07	8.38E+06	8.75E+06	8.13E+06	8.34E+06	8.94E+06	9.41E+06	9.27E+06	9.28E+06	1.02E+07	1.05E+07	1.12E+07	9.59E+06	1.43E+07	1.44E+07	8.38E+06	9.41E+06
2	arginine	C00062	Aminoacids	+	175.1186	1.187288	3.57E+07	3.30E+07	3.64E+07	3.07E+07	3.65E+07	2.68E+07	2.45E+07	2.71E+07	2.47E+07	2.34E+07	2.99E+07	3.22E+07	3.13E+07	3.49E+07	3.20E+07	3.27E+07	3.21E+07	3.42E+07	3.21E+07	3.33E+07	2.92E+07	3.08E+07	3.72E+07	4.21E+07	3.70E+07	2.67E+07	2.75E+07	3.10E+07	2.73E+07	2.49E+07	3.57E+07	2.47E+07	3.20E+07	3.27E+07	3.70E+07	2.73E+07
3	asparagine	C00152	Aminoacids	+	133.0606	1.211614	3.57E+07	3.30E+07	3.64E+07	3.07E+07	3.65E+07	2.68E+07	2.45E+07	2.71E+07	2.47E+07	2.34E+07	2.99E+07	3.22E+07	3.13E+07	3.49E+07	3.20E+07	3.27E+07	3.21E+07	3.42E+07	3.21E+07	3.33E+07	2.92E+07	3.08E+07	3.72E+07	4.21E+07	3.70E+07	2.67E+07	2.75E+07	3.10E+07	2.73E+07	2.49E+07	3.57E+07	2.47E+07	3.20E+07	3.27E+07	3.70E+07	2.73E+07
4	aspartate	C00049	Aminoacids	+	134.0448	1.227781	1.91E+06	2.40E+06	2.46E+06	2.51E+06	2.64E+06	1.83E+06	1.77E+06	1.95E+06	1.74E+06	1.97E+06	2.56E+06	2.57E+06	2.92E+06	2.60E+06	2.90E+06	2.55E+06	2.25E+06	2.71E+06	3.00E+06	2.92E+06	1.28E+06	1.15E+06	9.53E+05	9.47E+05	1.05E+06	1.59E+06	1.75E+06	1.39E+06	1.87E+06	1.99E+06	2.46E+06	1.83E+06	2.60E+06	2.71E+06	1.05E+06	1.75E+06
5	cysteine	C00097	Aminoacids	+	122.0271	1.214046	1.76E+05	3.31E+05	3.49E+05	3.54E+05	3.36E+05	1.70E+05	1.06E+05	2.17E+05	1.27E+05	1.87E+05	3.61E+06	3.68E+06	3.56E+06	3.57E+06	4.01E+06	3.87E+06	3.11E+06	3.25E+06	3.31E+06	3.44E+06	1.73E+06	1.58E+06	1.45E+06	1.92E+06	1.64E+06	2.33E+06	2.22E+06	1.89E+06	2.22E+06	2.66E+06	3.36E+05	1.70E+05	3.61E+06	3.31E+06	1.64E+06	2.22E+06
6	glutamate	C00025	Aminoacids	+	148.0601	1.210225	7.22E+06	8.02E+06	7.54E+06	7.84E+06	8.81E+06	6.61E+06	6.61E+06	6.31E+06	7.58E+06	7.30E+06	1.59E+07	1.67E+07	1.65E+07	1.61E+07	1.96E+07	1.56E+07	1.50E+07	1.48E+07	1.54E+07	1.70E+07	8.37E+06	8.22E+06	6.84E+06	7.48E+06	7.82E+06	9.68E+06	1.14E+07	8.94E+06	1.26E+07	1.41E+07	7.84E+06	6.61E+06	1.65E+07	1.54E+07	7.82E+06	1.14E+07
7	glutamine	C00064	Aminoacids	+	147.076	1.20779	2.51E+08	2.78E+08	2.91E+08	3.01E+08	3.26E+08	2.29E+08	1.92E+08	2.08E+08	2.22E+08	2.34E+08	2.80E+08	2.73E+08	2.85E+08	2.74E+08	3.07E+08	2.67E+08	2.61E+08	2.80E+08	3.05E+08	2.74E+08	1.47E+08	1.37E+08	1.11E+08	1.22E+08	1.29E+08	1.80E+08	1.85E+08	1.38E+08	2.05E+08	2.21E+08	2.91E+08	2.22E+08	2.80E+08	2.74E+08	1.29E+08	1.85E+08
8	glycine	C00037	Aminoacids	+	76.03996	1.204665	1.32E+07	1.50E+07	1.58E+07	1.50E+07	1.55E+07	1.24E+07	1.23E+07	1.28E+07	1.23E+07	1.27E+07	1.29E+07	1.55E+07	1.52E+07	1.55E+07	1.45E+07	1.46E+07	1.44E+07	1.53E+07	1.60E+07	1.71E+07	8.25E+06	8.90E+06	7.84E+06	7.87E+06	8.14E+06	9.87E+06	9.88E+06	9.66E+06	1.16E+07	1.12E+07	1.50E+07	1.24E+07	1.52E+07	1.53E+07	8.14E+06	9.88E+06
9	histidine	C00135	Aminoacids	+	156.0765	1.195977	1.70E+07	1.56E+07	1.53E+07	1.55E+07	1.51E+07	1.24E+07	1.22E+07	1.28E+07	1.19E+07	1.18E+07	1.56E+07	1.61E+07	1.55E+07	1.52E+07	1.59E+07	1.43E+07	1.51E+07	1.46E+07	1.49E+07	1.47E+07	1.52E+07	1.56E+07	2.04E+07	2.30E+07	2.06E+07	1.38E+07	1.41E+07	1.63E+07	1.43E+07	1.40E+07	1.55E+07	1.22E+07	1.56E+07	1.47E+07	2.04E+07	1.41E+07
10	isoleucine	C00407	Aminoacids	+	132.1017	1.586146	4.76E+06	4.04E+06	3.48E+06	3.42E+06	4.61E+06	4.32E+06	4.11E+06	3.98E+06	4.24E+06	3.61E+06	3.65E+06	3.16E+06	2.91E+06	2.90E+06	3.40E+06	3.53E+06	2.95E+06	2.81E+06	2.68E+06	3.29E+06	5.03E+06	4.83E+06	5.77E+06	5.93E+06	6.88E+06	4.30E+06	3.90E+06	4.72E+06	3.33E+06	4.96E+06	4.04E+06	4.11E+06	3.16E+06	2.95E+06	5.77E+06	4.30E+06
11	leucine	C00047	Aminoacids	+	132.1017	1.231767	1.93E+08	1.76E+08	1.99E+08	2.00E+08	1.90E+08	2.47E+08	2.48E+08	2.64E+08	2.57E+08	2.60E+08	1.91E+08	1.77E+08	1.99E+08	1.95E+08	1.95E+08	1.80E+08	1.84E+08	1.97E+08	2.01E+08	2.06E+08	1.08E+08	1.15E+08	1.09E+08	1.09E+08	1.11E+08	1.87E+08	1.84E+08	1.43E+08	2.01E+08	1.67E+08	1.93E+08	2.57E+08	1.95E+08	1.97E+08	1.09E+08	1.84E+08
12	lysine	C00047	Aminoacids	+	147.1124	1.078459	3.26E+07	3.02E+07	2.99E+07	3.03E+07	3.09E+07	2.35E+07	2.38E+07	2.35E+07	2.35E+07	2.32E+07	3.19E+07	3.28E+07	2.75E+07	2.85E+07	2.82E+07	3.09E+07	3.11E+07	2.93E+07	2.88E+07	2.94E+07	3.01E+07	3.01E+07	2.97E+07	2.84E+07	3.03E+07	2.75E+07	2.39E+07	2.73E+07	2.46E+07	2.31E+07	3.03E+07	2.35E+07	2.85E+07	2.94E+07	3.01E+07	2.46E+07
13	methionine	C00073	Aminoacids	+	150.0579	1.232115	2.63E+07	2.74E+07	2.76E+07	2.86E+07	2.78E+07	3.10E+07	3.09E+07	3.39E+07	3.34E+07	3.43E+07	3.01E+07	2.86E+07	3.29E+07	3.19E+07	3.32E+07	3.02E+07	2.99E+07	3.30E+07	3.36E+07	3.50E+07	1.52E+07	1.60E+07	1.40E+07	1.43E+07	1.47E+07	2.69E+07	2.63E+07	1.88E+07	2.94E+07	2.42E+07	2.76E+07	3.34E+07	3.19E+07	3.30E+07	1.47E+07	2.63E+07
14	phenylalanine	C00079	Aminoacids	+	166.0858	1.233506	1.78E+07	1.84E+07	1.79E+07	1.82E+07	1.68E+07	2.12E+07	2.15E+07	2.38E+07	2.17E+07	2.28E+07	1.53E+07	1.38E+07	1.56E+07	1.58E+07	1.48E+07	1.83E+07	1.59E+07	1.67E+07	1.73E+07	1.66E+07	8.39E+06	8.82E+06	9.21E+06	9.54E+06	9.32E+06	1.58E+07	1.48E+07	1.25E+07	1.67E+07	1.59E+07	1.79E+07	2.17E+07	1.53E+07	1.67E+07	9.21E+06	1.58E+07
15	proline	C00148	Aminoacids	+	116.0707	1.221344	1.60E+08	1.42E+08	1.57E+08	1.60E+08	1.64E+08	1.78E+08	1.75E+08	1.76E+08	1.84E+08	1.80E+08	1.68E+08	1.87E+08	1.90E+08	1.88E+08	2.10E+08	1.86E+08	1.53E+08	1.73E+08	1.82E+08	1.78E+08	1.66E+08	1.75E+08	1.56E+08	1.69E+08	1.45E+08	1.85E+08	1.79E+08	1.62E+08	1.93E+08	2.17E+08	1.60E+08	1.78E+08	1.88E+08	1.78E+08	1.66E+08	1.85E+08
16	serine	C00065	Aminoacids	+	106.0501	1.20918	5.18E+06	6.11E+06	6.49E+06	6.23E+06	7.18E+06	5.84E+06	5.09E+06	5.04E+06	5.31E+06	4.79E+06	5.34E+06	5.47E+06	5.26E+06	5.11E+06	5.35E+06	5.48E+06	5.42E+06	5.80E+06	6.77E+06	6.93E+06	2.84E+06	2.75E+06	2.28E+06	2.23E+06	2.42E+06	3.71E+06	3.81E+06	3.40E+06	4.50E+06	4.77E+06	6.23E+06	5.09E+06	5.34E+06	5.80E+06	2.42E+06	3.81E+06
17	threonine	C00188	Aminoacids	+	120.0656	1.208139	8.93E+06	8.13E+06	9.36E+06	9.45E+06	1.04E+07	8.75E+06	8.02E+06	8.16E+06	9.19E+06	8.71E+06	9.33E+06	8.67E+06	8.95E+06	8.61E+06	9.78E+06	8.48E+06	8.04E+06	9.36E+06	9.83E+06	1.11E+07	5.33E+06	5.34E+06	4.47E+06	4.56E+06	5.07E+06	5.97E+06	6.87E+06	5.50E+06	7.74E+06	8.09E+06	9.36E+06	8.71E+06	8.95E+06	9.36E+06	5.07E+06	6.87E+06
18	tryptophan	C00078	Aminoacids	+	205.0967	1.234897	1.14E+07	9.77E+06	1.14E+07	1.20E+07	1.04E+07	2.93E+07	2.94E+07	2.79E+07	2.98E+07	3.07E+07	3.09E+07	3.01E+07	3.40E+07	3.24E+07	3.29E+07	3.78E+07	3.42E+07	3.57E+07	3.64E+07	3.55E+07	1.29E+07	1.19E+07	1.05E+07	1.33E+07	1.09E+07	3.10E+07	2.55E+07	2.10E+07	2.88E+07	2.92E+07	1.14E+07	2.94E+07	3.24E+07	3.57E+07	1.19E+07	2.88E+07
19	tyrosine	C00082	Aminoacids	+	182.0807	1.231768	1.03E+07	9.60E+06	1.12E+07	1.15E+07	1.09E+07	1.27E+07	1.33E+07	1.42E+07	1.30E+07	1.43E+07	9.33E+06	8.64E+06	1.03E+07	9.47E+06	9.32E+06	9.77E+06	9.54E+06	1.10E+07	1.16E+07	1.14E+07	4.55E+06	4.74E+06	3.85E+06	4.11E+06	4.23E+06	6.20E+06	8.20E+06	5.63E+06	9.29E+06	7.42E+06	1.09E+07	1.33E+07	9.33E+06	1.10E+07	4.23E+06	7.42E+06
20	valine	C00183	Aminoacids	+	118.0863	1.228987	1.47E+08	1.31E+08	1.43E+08	1.48E+08	1.47E+08	1.54E+08	1.52E+08	1.57E+08	1.93E+08	1.76E+08	1.43E+08	1.66E+08	1.84E+08	1.76E+08	1.83E+08	1.66E+08	1.58E+08	1.73E+08	1.46E+08	1.78E+08	1.04E+08	1.10E+08	1.00E+08	1.01E+08	1.04E+08	1.65E+08	1.68E+08	1.40E+08	1.81E+08	1.58E+08	1.47E+08	1.57E+08	1.76E+08	1.66E+08	1.04E+08	1.65E+08
21	cystine	C00491	Aminoacids	+	241.0304	1.25944	2.71E+06	2.64E+06	2.93E+06	2.66E+06	3.17E+06	2.82E+06	2.52E+06	2.86E+06	2.91E+06	2.64E+06	1.00E+06	8.05E+05	9.52E+05	1.05E+06	1.06E+06	1.51E+06	1.35E+06	1.47E+06	1.21E+06	1.39E+06	4.37E+05	4.73E+05	5.39E+05	4.74E+05	5.52E+05	6.92E+05	5.92E+05	5.56E+05	7.11E+05	8.39E+05	2.71E+06	2.82E+06	1.00E+06	1.39E+06	4.74E+05	6.92E+05
22	Kynurenine	C00328	Aminoacids	+	209.0919	1.182692	3.12E+04	5.24E+04	1.12E+04	3.59E+04	2.87E+04	2.32E+04	2.29E+04	2.48E+04	1.92E+04	7.11E+03	3.56E+04	3.88E+04	1.33E+04	3.40E+04	3.12E+04	7.93E+03	6.00E+04	2.82E+04	3.11E+04	2.99E+04	1.07E+04	1.88E+04	9.13E+03	9.89E+03	1.24E+04	1.96E+04	2.69E+04	1.47E+04	4.39E+04	1.10E+04	3.12E+04	2.29E+04	3.40E+04	2.99E+04	1.07E+04	1.96E+04
23	ATP	C00002	Nucleotides	-	505.9869	1.373032	1.65E+04	9.03E+04	2.46E+04	4.16E+04	1.61E+04	6.01E+04	2.64E+05	2.89E+05	2.54E+05	2.84E+05	2.12E+04	8.50E+04	5.75E+04	5.26E+04	2.48E+04	2.45E+04	1.12E+05	5.70E+04	2.94E+04	3.24E+04	9.35E+04	3.06E+05	3.38E+05	2.88E+05	2.59E+05	1.79E+05	3.18E+05	2.74E+05	2.61E+05	2.25E+05	2.46E+04	2.64E+05	5.26E+04	3.24E+04	2.88E+05	2.61E+05
24	ADP	C00008	Nucleotides	-	426.0214	1.356356	2.24E+04	2.04E+04	1.30E+04	7.70E+03	9.67E+03	7.53E+03	1.59E+04	1.53E+04	1.09E+04	1.21E+04	1.31E+04	1.53E+04	1.13E+04	6.47E+03	1.15E+04	1.24E+04	2.24E+04	1.59E+04	8.13E+03	1.12E+04	6.77E+03	1.48E+04	1.82E+04	1.46E+04	9.73E+03	1.58E+04	1.86E+04	1.48E+04	0.00E+00	2.96E+03	1.30E+04	1.21E+04	1.15E+04	1.24E+04	1.46E+04	1.48E+04
25	AMP	C00020	Nucleotides	+	348.0693	1.361509	2.31E+04	2.29E+04	2.63E+04	1.64E+04	2.64E+04	1.88E+04	7.24E+03	1.04E+04	1.55E+04	1.23E+04	1.33E+04	1.80E+04	1.42E+04	9.77E+03	2.48E+04	1.21E+04	2.29E+04	2.10E+04	9.07E+03	3.01E+04	1.17E+04	7.39E+03	5.68E+03	5.69E+03	1.02E+04	1.06E+04	7.61E+03	7.20E+03	8.85E+03	1.98E+04	2.31E+04	1.23E+04	1.42E+04	2.10E+04	7.39E+03	8.85E+03
26	IMP	C00130	Nucleotides	-	347.0463	1.233242	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E+05	1.60E+05	1.40E+05	1.34E+05	1.83E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E+05	2.29E+04	4.28E+04	5.65E+04	8.48E+04	0.00E+00	1.40E+05	0.00E+00	0.00E+00	0.00E+00	5.65E+04
27	Hypoxanthine	C00262	Nucleotides	+	137.0455	1.232814	1.56E+05	1.53E+05	1.51E+05	2.46E+05	2.00E+05	1.36E+05	6.24E+04	7.82E+04	1.44E+05	1.28E+05	8.71E+05	8.46E+05	1.03E+06	9.19E+05	9.97E+05	5.94E+06	5.53E+06	5.66E+06	5.53E+06	5.81E+06	1.13E+06	8.98E+05	8.02E+05	1.04E+06	8.43E+05	1.56E+06	1.57E+06	1.17E+06	1.74E+06	1.64E+06	1.56E+05	1.28E+05	9.19E+05	5.66E+06	8.98E+05	1.57E+06
28	Adenine	C00147	Nucleotides	+	136.0615	1.221344	2.20E+08	2.16E+08	2.19E+08	2.24E+08	2.15E+08	2.74E+08	2.72E+08	2.71E+08	2.76E+08	2.83E+08	2.60E+08	2.61E+08	2.59E+08	2.64E+08	2.91E+08	2.55E+08	2.24E+08	2.15E+08	2.40E+08	2.61E+08	2.84E+08	2.94E+08	2.63E+08	2.80E+08	2.47E+08	3.15E+08	2.95E+08	2.72E+08	3.08E+08	3.37E+08	2.19E+08	2.74E+08	2.61E+08	2.40E+08	2.80E+08	3.08E+08
29	Xanthine	C00385	Nucleotides	+	153.0406	1.27381	1.02E+04	1.22E+04	1.57E+04	3.16E+04	2.13E+04	3.81E+04	2.79E+03	2.43E+04	1.94E+04	4.21E+03	8.97E+04	5.28E+04	8.27E+04	5.61E+04	5.54E+04	1.69E+05	1.51E+05	1.79E+05	1.38E+05	1.56E+05	6.98E+04	4.46E+04	8.18E+04	5.62E+04	7.56E+04	6.03E+04	3.84E+04	6.92E+04	1.14E+05	4.67E+04	1.57E+04	1.94E+04	5.61E+04	1.56E+05	6.98E+04	6.03E+04
30	Guanine	C00242	Nucleotides	+	152.054	1.232462	1.36E+06	1.13E+06	1.31E+06	1.37E+06	1.33E+06	1.38E+06	9.65E+05	1.53E+06	1.48E+06	1.61E+06	1.53E+06	1.23E+06	1.43E+06	1.37E+06	1.46E+06	1.17E+06	1.36E+06	1.38E+06	1.51E+06	1.53E+06	6.61E+05	6.28E+05	5.77E+05	6.16E+05	6.42E+05	1.21E+06	1.08E+06	7.14E+05	1.13E+06	1.20E+06	1.33E+06	1.48E+06	1.43E+06	1.38E+06	6.28E+05	1.13E+06
31	Allantoate	C00499	Nucleotides	+	177.0606	1.08906	8.45E+04	5.70E+04	7.30E+04	6.88E+04	7.22E+04	8.00E+04	8.58E+04	9.10E+04	8.35E+04	8.95E+04	1.11E+05	9.79E+04	9.29E+04	9.20E+04	9.10E+04	9.57E+04	7.61E+04	9.97E+04	8.86E+04	9.79E+04	1.15E+05	1.24E+05	1.29E+05	1.20E+05	1.19E+05	1.25E+05	1.07E+05	9.96E+04	1.06E+05	7.81E+04	7.22E+04	8.58E+04	9.29E+04	9.57E+04	1.20E+05	1.06E+05
32	5-Hydroxyisourate	C11821	Nucleotides	+	185.0318	1.193195	1.56E+05	1.64E+05	9.06E+04	1.17E+05	8.70E+04	8.01E+04	1.31E+05	1.71E+05	7.68E+04	6.69E+04	7.32E+04	1.68E+05	9.62E+04	1.34E+05	1.24E+05	1.36E+05	1.40E+05	1.19E+05	1.01E+05	1.48E+05	1.84E+05	3.33E+05	4.07E+05	5.87E+05	5.99E+05	2.15E+05	1.40E+05	4.58E+05	9.73E+04	2.16E+05	1.17E+05	8.01E+04	1.24E+05	1.36E+05	4.07E+05	2.15E+05
33	UMP	C00105	Nucleotides	+	325.0375	1.241914	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E+05	1.50E+05	2.17E+05	3.04E+05	2.48E+05	1.89E+04	2.02E+04	7.88E+04	1.89E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E+05	1.89E+04
34	UDP-glucose	C00029	Nucleotides	-	565.0457	1.305191	2.72E+05	2.02E+05	1.86E+05	1.75E+05	1.15E+05	2.80E+03	0.00E+00	0.00E+00	0.00E+00	1.81E+03	4.72E+04	3.18E+04	2.49E+04	1.43E+04	1.42E+04	1.75E+04	1.05E+04	2.44E+03	0.00E+00	2.89E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.86E+05	0.00E+00	2.49E+04	2.89E+03	0.00E+00	0.00E+00
35	Cytidine	C00475	Nucleotides	-	242.0777	1.211048	7.27E+04	2.82E+04	3.75E+04	1.97E+04	2.34E+04	3.54E+04	4.08E+04	1.09E+04	4.01E+04	4.42E+04	1.73E+04	3.56E+04	2.20E+04	3.11E+04	3.22E+04	5.90E+04	4.76E+04	4.48E+04	3.16E+04	4.77E+04	3.03E+04	1.71E+03	3.06E+04	8.68E+03	1.47E+04	5.02E+04	3.07E+04	1.72E+03	5.57E+04	8.01E+03	2.82E+04	4.01E+04	3.11E+04	4.76E+04	1.47E+04	3.07E+04
36	3-Ureidopropionate	C02642	Nucleotides	+	133.0606	1.211614	1.91E+06	2.40E+06	2.46E+06	2.51E+06	2.64E+06	1.83E+06	1.77E+06	1.95E+06	1.74E+06	1.97E+06	2.56E+06	2.57E+06	2.92E+06	2.60E+06	2.90E+06	2.55E+06	2.25E+06	2.71E+06	3.00E+06	2.92E+06	1.28E+06	1.15E+06	9.53E+05	9.47E+05	1.05E+06	1.59E+06	1.75E+06	1.39E+06	1.87E+06	1.99E+06	2.46E+06	1.83E+06	2.60E+06	2.71E+06	1.05E+06	1.75E+06
37	3-Ureidoisobutyrate	C05100	Nucleotides	+	147.076	1.20779	2.51E+08	2.78E+08	2.91E+08	3.01E+08	3.26E+08	2.29E+08	1.92E+08	2.08E+08	2.22E+08	2.34E+08	2.80E+08	2.73E+08	2.85E+08	2.74E+08	3.07E+08	2.67E+08	2.61E+08	2.80E+08	3.05E+08	2.74E+08	1.47E+08	1.37E+08	1.11E+08	1.22E+08	1.29E+08	1.80E+08	1.85E+08	1.38E+08	2.05E+08	2.21E+08	2.91E+08	2.22E+08	2.80E+08	2.74E+08	1.29E+08	1.85E+08
38	5-6-Dihydrothymine	C00906	Nucleotides	+	129.0657	1.204664	1.92E+06	2.29E+06	2.13E+06	2.17E+06	2.36E+06	2.35E+06	2.48E+06	2.58E+06	2.27E+06	2.71E+06	2.06E+06	2.44E+06	2.47E+06	2.53E+06	2.45E+06	2.27E+06	2.38E+06	2.18E+06	2.71E+06	2.43E+06	2.02E+06	2.26E+06	2.10E+06	2.11E+06	2.26E+06	2.23E+06	2.09E+06	2.25E+06	2.35E+06	2.53E+06	2.17E+06	2.48E+06	2.45E+06	2.38E+06	2.11E+06	2.25E+06
39	Pyridoxal	C00250	Nucleotides	+	168.0631	1.139577	2.98E+04	4.43E+04	3.52E+04	4.11E+04	4.19E+04	3.10E+04	6.51E+04	5.25E+04	5.51E+04	2.87E+04	3.67E+04	4.24E+04	3.52E+04	3.38E+04	3.90E+04	2.98E+04	3.35E+04	3.15E+04	2.93E+04	2.78E+04	4.61E+04	4.87E+04	4.63E+04	3.87E+04	3.89E+04	4.99E+04	5.25E+04	5.14E+04	3.98E+04	5.15E+04	4.11E+04	5.25E+04	3.67E+04	2.98E+04	4.61E+04	5.14E+04
40	Nicotinamide	C00153	Nucleotides	+	123.0553	1.218965	5.82E+05	6.53E+05	8.13E+05	9.64E+05	1.07E+06	6.69E+05	8.74E+05	1.05E+06	1.18E+06	9.58E+05	4.32E+05	6.86E+05	8.59E+05	9.36E+05	9.12E+05	4.46E+05	7.10E+05	8.09E+05	1.09E+06	1.29E+06	2.71E+05	5.44E+05	4.08E+05	6.71E+05	8.32E+05	3.03E+05	5.23E+05	5.56E+05	6.71E+05	7.36E+05	8.13E+05	9.58E+05	8.59E+05	8.09E+05	5.44E+05	5.56E+05
41	Guanosine	C00387	Nucleotides	-	282.0838	1.193249	2.43E+05	2.19E+05	2.30E+05	2.46E+05	2.35E+05	2.01E+05	1.94E+05	1.62E+05	1.70E+05	1.67E+05	2.94E+05	2.56E+05	2.29E+05	2.31E+05	2.78E+05	2.52E+05	2.20E+05	2.18E+05	2.20E+05	1.76E+05	2.31E+05	1.98E+05	1.79E+05	1.56E+05	1.61E+05	1.90E+05	1.97E+05	1.38E+05	1.42E+05	1.22E+05	2.35E+05	1.70E+05	2.56E+05	2.20E+05	1.79E+05	1.42E+05
42	Inosine	C00294	Nucleotides	+	267.072	1.225732	6.07E+04	7.41E+04	5.70E+04	5.65E+04	5.15E+04	8.50E+04	5.54E+04	7.38E+04	9.74E+04	9.43E+04	4.70E+04	4.30E+04	3.31E+04	1.64E+04	2.71E+04	7.01E+04	7.67E+04	7.31E+04	4.14E+04	3.78E+04	8.80E+03	2.51E+04	0.00E+00	0.00E+00	0.00E+00	4.98E+04	4.38E+04	0.00E+00	2.95E+04	2.37E+04	5.70E+04	8.50E+04	3.31E+04	7.01E+04	0.00E+00	2.95E+04
43	D-Glucose	C00031	Glycolysis	-	179.055	1.221289	1.41E+07	1.41E+07	8.89E+06	8.98E+06	8.85E+06	1.55E+07	1.61E+07	1.20E+07	1.49E+07	1.39E+07	8.23E+06	8.41E+06	7.08E+06	6.67E+06	6.95E+06	1.04E+07	7.87E+06	8.92E+06	6.54E+06	7.11E+06	4.56E+06	3.99E+06	3.07E+06	3.10E+06	3.20E+06	7.88E+06	6.95E+06	5.47E+06	5.39E+06	6.53E+06	8.98E+06	1.49E+07	7.08E+06	7.87E+06	3.20E+06	6.53E+06
44	Ribulose	C05052	Glycolysis	-	149.0453	1.584257	3.50E+05	3.63E+05	3.97E+05	4.33E+05	3.97E+05	4.20E+05	4.42E+05	4.39E+05	4.56E+05	4.40E+05	3.65E+05	3.63E+05	3.76E+05	3.98E+05	4.23E+05	5.31E+05	5.19E+05	5.65E+05	5.89E+05	5.90E+05	3.85E+05	3.76E+05	4.19E+05	4.00E+05	3.81E+05	3.15E+05	3.01E+05	3.28E+05	3.46E+05	3.02E+05	3.97E+05	4.40E+05	3.76E+05	5.65E+05	3.85E+05	3.15E+05
45	Lactate	C01432	Glycolysis	-	89.02261	1.242792	1.11E+07	1.30E+07	1.41E+07	1.35E+07	1.29E+07	1.09E+07	1.07E+07	1.35E+07	1.31E+07	1.40E+07	8.34E+07	9.01E+07	7.88E+07	7.21E+07	8.34E+07	8.53E+07	8.74E+07	7.86E+07	6.93E+07	6.98E+07	4.80E+07	4.56E+07	4.64E+07	4.66E+07	4.70E+07	6.50E+07	5.83E+07	5.66E+07	5.74E+07	6.29E+07	1.30E+07	1.31E+07	8.34E+07	7.86E+07	4.66E+07	5.83E+07
46	Citrate	C00158	TCA cycle	-	191.0193	1.231102	8.40E+05	6.25E+05	5.84E+05	3.85E+05	3.76E+05	6.04E+05	4.14E+05	3.51E+05	2.42E+05	1.53E+05	7.22E+05	6.25E+05	3.81E+05	3.13E+05	3.49E+05	7.46E+05	5.55E+05	4.11E+05	2.63E+05	2.32E+05	1.51E+06	1.55E+06	1.33E+06	1.04E+06	1.01E+06	7.94E+05	9.82E+05	5.88E+05	4.83E+05	4.22E+05	5.84E+05	3.51E+05	3.81E+05	4.11E+05	1.33E+06	5.88E+05
47	Fumarate	C00122	TCA cycle	-	115.0019	1.222653	1.09E+05	1.03E+05	1.05E+05	1.22E+05	9.49E+04	1.19E+05	1.20E+05	8.52E+04	1.13E+05	1.13E+05	1.67E+05	1.69E+05	1.69E+05	1.47E+05	1.56E+05	1.70E+05	1.67E+05	1.41E+05	1.48E+05	1.38E+05	1.89E+05	2.54E+05	1.75E+05	1.63E+05	1.49E+05	1.29E+05	1.54E+05	1.27E+05	6.93E+04	1.38E+05	1.05E+05	1.13E+05	1.67E+05	1.48E+05	1.75E+05	1.29E+05
48	Malate	C00149	TCA cycle	-	133.0129	1.232163	4.61E+05	5.07E+05	4.68E+05	4.57E+05	4.55E+05	4.96E+05	4.53E+05	3.77E+05	3.82E+05	3.47E+05	1.29E+06	1.82E+06	1.74E+06	1.19E+06	1.43E+06	1.12E+06	1.35E+06	1.17E+06	8.52E+05	8.81E+05	1.98E+06	2.06E+06	1.64E+06	1.59E+06	1.60E+06	8.42E+05	1.21E+06	9.91E+05	8.10E+05	6.85E+05	4.61E+05	3.82E+05	1.43E+06	1.12E+06	1.64E+06	8.42E+05
49	Oxaloacetate	C00036	TCA cycle	-	131	1.289299	2.10E+04	5.82E+04	4.75E+04	4.80E+04	3.81E+04	1.22E+05	1.87E+05	1.74E+05	1.56E+05	1.83E+05	2.06E+04	3.28E+04	1.96E+04	1.45E+04	4.71E+04	1.93E+04	4.74E+04	1.84E+04	1.82E+04	2.80E+04	2.48E+05	2.78E+05	2.32E+05	2.28E+05	2.20E+05	2.47E+05	2.72E+05	2.37E+05	2.49E+05	2.12E+05	4.75E+04	1.74E+05	2.06E+04	1.93E+04	2.32E+05	2.47E+05
50	6-phospho-D-gluconate	C00345	Pentose Phosphate Pathway	-	275.0188	1.284408	9.07E+04	7.51E+04	7.84E+04	6.44E+04	5.85E+04	6.12E+04	3.25E+04	1.88E+04	8.82E+03	2.51E+04	7.34E+04	5.84E+04	6.51E+04	5.44E+04	3.57E+04	6.89E+04	6.29E+04	7.13E+04	5.92E+04	6.12E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.51E+04	2.51E+04	5.84E+04	6.29E+04	0.00E+00	0.00E+00
51	D-Erythrose 4-phosphate	C00279	Pentose Phosphate Pathway	-	199.0058	1.242953	7.61E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.57E+04	4.53E+04	9.25E+04	6.55E+04	8.17E+04	9.96E+04	1.06E+05	9.74E+04	1.13E+05	9.76E+04	6.33E+04	8.32E+04	5.52E+04	6.60E+04	6.96E+04	5.88E+04	5.65E+04	2.75E+04	3.27E+04	1.41E+04	1.30E+04	3.04E+04	1.25E+04	4.68E+04	1.12E+04	0.00E+00	8.17E+04	9.96E+04	6.60E+04	3.27E+04	1.30E+04
52	Glutathione	C00051	GSH homeostasis	+	308.0904	1.2349	1.14E+06	1.28E+06	1.31E+06	1.13E+06	1.06E+06	7.16E+04	3.45E+04	1.25E+05	9.57E+04	4.96E+04	1.15E+06	9.92E+05	1.15E+06	1.13E+06	1.26E+06	2.18E+05	2.14E+05	2.44E+05	2.27E+05	2.36E+05	2.03E+05	2.07E+05	1.62E+05	1.58E+05	1.62E+05	2.61E+05	3.16E+05	1.67E+05	2.91E+05	2.86E+05	1.14E+06	7.16E+04	1.15E+06	2.27E+05	1.62E+05	2.86E+05
53	5-Oxoproline	C01879	GSH homeostasis	+	130.0496	1.20918	2.07E+08	2.25E+08	2.43E+08	2.50E+08	2.65E+08	1.88E+08	1.58E+08	1.66E+08	1.86E+08	1.96E+08	2.35E+08	2.19E+08	2.39E+08	2.28E+08	2.46E+08	2.20E+08	2.15E+08	2.24E+08	2.45E+08	2.15E+08	1.43E+08	1.40E+08	9.22E+07	1.27E+08	1.07E+08	1.49E+08	1.56E+08	1.12E+08	1.73E+08	1.87E+08	2.43E+08	1.86E+08	2.35E+08	2.20E+08	1.27E+08	1.56E+08
54	gamma-L-Glutamyl-L-cysteine	C00669	GSH homeostasis	+	251.069	1.274591	1.38E+04	5.88E+04	0.00E+00	1.53E+04	0.00E+00	1.38E+05	1.81E+05	1.63E+05	1.25E+05	1.95E+05	6.27E+04	0.00E+00	5.39E+04	5.89E+04	2.94E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E+05	1.31E+05	1.22E+05	1.38E+05	1.79E+05	1.91E+05	1.52E+05	1.52E+05	1.44E+05	1.89E+05	1.38E+04	1.63E+05	5.39E+04	0.00E+00	1.38E+05	1.52E+05
55	S-Adenosyl-L-methionine	C00019	Serine biosynthesis and one-carbon metabolism	-	397.1385	1.214988	5.40E+04	1.03E+05	6.21E+04	7.18E+04	3.03E+04	1.30E+05	1.71E+05	1.14E+05	1.19E+05	9.08E+04	1.21E+05	1.21E+05	8.39E+04	1.09E+05	1.02E+05	1.40E+05	8.57E+04	1.05E+05	9.65E+04	8.41E+04	1.50E+05	8.47E+04	9.67E+04	6.00E+04	4.58E+04	1.36E+05	1.06E+05	7.71E+04	1.34E+05	7.18E+04	6.21E+04	1.19E+05	1.09E+05	9.65E+04	8.47E+04	1.06E+05
56	L-Homoserine	C00263	Serine biosynthesis and one-carbon metabolism	+	120.0656	1.208139	8.93E+06	8.13E+06	9.36E+06	9.45E+06	1.04E+07	8.75E+06	8.02E+06	8.16E+06	9.19E+06	8.71E+06	9.33E+06	8.67E+06	8.95E+06	8.61E+06	9.78E+06	8.48E+06	8.04E+06	9.36E+06	9.83E+06	1.11E+07	5.33E+06	5.34E+06	4.47E+06	4.56E+06	5.07E+06	5.97E+06	6.87E+06	5.50E+06	7.74E+06	8.09E+06	9.36E+06	8.71E+06	8.95E+06	9.36E+06	5.07E+06	6.87E+06
57	O-succinyl-L-homoserine	C01118	Serine biosynthesis and one-carbon metabolism	-	218.0677	1.240138	2.83E+04	1.94E+04	2.75E+04	2.28E+04	2.59E+04	6.00E+04	1.44E+04	7.90E+04	6.73E+04	3.07E+04	2.05E+04	3.01E+04	2.63E+04	0.00E+00	2.55E+04	1.99E+04	3.20E+04	1.84E+04	2.77E+04	3.55E+04	9.91E+04	1.14E+05	1.41E+05	7.60E+04	8.09E+04	1.11E+05	1.19E+05	1.05E+05	1.19E+05	1.17E+05	2.59E+04	6.00E+04	2.55E+04	2.77E+04	9.91E+04	1.17E+05
58	D-O-Phosphoserine	C02532	Serine biosynthesis and one-carbon metabolism	-	184.0005	1.569197	1.72E+04	9.93E+03	9.74E+03	4.87E+03	6.96E+03	1.14E+04	1.45E+04	1.38E+04	9.82E+03	5.88E+03	1.05E+04	6.83E+03	7.70E+03	8.27E+03	6.64E+03	1.82E+04	1.23E+04	9.16E+03	1.12E+04	9.63E+03	2.21E+04	2.46E+04	1.39E+04	1.71E+04	1.12E+04	2.02E+04	2.10E+04	1.48E+04	1.13E+04	1.03E+04	9.74E+03	1.14E+04	7.70E+03	1.12E+04	1.71E+04	1.48E+04
59	Sarcosine	C00213	Serine biosynthesis and one-carbon metabolism	+	90.05544	1.204317	9.93E+06	1.12E+07	1.12E+07	1.07E+07	1.15E+07	9.17E+06	9.30E+06	9.59E+06	9.74E+06	9.83E+06	1.40E+07	1.54E+07	1.53E+07	1.43E+07	1.41E+07	1.42E+07	1.44E+07	1.38E+07	1.55E+07	1.59E+07	8.38E+06	8.75E+06	8.13E+06	8.34E+06	8.94E+06	9.41E+06	9.27E+06	9.28E+06	1.02E+07	1.05E+07	1.12E+07	9.59E+06	1.43E+07	1.44E+07	8.38E+06	9.41E+06
60	N-N-Dimethylglycine	C01026	Serine biosynthesis and one-carbon metabolism	+	104.0708	1.213014	7.58E+05	9.03E+05	8.47E+05	6.55E+05	7.51E+05	7.04E+05	6.97E+05	7.71E+05	1.01E+06	6.33E+05	8.79E+05	8.00E+05	8.68E+05	8.58E+05	6.69E+05	5.66E+05	8.49E+05	7.23E+05	7.99E+05	9.16E+05	3.68E+05	4.89E+05	3.22E+05	4.45E+05	3.01E+05	4.62E+05	5.61E+05	5.62E+05	5.14E+05	4.17E+05	7.58E+05	7.04E+05	8.58E+05	7.99E+05	3.68E+05	5.14E+05
61	Ornithine	C01602	urea cycle	-	133.0978	1.21614	6.97E+05	8.28E+05	6.60E+05	7.76E+05	8.06E+05	9.92E+05	9.71E+05	1.18E+06	9.38E+05	9.09E+05	8.36E+05	6.49E+05	7.33E+05	7.88E+05	7.29E+05	6.76E+05	9.06E+05	6.00E+05	8.55E+05	7.56E+05	7.80E+05	6.52E+05	6.97E+05	6.38E+05	4.65E+05	7.65E+05	6.59E+05	7.65E+05	7.31E+05	9.24E+05	7.76E+05	9.71E+05	7.33E+05	7.56E+05	6.52E+05	7.65E+05
62	Urate	C00366	urea cycle	-	167.0196	1.225382	1.06E+05	9.98E+04	9.95E+04	5.85E+04	7.74E+04	5.17E+04	2.05E+04	4.30E+04	4.26E+04	2.66E+04	4.23E+05	4.14E+05	2.84E+05	3.07E+05	3.13E+05	6.07E+05	6.17E+05	4.85E+05	4.61E+05	3.91E+05	5.00E+05	3.20E+05	3.92E+05	3.97E+05	3.51E+05	4.03E+05	3.02E+05	2.91E+05	2.91E+05	3.06E+05	9.95E+04	4.26E+04	3.13E+05	4.85E+05	3.92E+05	3.02E+05
63	N1-Acetylspermidine	C00612	Polyamines	+	188.1752	1.115214	8.13E+04	9.72E+04	8.86E+04	1.02E+05	1.09E+05	0.00E+00	0.00E+00	3.26E+03	5.11E+03	0.00E+00	3.26E+05	3.18E+05	3.30E+05	3.07E+05	3.04E+05	3.44E+05	3.20E+05	2.86E+05	3.04E+05	3.32E+05	8.17E+05	9.03E+05	9.33E+05	9.29E+05	8.00E+05	7.47E+05	6.87E+05	6.74E+05	6.91E+05	7.61E+05	9.72E+04	0.00E+00	3.18E+05	3.20E+05	9.03E+05	6.91E+05
64	Putrescine	C00134	Polyamines	+	89.10784	1.089181	2.68E+05	2.39E+05	2.74E+05	2.59E+05	2.98E+05	2.54E+05	2.24E+05	1.93E+05	2.58E+05	2.36E+05	3.32E+05	3.28E+05	3.03E+05	3.43E+05	3.74E+05	3.44E+05	2.88E+05	2.76E+05	2.85E+05	3.17E+05	3.06E+05	3.67E+05	4.23E+05	4.12E+05	4.00E+05	3.48E+05	3.92E+05	3.42E+05	3.24E+05	3.65E+05	2.68E+05	2.36E+05	3.32E+05	2.88E+05	4.00E+05	3.48E+05
65	Cadaverine	C01672	Polyamines	+	103.1233	1.109416	7.84E+03	5.65E+03	8.08E+03	1.44E+04	1.21E+04	1.37E+04	8.43E+03	1.08E+04	5.72E+03	2.26E+04	5.48E+04	4.62E+04	4.69E+04	4.31E+04	4.97E+04	3.80E+04	3.39E+04	3.24E+04	3.44E+04	3.37E+04	4.41E+04	5.95E+04	3.59E+04	4.54E+04	6.16E+04	4.96E+04	4.70E+04	4.90E+04	3.84E+04	4.57E+04	8.08E+03	1.08E+04	4.69E+04	3.39E+04	4.54E+04	4.70E+04
66	Spermine	C00750	Polyamines	+	203.2227	1.109846	3.63E+05	3.75E+05	3.98E+05	3.95E+05	4.31E+05	5.96E+03	5.89E+03	1.89E+04	4.08E+04	5.52E+03	2.96E+04	1.25E+04	2.82E+04	2.42E+04	3.10E+04	5.41E+03	1.06E+04	1.76E+04	5.56E+03	2.69E+04	4.38E+04	4.57E+04	6.14E+04	5.62E+04	6.83E+04	1.24E+04	6.19E+03	1.53E+04	3.81E+04	4.05E+04	3.95E+05	5.96E+03	2.82E+04	1.06E+04	5.62E+04	1.53E+04
67	Spermidine	C00315	Polyamines	+	146.165	1.089797	2.21E+05	2.72E+05	2.57E+05	3.27E+05	2.85E+05	4.07E+03	1.46E+04	5.87E+04	9.23E+04	3.69E+04	7.27E+04	6.62E+04	6.68E+04	9.57E+04	8.99E+04	1.86E+05	2.06E+05	1.87E+05	2.07E+05	2.17E+05	1.36E+05	1.74E+05	1.82E+05	2.07E+05	2.31E+05	1.22E+05	1.11E+05	1.24E+05	1.64E+05	1.75E+05	2.72E+05	3.69E+04	7.27E+04	2.06E+05	1.82E+05	1.24E+05
68	UDP-N-acetyl-D-glucosamine	C00043	Aminosugars	-	606.0726	1.301982	6.11E+05	4.26E+05	3.00E+05	2.87E+05	2.10E+05	1.07E+04	3.87E+03	0.00E+00	0.00E+00	1.76E+03	8.62E+04	6.23E+04	1.83E+04	1.44E+04	2.46E+04	3.70E+04	1.60E+04	5.29E+03	4.83E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E+03	0.00E+00	0.00E+00	0.00E+00	1.22E+03	0.00E+00	0.00E+00	3.00E+05	1.76E+03	2.46E+04	5.29E+03	0.00E+00	0.00E+00
69	Phosphocreatine	C02305	Arginine and proline metabolism	-	210.0276	1.571858	4.54E+04	4.45E+04	4.31E+04	4.13E+04	4.05E+04	5.98E+04	5.08E+04	5.44E+04	4.78E+04	4.39E+04	4.28E+04	4.23E+04	3.72E+04	3.89E+04	2.92E+04	6.53E+04	5.81E+04	5.02E+04	5.09E+04	6.01E+04	6.83E+04	5.85E+04	6.43E+04	6.09E+04	4.42E+04	4.11E+04	4.22E+04	3.93E+04	3.63E+04	3.96E+04	4.31E+04	5.08E+04	3.89E+04	5.81E+04	6.09E+04	3.96E+04
70	Creatine	C00300	Arginine and proline metabolism	+	132.0766	1.205359	1.39E+06	1.39E+06	1.74E+06	1.70E+06	1.97E+06	1.03E+06	1.12E+06	1.26E+06	1.06E+06	1.14E+06	8.68E+05	7.10E+05	8.20E+05	8.06E+05	7.98E+05	6.85E+05	6.83E+05	7.50E+05	7.17E+05	8.01E+05	6.34E+05	8.05E+05	5.75E+05	7.68E+05	7.29E+05	6.91E+05	6.54E+05	6.94E+05	8.05E+05	8.20E+05	1.70E+06	1.12E+06	8.06E+05	7.17E+05	7.29E+05	6.94E+05
71	N-Acetylornithine	C00437	Arginine and proline metabolism	+	175.1074	1.205862	2.15E+05	2.43E+05	3.08E+05	2.56E+05	3.30E+05	1.09E+05	1.88E+05	9.81E+04	1.97E+05	2.05E+05	3.22E+05	2.81E+05	2.25E+05	2.59E+05	2.57E+05	2.72E+05	3.03E+05	2.33E+05	3.01E+05	2.22E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E+04	0.00E+00	1.17E+05	2.56E+05	1.88E+05	2.59E+05	2.72E+05	0.00E+00	0.00E+00
72	N-Succinyl-L-citrulline	C18048	Arginine and proline metabolism	+	276.1184	1.222431	3.18E+04	8.31E+04	4.52E+04	0.00E+00	2.37E+04	2.70E+04	3.39E+04	0.00E+00	6.92E+04	7.90E+04	2.27E+05	2.35E+05	2.76E+05	1.66E+05	3.05E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E+04	6.82E+04	7.32E+04	3.67E+04	0.00E+00	6.88E+04	3.80E+04	0.00E+00	7.51E+04	6.02E+04	3.18E+04	3.39E+04	2.35E+05	0.00E+00	4.72E+04	6.02E+04
73	trans-4-Hydroxy-L-proline	C01157	Arginine and proline metabolism	+	132.0654	1.208693	4.71E+05	5.50E+05	3.92E+05	4.07E+05	4.32E+05	3.01E+05	3.65E+05	4.05E+05	3.30E+05	4.44E+05	4.48E+05	3.48E+05	4.51E+05	3.99E+05	4.25E+05	4.61E+05	4.40E+05	4.04E+05	5.09E+05	4.72E+05	1.97E+05	2.36E+05	1.24E+05	1.57E+05	1.25E+05	1.82E+05	1.70E+05	2.56E+05	3.20E+05	2.68E+05	4.32E+05	3.65E+05	4.25E+05	4.61E+05	1.57E+05	2.56E+05
74	sn-Glycerol 3-phosphate	C00093	Glycerophospholipid biosynthesis	-	171.005	1.557135	9.11E+03	4.29E+03	0.00E+00	0.00E+00	0.00E+00	6.94E+03	5.51E+03	8.28E+03	3.55E+03	6.49E+03	6.76E+03	0.00E+00	0.00E+00	0.00E+00	3.89E+03	1.14E+04	0.00E+00	1.00E+04	2.38E+03	1.93E+03	2.26E+04	2.02E+04	1.40E+04	1.30E+04	1.74E+04	2.52E+04	1.54E+04	1.42E+04	1.94E+04	1.71E+04	0.00E+00	6.49E+03	0.00E+00	2.38E+03	1.74E+04	1.71E+04
75	N-Methylethanolamine phosphate	C01210	Glycerophospholipid biosynthesis	+	156.0419	1.07361	1.38E+04	1.74E+04	1.24E+04	5.48E+03	1.68E+04	8.30E+03	6.63E+03	7.69E+03	4.86E+03	1.25E+04	9.23E+03	9.89E+03	9.20E+03	1.38E+04	1.59E+04	1.25E+04	1.83E+04	7.29E+03	1.71E+04	1.87E+04	9.42E+03	7.63E+03	1.07E+04	8.85E+03	2.06E+04	9.72E+03	1.28E+04	8.83E+03	9.78E+03	6.51E+03	1.38E+04	7.69E+03	9.89E+03	1.71E+04	9.42E+03	9.72E+03
76	sn-glycero-3-Phosphoethanolamine	C01233	Glycerophospholipid biosynthesis	-	214.0495	1.24824	1.27E+05	1.05E+05	1.15E+05	8.93E+04	1.09E+05	1.29E+05	1.48E+05	8.20E+04	1.65E+05	1.86E+05	1.26E+05	1.23E+05	1.15E+05	1.03E+05	6.99E+04	1.37E+05	1.55E+05	1.19E+05	1.06E+05	1.08E+05	4.61E+04	4.61E+04	5.19E+04	5.61E+04	4.04E+04	2.45E+05	1.09E+05	7.49E+04	1.28E+05	1.13E+05	1.09E+05	1.48E+05	1.15E+05	1.19E+05	4.61E+04	1.13E+05
77	CDP-ethanolamine	C00570	Glycerophospholipid biosynthesis	-	445.0527	1.1218	1.37E+04	5.62E+03	6.85E+03	6.22E+03	6.78E+03	8.94E+03	5.86E+03	6.54E+03	9.56E+03	4.92E+03	1.02E+04	9.69E+03	9.16E+03	2.51E+03	9.88E+03	1.27E+04	6.99E+03	5.27E+03	4.58E+03	2.39E+03	1.68E+04	1.23E+04	1.12E+04	7.52E+03	2.38E+03	9.80E+03	8.82E+03	2.51E+03	7.41E+03	5.21E+03	6.78E+03	6.54E+03	9.69E+03	5.27E+03	1.12E+04	7.41E+03
78	4-Aminobutanoate	C00334	Arachidonate metabolism	+	104.0708	1.213014	7.58E+05	9.03E+05	8.47E+05	6.55E+05	7.51E+05	7.04E+05	6.97E+05	7.71E+05	1.01E+06	6.33E+05	8.79E+05	8.00E+05	8.68E+05	8.58E+05	6.69E+05	5.66E+05	8.49E+05	7.23E+05	7.99E+05	9.16E+05	3.68E+05	4.89E+05	3.22E+05	4.45E+05	3.01E+05	4.62E+05	5.61E+05	5.62E+05	5.14E+05	4.17E+05	7.58E+05	7.04E+05	8.58E+05	7.99E+05	3.68E+05	5.14E+05
79	Succinate semialdehyde	C00232	Arachidonate metabolism	-	101.0226	1.21884	1.85E+06	1.38E+06	1.21E+06	1.21E+06	1.24E+06	1.68E+06	1.45E+06	1.39E+06	1.71E+06	1.66E+06	1.00E+06	1.05E+06	9.12E+05	8.59E+05	9.88E+05	1.02E+06	1.01E+06	9.40E+05	9.07E+05	8.14E+05	6.08E+05	6.83E+05	4.49E+05	4.91E+05	4.90E+05	9.87E+05	7.04E+05	6.89E+05	8.05E+05	9.30E+05	1.24E+06	1.66E+06	9.88E+05	9.40E+05	4.91E+05	8.05E+05
80	L-Allothreonine	C05519	Inositol	+	120.0655	1.208139	8.93E+06	8.13E+06	9.36E+06	9.45E+06	1.04E+07	8.75E+06	8.02E+06	8.16E+06	9.19E+06	8.71E+06	9.33E+06	8.67E+06	8.95E+06	8.61E+06	9.78E+06	8.48E+06	8.04E+06	9.36E+06	9.83E+06	1.11E+07	5.33E+06	5.34E+06	4.47E+06	4.56E+06	5.07E+06	5.97E+06	6.87E+06	5.50E+06	7.74E+06	8.09E+06	9.36E+06	8.71E+06	8.95E+06	9.36E+06	5.07E+06	6.87E+06
81	Ectoine	C06231	Inositol	-	143.0812	1.209541	3.99E+05	5.05E+05	4.64E+05	4.86E+05	5.78E+05	2.74E+05	3.67E+05	4.32E+05	3.46E+05	3.22E+05	4.62E+05	4.83E+05	5.16E+05	5.47E+05	5.11E+05	4.94E+05	3.68E+05	5.45E+05	5.02E+05	4.90E+05	2.00E+05	1.77E+05	2.03E+05	3.38E+05	1.41E+05	2.22E+05	3.24E+05	2.66E+05	4.07E+05	3.15E+05	4.86E+05	3.46E+05	5.11E+05	4.94E+05	2.00E+05	3.15E+05
82	Uracil	C00106	Panthothenate metabolism	-	111.0183	1.196173	1.05E+06	1.15E+06	1.52E+06	1.80E+06	1.59E+06	1.35E+06	1.14E+06	1.39E+06	1.64E+06	1.64E+06	1.25E+06	1.49E+06	1.69E+06	1.60E+06	1.48E+06	1.54E+06	1.28E+06	1.44E+06	1.49E+06	1.64E+06	1.34E+06	1.22E+06	1.49E+06	1.27E+06	1.34E+06	1.53E+06	1.48E+06	1.64E+06	1.65E+06	1.52E+06	1.52E+06	1.39E+06	1.49E+06	1.49E+06	1.34E+06	1.53E+06
83	Pantothenate	C00864	Panthothenate metabolism	+	220.1171	1.253059	3.10E+05	2.40E+05	2.25E+05	3.32E+05	2.60E+05	1.91E+05	1.99E+05	2.01E+05	1.74E+05	1.72E+05	2.17E+05	1.54E+05	1.70E+05	1.88E+05	1.99E+05	2.73E+05	1.63E+05	1.81E+05	1.35E+05	1.18E+05	2.28E+05	2.11E+05	2.20E+05	2.51E+05	2.68E+05	2.29E+05	1.86E+05	2.41E+05	1.72E+05	2.42E+05	2.60E+05	1.91E+05	1.88E+05	1.63E+05	2.28E+05	2.29E+05
84	D-4--Phosphopantothenate	C03492	Panthothenate metabolism	-	298.0694	1.583871	1.66E+03	3.69E+03	2.36E+03	5.24E+03	5.20E+03	1.06E+04	4.64E+03	6.41E+03	4.13E+03	5.22E+03	2.11E+03	5.58E+03	4.94E+03	2.24E+03	2.90E+03	1.18E+04	5.29E+03	1.63E+04	1.31E+04	8.75E+03	9.46E+03	4.19E+03	6.51E+03	2.39E+03	5.82E+03	3.57E+03	5.79E+03	4.78E+03	3.67E+03	2.28E+03	3.69E+03	5.22E+03	2.90E+03	1.18E+04	5.82E+03	3.67E+03
85	Iminoerythrose 4-phosphate	C12215	Unsaturated fatty acids	-	198.0161	1.545214	3.32E+04	2.91E+04	3.18E+04	2.92E+04	1.88E+04	4.39E+04	3.47E+04	3.81E+04	3.60E+04	3.30E+04	2.78E+04	3.11E+04	2.64E+04	2.84E+04	2.13E+04	3.23E+04	3.64E+04	3.60E+04	3.32E+04	4.05E+04	7.02E+04	6.83E+04	4.97E+04	5.90E+04	5.23E+04	6.40E+04	4.91E+04	3.73E+04	4.55E+04	4.89E+04	2.92E+04	3.60E+04	2.78E+04	3.60E+04	5.90E+04	4.89E+04
86	Aminofructose 6-phosphate	C12214	Unsaturated fatty acids	-	258.0372	1.190665	1.31E+04	1.78E+04	1.68E+04	1.31E+04	1.59E+04	1.48E+04	5.82E+03	5.85E+03	5.30E+03	8.37E+03	7.69E+03	1.08E+04	9.74E+03	1.73E+04	7.17E+03	1.66E+04	2.04E+04	7.64E+03	1.50E+04	1.67E+04	1.70E+03	3.04E+03	3.08E+03	3.35E+03	1.92E+03	5.51E+03	2.42E+03	3.45E+03	2.54E+03	6.18E+03	1.59E+04	5.85E+03	9.74E+03	1.66E+04	3.04E+03	3.45E+03
87	Taurine	C00245	Other	-	124.0056	1.23288	5.99E+04	6.47E+04	5.14E+04	4.70E+04	6.02E+04	7.48E+04	8.97E+04	1.07E+05	7.42E+04	1.05E+05	1.23E+05	9.45E+04	8.85E+04	2.56E+04	6.96E+04	9.92E+04	8.78E+04	9.10E+04	5.92E+04	6.09E+04	5.37E+04	3.11E+04	4.92E+04	3.27E+04	1.12E+04	5.46E+04	1.57E+04	1.50E+04	2.21E+04	1.77E+04	5.99E+04	8.97E+04	8.85E+04	8.78E+04	3.27E+04	1.77E+04
88	cis-Zeatin	C15545	Other	-	218.1025	1.240967	7.50E+05	8.10E+05	5.68E+05	4.92E+05	4.72E+05	3.53E+05	2.85E+05	3.31E+05	3.20E+05	3.02E+05	2.81E+05	2.67E+05	3.14E+05	2.17E+05	2.79E+05	3.06E+05	2.66E+05	2.71E+05	2.14E+05	1.98E+05	3.39E+05	3.32E+05	2.27E+05	3.13E+05	2.69E+05	4.64E+05	4.26E+05	3.28E+05	3.45E+05	3.34E+05	5.68E+05	3.20E+05	2.79E+05	2.66E+05	3.13E+05	3.45E+05
89	6-Pyruvoyltetrahydropterin	C03684	Other	-	238.0932	1.197337	8.78E+04	1.82E+05	2.11E+05	1.44E+05	1.74E+05	1.25E+05	4.97E+04	7.46E+04	2.34E+04	1.27E+05	1.77E+05	6.16E+04	1.58E+05	8.03E+04	6.63E+04	5.09E+04	1.16E+05	1.58E+05	1.32E+05	1.86E+05	4.22E+04	1.71E+04	6.04E+04	0.00E+00	0.00E+00	2.23E+04	4.62E+04	5.08E+04	5.48E+04	4.49E+04	1.74E+05	7.46E+04	8.03E+04	1.32E+05	1.71E+04	4.62E+04
90	6-Lactoyl-5-6-7-8-tetrahydropterin	C04244	Other	-	240.1087	1.20501	6.13E+07	5.76E+07	6.30E+07	6.91E+07	6.84E+07	6.56E+07	6.14E+07	5.85E+07	6.01E+07	6.53E+07	6.25E+07	6.23E+07	6.67E+07	5.95E+07	6.34E+07	7.02E+07	6.90E+07	6.76E+07	6.89E+07	6.88E+07	4.85E+07	5.22E+07	4.12E+07	4.56E+07	4.46E+07	5.99E+07	6.29E+07	4.95E+07	6.61E+07	6.07E+07	6.30E+07	6.14E+07	6.25E+07	6.89E+07	4.56E+07	6.07E+07
91	L-4-Hydroxyglutamate semialdehyde	C05938	Other	-	148.0601	1.257327	2.41E+06	2.47E+06	2.67E+06	2.65E+06	3.18E+06	3.41E+06	3.11E+06	3.93E+06	4.32E+06	3.65E+06	7.42E+06	6.76E+06	7.43E+06	7.33E+06	1.02E+07	7.60E+06	6.45E+06	6.96E+06	6.13E+06	6.53E+06	8.37E+06	8.22E+06	6.84E+06	6.81E+06	0.00E+00	0.00E+00	1.14E+07	0.00E+00	1.26E+07	1.41E+07	2.65E+06	3.65E+06	7.42E+06	6.53E+06	6.84E+06	1.14E+07
92	L-2-Aminoadipate	C00956	Other	-	162.0757	1.225179	2.13E+04	4.90E+04	1.88E+04	5.37E+04	9.57E+04	1.41E+05	4.78E+04	2.79E+04	6.08E+04	6.03E+04	9.51E+05	8.30E+05	9.20E+05	9.30E+05	1.02E+06	3.02E+06	2.69E+06	2.95E+06	3.39E+06	3.26E+06	9.04E+05	8.70E+05	5.58E+05	7.81E+05	7.60E+05	1.01E+06	1.07E+06	8.43E+05	1.36E+06	1.20E+06	4.90E+04	6.03E+04	9.30E+05	3.02E+06	7.81E+05	1.07E+06
93	Creatinine	C00791	Other	-	114.0663	1.199439	4.44E+05	7.54E+05	5.84E+05	7.31E+05	5.79E+05	4.16E+05	4.85E+05	4.69E+05	5.39E+05	5.20E+05	4.74E+05	6.58E+05	5.26E+05	6.59E+05	6.16E+05	5.64E+05	6.65E+05	6.28E+05	6.24E+05	5.13E+05	2.14E+05	1.62E+05	1.78E+05	2.33E+05	1.68E+05	2.34E+05	2.71E+05	3.25E+05	2.32E+05	3.09E+05	5.84E+05	4.85E+05	6.16E+05	6.24E+05	1.78E+05	2.71E+05
94	Maleamate	C01596	Other	+	116.0346	1.217871	1.55E+05	2.23E+05	1.97E+05	1.66E+05	2.44E+05	1.77E+05	1.35E+05	1.92E+05	2.17E+05	2.18E+05	3.29E+05	2.23E+05	2.12E+05	1.43E+05	1.85E+05	1.75E+05	2.81E+05	2.19E+05	2.04E+05	2.65E+05	1.08E+05	1.75E+05	1.27E+05	1.61E+05	1.54E+05	2.01E+05	1.98E+05	1.15E+05	1.61E+05	1.46E+05	1.97E+05	1.92E+05	2.12E+05	2.19E+05	1.54E+05	1.61E+05
95	Atherospermidine	C09347	Other	-	114.0179	1.211836	1.08E+06	1.08E+06	8.40E+05	1.04E+06	1.03E+06	1.23E+06	1.27E+06	9.55E+05	1.05E+06	1.18E+06	1.10E+06	1.33E+06	1.07E+06	1.15E+06	1.08E+06	1.01E+06	1.08E+06	1.13E+06	1.29E+06	1.22E+06	1.25E+06	1.18E+06	1.08E+06	9.58E+05	9.85E+05	1.20E+06	1.32E+06	7.74E+05	7.91E+05	1.14E+06	1.04E+06	1.18E+06	1.10E+06	1.13E+06	1.08E+06	1.14E+06
96	(R)-3-Hydroxyhexanoyl-[acp]	C05747	Other	-	304.0662	1.168322	1.86E+04	1.59E+04	1.74E+04	8.12E+03	9.34E+03	1.95E+04	1.55E+04	1.25E+04	1.50E+04	1.35E+04	1.53E+04	1.68E+04	1.24E+04	1.05E+04	1.10E+04	2.17E+04	1.42E+04	1.34E+04	6.10E+03	9.69E+03	2.90E+04	2.48E+04	3.02E+04	3.16E+04	2.60E+04	2.26E+04	2.56E+04	2.89E+04	2.65E+04	2.31E+04	1.59E+04	1.50E+04	1.24E+04	1.34E+04	2.90E+04	2.56E+04
97	N-Formyl-L-glutamate	C01045	Other	-	146.0442	1.218485	1.95E+06	2.13E+06	1.89E+06	1.80E+06	1.88E+06	3.34E+06	3.12E+06	3.00E+06	2.77E+06	2.68E+06	5.07E+06	5.14E+06	4.69E+06	4.81E+06	4.52E+06	4.55E+06	4.43E+06	3.96E+06	3.87E+06	3.35E+06	6.19E+06	5.53E+06	4.69E+06	4.62E+06	4.56E+06	6.44E+06	6.49E+06	5.65E+06	5.32E+06	5.81E+06	1.89E+06	3.00E+06	4.81E+06	3.96E+06	4.69E+06	5.81E+06
98	5-Aminolevulinate	C00430	Other	-	174.0402	1.212885	1.07E+05	1.33E+05	1.10E+05	1.23E+05	1.18E+05	1.81E+05	1.47E+05	1.01E+05	1.09E+05	1.12E+05	1.14E+05	1.83E+05	1.44E+05	1.42E+05	1.21E+05	1.26E+05	1.16E+05	1.52E+05	1.82E+05	1.76E+05	1.45E+05	1.34E+05	1.24E+05	8.19E+04	1.27E+05	1.43E+05	1.54E+05	8.47E+04	1.18E+05	1.18E+05	1.18E+05	1.12E+05	1.42E+05	1.52E+05	1.27E+05	1.18E+05
99	N-Acetyl-D-glucosamine 6-phosphate	C00357	Other	-	130.0493	1.213585	1.44E+05	1.82E+05	1.59E+05	1.32E+05	1.25E+05	1.80E+05	1.97E+05	1.82E+05	2.11E+05	1.98E+05	1.81E+05	1.55E+05	1.98E+05	1.43E+05	1.46E+05	2.16E+05	1.57E+05	2.16E+05	1.92E+05	2.43E+05	2.02E+05	1.31E+05	2.23E+05	1.28E+05	1.17E+05	1.07E+05	1.51E+05	1.35E+05	1.56E+05	1.53E+05	1.44E+05	1.97E+05	1.55E+05	2.16E+05	1.31E+05	1.51E+05
100	(R)-Mevalonate	C00418	Other	-	149.0804	1.20779	1.58E+06	1.76E+06	1.94E+06	1.86E+06	1.84E+06	1.40E+06	1.36E+06	1.22E+06	1.39E+06	1.26E+06	1.70E+06	1.69E+06	1.80E+06	1.68E+06	1.86E+06	1.71E+06	1.70E+06	1.62E+06	2.04E+06	1.66E+06	8.93E+05	7.93E+05	5.68E+05	7.42E+05	8.28E+05	9.97E+05	1.14E+06	7.88E+05	1.10E+06	1.26E+06	1.84E+06	1.36E+06	1.70E+06	1.70E+06	7.93E+05	1.10E+06
101	Triacanthine	C08435	Other	+	204.1226	1.252042	2.57E+04	2.25E+04	7.79E+04	6.77E+04	7.23E+04	3.00E+04	2.83E+04	1.63E+04	2.27E+04	1.72E+04	1.04E+05	6.57E+04	8.65E+04	1.40E+05	9.82E+04	1.88E+05	8.45E+04	1.04E+05	1.99E+05	8.58E+04	5.70E+04	3.67E+04	2.03E+04	3.82E+04	1.50E+04	3.54E+04	7.66E+03	1.12E+04	1.26E+04	1.95E+04	6.77E+04	2.27E+04	9.82E+04	1.04E+05	3.67E+04	1.26E+04
102	Erythritol	C00503	Other	+	123.0655	1.218962	9.12E+04	1.11E+05	9.64E+04	9.11E+04	7.83E+04	1.02E+05	7.69E+04	4.27E+04	8.13E+04	6.23E+04	6.32E+04	7.59E+04	7.06E+04	1.19E+05	1.14E+05	5.92E+04	6.25E+04	1.05E+05	8.78E+04	6.59E+04	3.36E+04	3.36E+04	3.74E+04	9.62E+03	1.86E+04	1.32E+05	2.67E+04	7.65E+04	3.22E+04	9.16E+04	9.12E+04	7.69E+04	7.59E+04	6.59E+04	3.36E+04	7.65E+04
103	Lactaldehyde	C05999	Other	+	75.04472	1.317066	1.80E+05	2.64E+05	1.79E+05	2.51E+05	2.04E+05	1.83E+05	2.22E+05	2.64E+05	3.07E+05	2.12E+04	1.84E+05	2.38E+05	1.94E+05	2.54E+05	2.40E+05	1.61E+05	2.01E+05	1.47E+05	2.42E+05	2.39E+05	2.02E+05	2.15E+05	1.93E+05	2.33E+05	2.68E+05	1.79E+05	2.07E+05	2.00E+05	2.22E+05	2.57E+05	2.04E+05	2.22E+05	2.38E+05	2.01E+05	2.15E+05	2.07E+05

Aminoacids
Nucleotides
Glycolysis
TCA cycle
Pentose Phosphate Pathway
GSH homeostasis
Serine biosynthesis and one-carbon metabolism
Urea cycle and polyamines
Aminosugars
Arachidonic acid metabolism
Arginine and proline metabolism
Glycerophospholipid biosynthesis
Inositol
Panthothenate metabolism

Table 1 - Metabolomics analysis of cell extracts under isotonic or hypertonic saline treatment, in presence or absence of cytomix							Isotonic contro					Isotonic + cytomix					Hypertonic saline					Hypertonic saline + cytomix								
N.	compound	CmpdID	Pathway	medRt	parent	medRt	ISO_1	ISO_2	ISO_3	ISO_4	ISO_5	ISCM_1	ISCM_2	ISCM_3	ISCM_4	ISCM_5	HTS_1	HTS_2	HTS_3	HTS_4	HTS_5	HTSCMX_1	HTSCMX_2	HTSCMX_3	HTSCMX_4	HTSCMX_5	ISO	ISO + CMX	HTS	HTS + CMX
1	alanine	C00041	Aminoacids	+	90.05542	1.223364	9.11E+06	8.62E+06	8.73E+06	8.83E+06	8.80E+06	9.42E+06	8.09E+06	8.77E+06	9.32E+06	8.86E+06	7.19E+06	8.34E+06	7.84E+06	7.13E+06	8.06E+06	8.58E+06	8.33E+06	6.98E+06	7.58E+06	9.03E+06	8.80E+06	8.86E+06	7.84E+06	8.33E+06
2	arginine	C00062	Aminoacids	+	175.1183	1.217104	1.01E+07	9.97E+06	9.16E+06	1.03E+07	1.00E+07	1.33E+07	1.36E+07	1.30E+07	1.25E+07	1.30E+07	1.61E+07	1.53E+07	1.63E+07	1.45E+07	1.41E+07	1.48E+07	1.44E+07	1.32E+07	1.38E+07	1.43E+07	1.00E+07	1.30E+07	1.53E+07	1.43E+07
3	asparagine	C00152	Aminoacids	+	133.079	1.229621	6.63E+06	7.35E+06	7.67E+06	7.42E+06	7.88E+06	7.10E+06	7.92E+06	8.19E+06	7.10E+06	8.20E+06	6.08E+06	6.96E+06	7.04E+06	6.06E+06	5.92E+06	6.54E+06	6.24E+06	6.28E+06	6.79E+06	7.19E+06	7.42E+06	7.92E+06	6.08E+06	6.54E+06
4	aspartate	C00049	Aminoacids	+	122.0429	1.2291	4.18E+06	3.08E+06	2.89E+06	2.82E+06	2.60E+06	2.25E+06	1.85E+06	1.74E+06	1.66E+06	1.66E+06	2.68E+06	2.61E+06	2.34E+06	2.34E+06	2.16E+06	2.55E+06	2.37E+06	2.35E+06	2.35E+06	2.20E+06	2.89E+06	1.74E+06	2.34E+06	2.35E+06
5	cysteine	C00097	Aminoacids	+	148.0633	1.224408	3.16E+06	3.52E+06	3.43E+06	3.21E+06	3.39E+06	3.39E+06	3.50E+06	3.63E+06	3.18E+06	3.42E+06	3.43E+06	3.78E+06	3.06E+06	3.16E+06	3.28E+06	3.72E+06	3.37E+06	3.73E+06	3.68E+06	4.05E+06	3.39E+06	3.42E+06	3.28E+06	3.72E+06
6	glutamate	C00025	Aminoacids	+	147.0771	1.238509	7.97E+07	8.00E+07	7.69E+07	8.79E+07	8.31E+07	8.34E+07	8.91E+07	7.78E+07	8.36E+07	7.97E+07	8.28E+07	7.96E+07	8.09E+07	8.34E+07	8.34E+07	7.47E+07	7.60E+07	6.45E+07	6.92E+07	7.37E+07	8.00E+07	8.34E+07	8.28E+07	7.37E+07
7	glutamine	C00064	Aminoacids	+	76.03994	1.239049	4.70E+07	5.58E+07	5.38E+07	5.45E+07	5.75E+07	5.60E+07	5.97E+07	6.25E+07	6.39E+07	6.34E+07	7.22E+07	7.92E+07	7.93E+07	7.42E+07	7.76E+07	6.63E+07	7.15E+07	6.93E+07	6.70E+07	6.89E+07	5.45E+07	6.25E+07	7.76E+07	6.89E+07
8	glycine	C00037	Aminoacids	+	156.0764	1.224928	7.36E+06	7.34E+06	7.02E+06	8.74E+06	7.38E+06	7.66E+06	7.83E+06	6.93E+06	7.95E+06	7.12E+06	6.76E+06	6.26E+06	6.90E+06	7.44E+06	7.26E+06	6.86E+06	6.65E+06	6.60E+06	6.45E+06	6.69E+06	7.36E+06	7.66E+06	6.90E+06	6.65E+06
9	histidine	C00135	Aminoacids	+	132.1017	1.239009	1.14E+07	1.11E+07	1.14E+07	1.11E+07	1.20E+07	1.09E+07	1.12E+07	1.12E+07	1.05E+07	1.20E+07	1.87E+07	1.95E+07	1.98E+07	1.76E+07	1.66E+07	1.93E+07	1.87E+07	1.84E+07	1.92E+07	1.96E+07	1.14E+07	1.12E+07	1.87E+07	1.92E+07
10	isoleucine	C00407	Aminoacids	+	147.1125	1.422138	3.78E+07	3.68E+07	4.12E+07	4.41E+07	4.57E+07	4.08E+07	4.34E+07	4.41E+07	4.22E+07	4.70E+07	6.15E+07	5.72E+07	6.52E+07	6.85E+07	6.72E+07	5.86E+07	6.68E+07	6.53E+07	6.61E+07	6.72E+07	4.12E+07	4.34E+07	6.52E+07	6.61E+07
11	leucine	C00047	Aminoacids	+	132.1016	1.032154	7.91E+06	9.26E+06	1.04E+07	1.14E+07	1.17E+07	8.49E+06	1.02E+07	1.05E+07	1.25E+07	1.22E+07	1.46E+07	1.59E+07	1.58E+07	1.75E+07	1.22E+07	1.75E+07	1.78E+07	1.70E+07	1.74E+07	1.68E+07	1.04E+07	1.05E+07	1.58E+07	1.74E+07
12	lysine	C00047	Aminoacids	+	150.058	1.239009	9.67E+06	9.82E+06	9.19E+06	9.14E+06	1.02E+07	1.46E+07	1.51E+07	1.51E+07	1.54E+07	1.49E+07	1.60E+07	1.64E+07	1.51E+07	1.44E+07	1.48E+07	1.43E+07	1.40E+07	1.31E+07	1.35E+07	1.36E+07	9.67E+06	1.51E+07	1.51E+07	1.36E+07
13	methionine	C00073	Aminoacids	+	166.0858	1.240575	6.26E+06	5.79E+06	6.74E+06	7.15E+06	7.13E+06	6.68E+06	7.00E+06	7.15E+06	6.57E+06	7.38E+06	8.94E+06	8.59E+06	9.37E+06	1.02E+07	9.76E+06	8.79E+06	1.02E+07	9.95E+06	9.71E+06	9.67E+06	6.74E+06	7.00E+06	9.37E+06	9.71E+06
14	phenylalanine	C00079	Aminoacids	+	116.0707	1.231707	5.75E+06	6.25E+06	6.01E+06	6.40E+06	6.78E+06	6.03E+06	6.19E+06	6.56E+06	5.86E+06	6.61E+06	9.10E+06	9.67E+06	9.17E+06	9.41E+06	9.15E+06	7.71E+06	8.40E+06	8.27E+06	8.36E+06	8.40E+06	6.25E+06	6.19E+06	9.17E+06	8.36E+06
15	proline	C00148	Aminoacids	+	106.0501	1.234861	1.61E+08	1.60E+08	1.60E+08	1.56E+08	1.70E+08	1.60E+08	1.41E+08	1.50E+08	1.55E+08	1.49E+08	1.52E+08	1.69E+08	1.74E+08	1.55E+08	1.53E+08	1.61E+08	1.39E+08	1.43E+08	1.51E+08	1.60E+08	1.60E+08	1.50E+08	1.55E+08	1.51E+08
16	serine	C00065	Aminoacids	+	120.0655	1.22545	1.29E+06	1.18E+06	1.05E+06	1.35E+06	1.36E+06	1.52E+06	1.64E+06	1.28E+06	1.79E+06	1.73E+06	1.45E+06	1.80E+06	1.44E+06	1.58E+06	1.63E+06	1.33E+06	1.43E+06	1.52E+06	1.65E+06	1.62E+06	1.29E+06	1.64E+06	1.58E+06	1.52E+06
17	threonine	C00188	Aminoacids	+	205.0967	1.24371	2.48E+06	2.21E+06	2.19E+06	2.33E+06	2.18E+06	2.88E+06	2.78E+06	2.42E+06	2.59E+06	2.39E+06	4.18E+06	3.67E+06	3.67E+06	3.99E+06	3.88E+06	3.66E+06	3.45E+06	3.75E+06	2.94E+06	3.85E+06	2.21E+06	2.59E+06	3.88E+06	3.66E+06
18	tryptophan	C00078	Aminoacids	+	182.0805	1.237966	3.50E+06	3.41E+06	3.04E+06	2.89E+06	3.13E+06	1.08E+07	1.19E+07	1.30E+07	1.14E+07	1.26E+07	1.11E+07	1.29E+07	1.27E+07	1.17E+07	1.14E+07	1.13E+07	1.34E+07	1.33E+07	1.34E+07	1.22E+07	3.13E+06	1.19E+07	1.17E+07	1.33E+07
19	tyrosine	C00082	Aminoacids	+	118.0863	1.237444	3.29E+06	3.26E+06	2.88E+06	3.74E+06	3.19E+06	3.82E+06	4.07E+06	4.01E+06	3.67E+06	4.44E+06	5.27E+06	4.69E+06	5.19E+06	5.35E+06	5.45E+06	4.51E+06	5.13E+06	4.82E+06	5.07E+06	5.16E+06	3.26E+06	4.01E+06	5.27E+06	5.07E+06
20	valine	C00183	Aminoacids	+	241.03	0.995088	3.94E+07	3.89E+07	3.66E+07	4.30E+07	4.40E+07	4.31E+07	4.30E+07	3.97E+07	4.42E+07	4.55E+07	6.26E+07	5.81E+07	5.97E+07	6.53E+07	6.56E+07	6.03E+07	6.97E+07	6.54E+07	6.56E+07	6.72E+07	3.94E+07	4.31E+07	6.26E+07	6.56E+07
21	cystine	C00491	Aminoacids	+	209.0915	1.238026	1.21E+04	1.69E+04	9.18E+03	9.58E+03	4.68E+03	4.38E+03	0.00E+00	0.00E+00	0.00E+00	3.50E+03	5.58E+03	2.96E+03	4.15E+03	5.22E+03	0.00E+00	3.72E+03	1.47E+04	9.14E+03	9.06E+03	4.51E+03	9.58E+03	0.00E+00	4.15E+03	9.06E+03
22	Kynurenine	C00328	Aminoacids	+	134.0446	1.335124	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E+04	3.35E+04	2.73E+04	3.06E+04	2.66E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E+04	0.00E+00	0.00E+00	0.00E+00	2.73E+04	0.00E+00	0.00E+00
23	ATP	C00002	Nucleotides	+	508.0016	1.359851	5.48E+04	2.40E+05	5.19E+05	6.16E+05	6.59E+05	5.99E+05	2.14E+06	2.28E+06	2.69E+06	2.23E+06	3.04E+06	3.13E+06	3.53E+06	3.49E+06	3.52E+06	2.94E+06	2.53E+06	1.99E+06	2.14E+06	2.08E+06	5.19E+05	2.23E+06	3.49E+06	2.14E+06
24	ADP	C00008	Nucleotides	+	428.0356	1.37061	8.66E+05	1.23E+06	1.31E+06	1.31E+06	1.15E+06	8.70E+05	8.85E+05	8.14E+05	8.20E+05	7.79E+05	8.38E+05	6.08E+05	7.13E+05	8.23E+05	8.62E+05	5.14E+05	5.70E+05	7.36E+05	7.56E+05	6.48E+05	1.23E+06	8.20E+05	8.23E+05	6.48E+05
25	GDP	C00035	Nucleotides	+	444.0301	1.298817	7.70E+04	8.82E+04	9.71E+04	1.15E+05	2.96E+04	1.12E+05	1.17E+05	1.15E+05	9.65E+04	1.03E+05	1.16E+05	1.11E+05	6.59E+04	3.63E+04	7.86E+04	4.84E+04	5.35E+04	2.76E+04	3.51E+04	1.32E+04	8.82E+04	1.12E+05	7.86E+04	3.51E+04
26	CDP	C00112	Nucleotides	+	404.0244	1.470453	6.87E+04	8.31E+04	9.25E+04	9.57E+04	8.46E+04	3.38E+04	3.72E+04	4.73E+04	4.10E+04	3.93E+04	3.97E+04	4.63E+04	3.84E+04	4.29E+04	4.99E+04	2.91E+04	3.65E+04	2.97E+04	4.20E+04	4.76E+04	8.46E+04	3.93E+04	4.29E+04	3.65E+04
27	AMP	C00020	Nucleotides	+	348.0692	1.304362	1.59E+06	1.49E+06	1.62E+06	1.70E+06	1.59E+06	7.90E+05	6.52E+05	9.55E+05	8.17E+05	9.20E+05	8.75E+05	7.88E+05	7.42E+05	7.07E+05	6.72E+05	1.04E+06	9.60E+05	8.34E+05	7.76E+05	8.07E+05	1.59E+06	8.17E+05	7.42E+05	8.34E+05
28	GMP	C00144	Nucleotides	+	364.0636	1.46025	6.00E+04	3.97E+04	5.33E+04	6.72E+04	7.50E+04	2.86E+04	2.95E+04	3.07E+04	2.94E+04	3.25E+04	3.71E+04	4.26E+04	4.36E+04	3.92E+04	2.71E+04	2.19E+04	4.23E+04	3.41E+04	2.74E+04	3.58E+04	6.00E+04	2.95E+04	3.92E+04	3.41E+04
29	IMP	C00130	Nucleotides	+	349.0536	1.257691	2.14E+05	1.87E+05	1.92E+05	1.68E+05	1.48E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E+05	0.00E+00	0.00E+00	0.00E+00
30	CMP	C00055	Nucleotides	+	324.0583	1.373443	1.58E+05	1.06E+05	1.07E+05	1.24E+05	1.21E+05	1.17E+05	1.10E+05	1.04E+05	1.02E+05	1.04E+05	1.20E+05	1.02E+05	1.05E+05	1.06E+05	7.65E+04	1.21E+05	1.10E+05	1.11E+05	1.17E+05	8.53E+04	1.21E+05	1.04E+05	1.05E+05	1.11E+05
31	Hypoxanthine	C00262	Nucleotides	+	137.0455	1.242664	4.15E+06	3.36E+06	3.86E+06	3.98E+06	4.26E+06	1.77E+06	1.35E+06	1.63E+06	1.69E+06	1.82E+06	7.70E+05	8.24E+05	7.35E+05	9.10E+05	7.36E+05	6.44E+05	6.60E+05	6.99E+05	7.01E+05	6.54E+05	3.98E+06	1.69E+06	7.70E+05	6.60E+05
32	Adenine	C00147	Nucleotides	+	136.0615	1.2364	3.67E+06	3.66E+06	3.26E+06	3.98E+06	3.83E+06	3.40E+06	3.43E+06	3.18E+06	3.16E+06	3.23E+06	3.62E+06	3.40E+06	3.58E+06	3.75E+06	3.64E+06	4.48E+06	4.41E+06	4.14E+06	4.46E+06	4.62E+06	3.67E+06	3.23E+06	3.62E+06	4.46E+06
33	Xanthine	C00385	Nucleotides	+	153.0404	1.263075	2.86E+05	2.01E+05	1.84E+05	2.42E+05	1.91E+05	1.96E+05	1.94E+05	1.69E+05	2.09E+05	1.72E+05	5.75E+04	7.79E+04	6.46E+04	6.39E+04	5.54E+04	1.62E+04	2.48E+04	3.95E+04	1.94E+04	0.00E+00	2.01E+05	1.94E+05	6.39E+04	1.94E+04
34	Guanine	C00242	Nucleotides	+	152.0563	1.251108	1.32E+05	2.04E+05	9.28E+04	2.00E+05	1.83E+05	3.45E+04	5.54E+04	1.12E+05	4.55E+04	5.66E+04	4.55E+04	5.97E+04	5.45E+04	2.40E+04	2.07E+04	4.18E+04	3.92E+04	1.19E+04	7.94E+03	2.63E+04	1.83E+05	5.54E+04	4.55E+04	2.63E+04
35	Allantoate	C00499	Nucleotides	+	177.0605	1.087241	1.14E+05	1.20E+05	1.27E+05	1.20E+05	1.17E+05	1.06E+05	9.66E+04	1.09E+05	9.94E+04	1.03E+05	2.06E+05	2.18E+05	2.26E+05	2.06E+05	2.11E+05	1.78E+05	1.60E+05	1.73E+05	1.77E+05	1.68E+05	1.20E+05	1.03E+05	2.11E+05	1.73E+05
36	5-Hydroxyisourate	C11821	Nucleotides	+	185.0319	1.222843	5.02E+06	4.75E+06	4.81E+06	4.83E+06	5.11E+06	6.15E+06	5.97E+06	5.47E+06	5.56E+06	6.21E+06	6.73E+06	6.27E+06	6.02E+06	5.83E+06	5.06E+06	6.31E+06	5.49E+06	5.31E+06	5.16E+06	5.47E+06	4.83E+06	5.97E+06	6.02E+06	5.47E+06
37	UMP	C00105	Nucleotides	+	325.0422	1.577495	4.45E+04	3.85E+04	4.14E+04	4.09E+04	4.49E+04	2.02E+04	2.35E+04	2.24E+04	2.25E+04	1.80E+04	2.71E+04	2.17E+04	5.94E+03	1.74E+04	1.51E+04	1.44E+04	1.68E+04	6.73E+03	1.31E+04	1.03E+04	4.14E+04	2.24E+04	1.74E+04	1.31E+04
38	UDP-glucose	C00029	Nucleotides	-	565.046	1.295134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E+06	2.82E+06	2.89E+06	3.31E+06	2.73E+06	3.49E+06	2.00E+06	1.75E+06	1.50E+06	1.35E+06	6.48E+05	8.16E+05	6.99E+05	2.80E+05	2.29E+05	0.00E+00	2.82E+06	1.75E+06	6.48E+05
39	Cytidine	C00475	Nucleotides	+	242.0782	1.235203	1.17E+05	5.55E+04	7.51E+04	6.05E+04	1.00E+05	1.47E+05	9.76E+04	8.39E+04	9.79E+04	6.19E+04	2.11E+05	2.41E+05	2.09E+05	1.21E+05	1.47E+05	2.12E+05	1.04E+05	9.88E+04	1.18E+05	5.00E+04	7.51E+04	9.76E+04	2.09E+05	1.04E+05
40	3-Ureidopropionate	C02642	Nucleotides	+	133.0606	1.257378	9.54E+05	1.05E+06	1.11E+06	1.12E+06	9.06E+05	1.01E+06	1.08E+06	1.14E+06	1.01E+06	1.06E+06	1.34E+06	1.26E+06	1.20E+06	1.09E+06	1.28E+06	1.14E+06	1.28E+06	1.22E+06	1.27E+06	1.16E+06	1.05E+06	1.06E+06	1.26E+06	1.22E+06
41	3-Ureidoisobutyrate	C05100	Nucleotides	+	147.076	1.238509	4.70E+07	5.58E+07	5.38E+07	5.45E+07	5.75E+07	5.60E+07	5.97E+07	6.25E+07	6.39E+07	6.34E+07	7.22E+07	7.92E+07	7.93E+07	7.42E+07	7.76E+07	6.63E+07	7.15E+07	6.93E+07	6.70E+07	6.89E+07	5.45E+07	6.25E+07	7.76E+07	6.89E+07
42	5-6-Dihydrothymine	C00906	Nucleotides	+	129.0657	1.227536	1.58E+07	1.68E+07	1.47E+07	1.68E+07	1.87E+07	2.70E+07	2.81E+07	2.38E+07	2.47E+07	2.83E+07	3.40E+07	3.00E+07	3.06E+07	3.20E+07	3.15E+07	3.05E+07	3.10E+07	3.14E+07	3.29E+07	3.43E+07	1.68E+07	2.70E+07	3.15E+07	3.14E+07
43	NAD+	C00003	Nucleotides	+	664.1143	1.232751	1.35E+06	1.24E+06	1.36E+06	1.18E+06	1.33E+06	1.90E+06	1.52E+06	1.68E+06	1.65E+06	1.77E+06	6.66E+05	1.12E+06	1.09E+06	1.14E+06	9.66E+05	6.71E+05	6.86E+05	7.31E+05	9.14E+05	8.46E+05	1.33E+06	1.68E+06	1.09E+06	7.31E+05
44	NADH	C00004	Nucleotides	+	666.1329	1.300919	3.22E+05	4.09E+05	4.95E+05	3.58E+05	4.64E+05	2.78E+05	2.93E+05	2.51E+05	2.52E+05	2.08E+05	3.06E+05	2.70E+05	1.90E+05	1.73E+05	1.89E+05	1.46E+05	9.45E+04	1.86E+04	7.01E+04	5.06E+04	4.09E+05	2.52E+05	1.90E+05	7.01E+04
45	NADPH	C00005	Nucleotides	+	746.0986	1.318715	0.00E+00	1.28E+05	2.74E+05	2.62E+05	2.77E+05	2.12E+05	7.47E+05	8.48E+05	1.15E+06	9.65E+05	1.37E+06	1.62E+06	1.38E+06	1.61E+06	1.67E+06	1.49E+06	1.71E+06	1.45E+06	1.23E+06	1.20E+06	2.62E+05	8.48E+05	1.61E+06	1.45E+06
46	NADP+	C00006	Nucleotides	+	744.8762	1.13959	9.82E+04	9.58E+04	8.66E+04	9.39E+04	3.68E+04	5.73E+04	2.17E+04	5.85E+04	6.44E+04	4.98E+04	1.05E+05	4.26E+04	7.87E+04	1.06E+05	7.74E+04	9.59E+04	9.24E+04	1.06E+05	9.62E+04	1.07E+05	9.39E+04	5.73E+04	7.87E+04	9.62E+04
47	Pyridoxal	C00250	Nucleotides	+	168.0629	1.232709	2.73E+04	1.15E+05	8.73E+04	7.94E+04	8.14E+04	1.83E+04	1.74E+04	6.68E+04	4.46E+04	5.00E+04	2.25E+04	2.20E+04	2.21E+04	4.26E+04	1.37E+04	4.39E+04	7.83E+04	5.70E+04	4.99E+04	1.60E+04	8.14E+04	4.46E+04	2.21E+04	4.99E+04
48	Nicotinamide	C00153	Nucleotides	+	123.0552	1.355377	1.11E+06	1.86E+06	1.93E+06	1.70E+06	0.00E+00	1.49E+06	1.71E+06	1.83E+06	2.00E+06	2.62E+06	1.45E+06	1.60E+06	1.61E+06	1.73E+06	1.95E+06	1.70E+06	1.93E+06	2.15E+06	2.11E+06	2.37E+06	1.70E+06	1.83E+06	1.61E+06	2.11E+06
49	Guanosine	C00387	Nucleotides	-	282.0839	1.194003	3.92E+05	3.81E+05	3.42E+05	3.79E+05	3.00E+05	3.65E+05	3.08E+05	3.19E+05	3.20E+05	2.95E+05	3.86E+05	3.55E+05	4.23E+05	3.54E+05	3.30E+05	3.82E+05	3.83E+05	3.00E+05	3.50E+05	3.27E+05	3.79E+05	3.19E+05	3.55E+05	3.50E+05
50	Adenosine	C00212	Nucleotides	+	268.103	1.241097	2.75E+05	3.34E+05	3.19E+05	3.63E+05	3.75E+05	3.37E+05	3.86E+05	4.72E+05	3.79E+05	5.37E+05	2.91E+05	2.01E+05	2.82E+05	3.05E+05	3.39E+05	2.46E+05	2.29E+05	2.68E+05	2.18E+05	1.94E+05	3.34E+05	3.86E+05	2.91E+05	2.29E+05
51	Inosine	C00294	Nucleotides	+	269.0874	1.248245	2.91E+04	3.03E+04	4.58E+04	5.11E+04	9.40E+04	1.80E+04	2.14E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E+04	0.00E+00	0.00E+00	0.00E+00
52	D-Glucose	C00031	Glycolysis	-	179.0551	1.191848	1.18E+06	9.43E+05	1.08E+06	1.04E+06	9.38E+05	1.48E+06	1.12E+06	1.09E+06	1.26E+06	1.07E+06	1.35E+06	1.13E+06	1.22E+06	1.04E+06	1.03E+06	1.33E+06	8.66E+05	8.22E+05	8.61E+05	7.43E+05	1.04E+06	1.12E+06	1.13E+06	8.61E+05
54	D-Glucose 6-phosphate	C00092	Glycolysis	-	259.0215	1.267348	6.52E+05	6.19E+05	5.83E+05	5.34E+05	4.29E+05	9.36E+05	8.97E+05	9.32E+05	9.09E+05	6.25E+05	4.11E+05	5.26E+05	5.32E+05	5.30E+05	3.59E+05	4.35E+05	0.00E+00	3.92E+05	2.33E+05	3.07E+05	5.83E+05	9.09E+05	5.26E+05	3.07E+05
55	Fructose 6-phosphate	C00085	Glycolysis	-	259.0216	1.468824	8.51E+05	8.75E+05	7.02E+05	9.12E+05	9.87E+05	1.36E+06	8.82E+05	8.67E+05	7.07E+05	7.09E+05	9.18E+05	7.75E+05	6.29E+05	6.33E+05	6.18E+05	9.47E+05	8.42E+05	7.74E+05	9.23E+05	8.07E+05	8.75E+05	8.67E+05	6.33E+05	8.42E+05
55	D-Fructose	C10906	Glycolysis	-	179.0548	1.201884	8.67E+05	9.43E+05	1.08E+06	1.04E+06	9.38E+05	1.48E+06	1.12E+06	8.01E+05	6.68E+05	6.65E+05	1.35E+06	1.13E+06	1.22E+06	1.04E+06	1.03E+06	1.33E+06	8.66E+05	1.07E+06	8.61E+05	7.43E+05	9.43E+05	8.01E+05	1.13E+06	8.66E+05
56	D-Galactose	C00124	Glycolysis	-	179.0558	1.590223	1.83E+05	2.12E+05	1.94E+05	1.94E+05	1.84E+05	2.15E+05	1.97E+05	1.89E+05	1.77E+05	1.77E+05	1.92E+05	1.87E+05	1.89E+05	1.92E+05	1.75E+05	1.90E+05	2.08E+05	1.78E+05	1.96E+05	1.71E+05	1.94E+05	1.89E+05	1.89E+05	1.90E+05
57	D-Fructose 1-6-bisphosphate	C00354	Glycolysis	-	338.9892	1.282809	0.00E+00	0.00E+00	5.42E+03	4.62E+03	3.35E+03	8.10E+04	2.44E+05	2.87E+05	2.70E+05	2.18E+05	1.16E+05	2.68E+05	3.37E+05	3.20E+05	2.36E+05	8.61E+04	1.78E+05	2.42E+05	9.57E+04	1.37E+05	3.35E+03	2.44E+05	2.68E+05	1.37E+05
58	D-Glyceraldehyde 3-phosphate	C00118	Glycolysis	-	168.9892	1.263989	3.81E+05	4.34E+05	3.73E+05	4.48E+05	3.97E+05	7.10E+05	6.70E+05	5.73E+05	5.36E+05	4.10E+05	4.32E+05	4.41E+05	4.97E+05	4.23E+05	3.21E+05	4.68E+05	4.73E+05	4.85E+05	2.75E+05	2.89E+05	3.97E+05	5.73E+05	4.32E+05	4.68E+05
59	Glycerone phosphate	C00111	Glycolysis	-	168.9892	1.482745	2.06E+05	2.33E+05	2.18E+05	2.76E+05	2.64E+05	4.86E+05	3.39E+05	3.17E+05	2.52E+05	2.60E+05	2.77E+05	2.85E+05	2.11E+05	2.25E+05	2.00E+05	2.61E+05	3.53E+05	2.98E+05	3.82E+05	3.32E+05	2.33E+05	3.17E+05	2.25E+05	3.32E+05
60	2-Phospho-D-glycerate	C00631	Glycolysis	-	184.987	1.282226	3.87E+04	1.58E+04	2.69E+04	2.71E+04	1.65E+04	1.11E+04	1.20E+04	3.05E+03	5.96E+03	2.71E+03	8.00E+03	1.53E+05	5.00E+04	3.79E+04	5.46E+04	1.82E+05	8.51E+05	1.17E+06	7.70E+05	7.58E+05	2.69E+04	5.96E+03	5.00E+04	7.70E+05
61	Phosphoenolpyruvate	C00074	Glycolysis	-	166.9737	1.21018	4.58E+03	9.34E+03	3.20E+03	8.01E+03	1.04E+04	0.00E+00	2.15E+04	3.92E+03	1.03E+04	1.29E+04	4.88E+03	4.24E+03	1.30E+04	3.98E+03	1.38E+04	1.53E+04	1.05E+04	6.40E+03	1.97E+04	1.59E+04	8.01E+03	1.03E+04	4.88E+03	1.53E+04
62	Pyruvate	C00022	Glycolysis	-	87.00697	1.212178	2.01E+06	1.87E+06	1.85E+06	1.76E+06	1.96E+06	1.72E+06	1.83E+06	1.65E+06	1.75E+06	2.12E+06	2.07E+06	2.15E+06	2.15E+06	2.21E+06	2.16E+06	2.60E+06	2.16E+06	1.91E+06	2.23E+06	2.39E+06	1.87E+06	1.75E+06	2.15E+06	2.23E+06
63	Lactate	C01432	Glycolysis	-	89.0226	1.263976	2.65E+07	2.68E+07	2.82E+07	2.61E+07	2.93E+07	3.21E+07	2.96E+07	3.24E+07	3.25E+07	2.95E+07	2.94E+07	2.82E+07	3.11E+07	3.01E+07	2.90E+07	3.04E+07	2.99E+07	3.18E+07	3.01E+07	2.88E+07	2.68E+07	3.21E+07	2.94E+07	3.01E+07
64	cis-Aconitate	C00417	TCA cycle	-	173.0079	1.225228	4.67E+05	7.43E+05	7.41E+05	6.41E+05	5.13E+05	5.66E+05	6.36E+05	7.60E+05	6.53E+05	5.08E+05	6.62E+05	6.48E+05	6.59E+05	6.92E+05	8.34E+05	1.22E+06	1.18E+06	1.15E+06	1.06E+06	1.03E+06	6.41E+05	6.36E+05	6.62E+05	1.15E+06
65	Citrate	C00158	TCA cycle	-	191.0184	1.24878	3.22E+07	4.41E+07	4.46E+07	4.47E+07	4.03E+07	3.23E+07	3.50E+07	4.14E+07	3.67E+07	2.72E+07	3.33E+07	4.03E+07	4.37E+07	3.94E+07	2.71E+07	4.80E+07	4.38E+07	4.54E+07	3.69E+07	3.47E+07	4.41E+07	3.50E+07	3.94E+07	4.38E+07
66	2-Oxoglutarate	C00026	TCA cycle	+	145.0135	1.22E+00	6.14E+05	9.08E+05	8.55E+05	7.30E+05	7.01E+05	7.99E+05	9.07E+05	9.21E+05	8.75E+05	8.76E+05	5.93E+05	6.27E+05	6.11E+05	5.74E+05	6.04E+05	8.66E+05	8.92E+05	7.76E+05	8.20E+05	8.42E+05	7.30E+05	8.76E+05	6.04E+05	8.42E+05
67	Succinate	C00042	TCA cycle	+	117.0176	1.249828	3.62E+06	3.84E+06	3.90E+06	2.86E+06	2.73E+06	2.75E+06	3.61E+06	3.99E+06	3.63E+06	3.28E+06	2.72E+06	3.13E+06	3.14E+06	2.80E+06	2.72E+06	2.80E+06	3.14E+06	3.21E+06	2.10E+06	2.17E+06	3.62E+06	3.61E+06	2.80E+06	2.80E+06
68	Fumarate	C00122	TCA cycle	-	115.0019	1.238839	1.90E+07	1.70E+07	1.63E+07	1.55E+07	1.51E+07	1.64E+07	1.46E+07	1.44E+07	1.24E+07	1.30E+07	1.33E+07	1.26E+07	1.22E+07	1.20E+07	1.01E+07	1.46E+07	1.41E+07	1.41E+07	1.22E+07	1.15E+07	1.63E+07	1.44E+07	1.22E+07	1.41E+07
69	Malate	C00149	TCA cycle	-	133.0125	1.238839	2.08E+08	2.28E+08	2.17E+08	2.06E+08	1.96E+08	1.90E+08	1.95E+08	1.96E+08	1.62E+08	1.74E+08	1.56E+08	1.70E+08	1.66E+08	1.61E+08	1.31E+08	1.79E+08	1.87E+08	1.89E+08	1.60E+08	1.51E+08	2.08E+08	1.90E+08	1.61E+08	1.79E+08
70	Oxaloacetate	C00036	TCA cycle	-	130.9988	1.212172	6.50E+05	8.68E+05	9.33E+05	9.15E+05	9.86E+05	5.88E+05	6.30E+05	5.39E+05	5.43E+05	6.79E+05	8.41E+05	1.14E+06	9.50E+05	9.94E+05	1.04E+06	1.26E+06	1.38E+06	1.15E+06	1.53E+06	1.38E+06	9.15E+05	5.88E+05	9.94E+05	1.38E+06
71	6-phospho-D-gluconate	C00345	Pentose Phosphate Pathway	-	275.0172	1.269295	1.83E+04	3.70E+04	6.45E+04	1.05E+05	6.88E+04	7.28E+03	1.01E+04	2.30E+04	3.82E+04	1.84E+04	9.03E+03	1.17E+05	1.59E+05	1.70E+05	1.44E+05	1.06E+05	1.06E+05	1.19E+05	7.52E+04	1.01E+05	6.45E+04	1.84E+04	1.44E+05	1.06E+05
72	D-Erythrose 4-phosphate	C00279	Pentose Phosphate Pathway	+	199.0019	1.256661	2.29E+05	8.23E+04	8.65E+04	5.52E+04	4.84E+04	4.36E+03	4.29E+04	2.66E+04	2.48E+04	2.03E+04	3.62E+04	6.68E+04	1.40E+04	1.98E+04	8.59E+03	3.46E+04	2.07E+04	1.96E+04	1.64E+04	1.80E+04	8.23E+04	2.48E+04	1.98E+04	1.96E+04
73	D-Glucono-1-5-lactone 6-phosphate	C01236	Pentose Phosphate Pathway	+	257.0055	1.198799	3.24E+04	3.07E+04	1.87E+04	3.32E+04	2.32E+04	2.65E+04	2.41E+04	2.58E+04	4.34E+04	2.25E+04	2.97E+04	2.00E+04	3.12E+04	2.43E+04	2.03E+04	2.55E+04	2.01E+04	1.45E+04	2.15E+04	1.44E+04	3.07E+04	2.58E+04	2.43E+04	2.01E+04
74	Sedoheptulose 1-phosphate	C06222	Pentose Phosphate Pathway	+	289.0326	1.242993	6.54E+03	3.00E+04	3.25E+04	4.08E+04	1.69E+04	1.12E+05	1.25E+05	1.35E+05	1.53E+05	8.54E+04	1.36E+04	1.63E+04	2.96E+04	1.32E+04	6.65E+03	1.07E+04	1.78E+04	9.74E+03	2.34E+04	7.10E+03	3.00E+04	1.25E+05	1.36E+04	1.07E+04
	alpha-D-Ribose 1-phosphate	C00620	Pentose Phosphate Pathway	+	229.0108	1.209533	3.47E+05	3.30E+05	3.47E+05	3.20E+05	2.79E+05	2.08E+05	2.52E+05	1.92E+05	1.60E+05	2.54E+05	4.49E+05	4.12E+05	4.63E+05	4.53E+05	4.67E+05	6.82E+05	7.87E+05	6.27E+05	6.87E+05	6.33E+05	3.30E+05	2.08E+05	4.53E+05	6.82E+05
76	xylose	C00181	Pentose Phosphate Pathway	+	149.0451	1.217948	2.68E+05	2.40E+05	3.37E+05	2.96E+05	2.47E+05	3.22E+05	2.81E+05	2.87E+05	2.45E+05	2.91E+05	2.76E+05	3.18E+05	2.89E+05	3.52E+05	3.49E+05	2.78E+05	3.12E+05	2.47E+05	3.08E+05	2.74E+05	2.68E+05	2.87E+05	3.18E+05	2.78E+05
77	Glutathione	C00051	GSH homeostasis	+	308.09	1.241618	2.59E+08	2.81E+08	2.58E+08	2.70E+08	2.73E+08	2.58E+08	2.52E+08	2.70E+08	2.17E+08	2.79E+08	1.94E+08	2.16E+08	2.07E+08	2.07E+08	1.94E+08	2.08E+08	2.06E+08	2.03E+08	1.95E+08	2.15E+08	2.70E+08	2.58E+08	2.07E+08	2.06E+08
78	Glutathione disulfide	C00127	GSH homeostasis	+	613.1569	1.391183	9.82E+04	6.71E+04	7.96E+04	1.01E+05	9.05E+04	6.43E+04	7.42E+04	6.96E+04	8.26E+04	7.18E+04	7.11E+04	7.48E+04	7.09E+04	6.51E+04	9.14E+04	6.05E+04	5.30E+04	5.14E+04	6.23E+04	5.71E+04	9.05E+04	7.18E+04	7.11E+04	5.71E+04
79	5-Oxoproline	C01879	GSH homeostasis	+	130.0497	1.23749	6.45E+07	6.09E+07	5.83E+07	6.98E+07	6.12E+07	7.46E+07	7.73E+07	6.45E+07	6.81E+07	8.14E+07	8.69E+07	7.34E+07	7.67E+07	8.42E+07	8.43E+07	7.13E+07	8.04E+07	7.96E+07	7.57E+07	8.42E+07	6.12E+07	7.46E+07	8.42E+07	7.96E+07
80	gamma-L-Glutamyl-L-cysteine	C00669	GSH homeostasis	+	251.0688	1.241624	1.69E+05	2.33E+05	1.90E+05	2.36E+05	2.32E+05	2.74E+05	2.72E+05	3.10E+05	2.93E+05	3.30E+05	1.67E+05	1.49E+05	2.04E+05	1.56E+05	1.12E+05	1.89E+05	1.29E+05	1.09E+05	2.33E+05	2.05E+05	2.32E+05	2.93E+05	1.56E+05	1.89E+05
81	S-Adenosyl-L-methionine	C00019	Serine biosynthesis and one-carbon metabolism	+	399.1432	1.20821	1.16E+06	1.21E+06	1.09E+06	1.07E+06	1.12E+06	1.05E+06	8.72E+05	9.61E+05	8.68E+05	9.15E+05	7.03E+05	7.88E+05	5.76E+05	6.03E+05	5.51E+05	5.00E+05	5.74E+05	4.09E+05	3.75E+05	3.70E+05	1.12E+06	9.15E+05	6.03E+05	4.09E+05
82	S-Adenosyl-L-homocysteine	C00021	Serine biosynthesis and one-carbon metabolism	+	385.1837	1.317729	2.07E+07	2.36E+07	2.69E+07	2.55E+07	2.52E+07	1.95E+07	2.14E+07	2.49E+07	2.70E+07	2.48E+07	3.12E+07	3.23E+07	4.17E+07	3.68E+07	4.03E+07	4.25E+07	5.41E+07	5.58E+07	4.76E+07	4.85E+07	2.52E+07	2.48E+07	3.68E+07	4.85E+07
83	L-Homoserine	C00263	Serine biosynthesis and one-carbon metabolism	+	120.0655	1.22545	2.48E+06	2.21E+06	2.19E+06	2.33E+06	2.18E+06	2.88E+06	2.78E+06	2.42E+06	2.59E+06	2.39E+06	4.18E+06	3.67E+06	3.67E+06	3.99E+06	3.88E+06	3.66E+06	3.45E+06	3.75E+06	2.94E+06	3.85E+06	2.21E+06	2.59E+06	3.88E+06	3.66E+06
84	O-succinyl-L-homoserine	C01118	Serine biosynthesis and one-carbon metabolism	-	218.0669	1.237271	8.63E+05	9.20E+05	8.25E+05	7.51E+05	8.06E+05	8.49E+05	9.39E+05	7.12E+05	7.32E+05	9.05E+05	1.10E+06	1.18E+06	1.07E+06	1.01E+06	9.46E+05	1.09E+06	8.52E+05	8.24E+05	7.70E+05	6.44E+05	8.25E+05	8.49E+05	1.07E+06	8.24E+05
85	D-O-Phosphoserine	C02532	Serine biosynthesis and one-carbon metabolism	+	186.0159	1.224409	3.68E+05	4.48E+05	3.65E+05	3.79E+05	4.43E+05	4.35E+05	4.26E+05	4.24E+05	3.53E+05	4.07E+05	3.82E+05	3.79E+05	3.20E+05	3.97E+05	2.99E+05	3.50E+05	3.94E+05	3.06E+05	3.36E+05	3.58E+05	3.79E+05	4.24E+05	3.79E+05	3.50E+05
86	Sarcosine	C00213	Serine biosynthesis and one-carbon metabolism	+	90.05542	1.223364	9.11E+06	8.62E+06	8.73E+06	8.83E+06	8.80E+06	9.42E+06	8.09E+06	8.77E+06	9.32E+06	8.86E+06	7.19E+06	8.34E+06	7.84E+06	7.13E+06	8.06E+06	8.58E+06	8.33E+06	6.98E+06	7.58E+06	9.03E+06	8.80E+06	8.86E+06	7.84E+06	8.33E+06
87	N-N-Dimethylglycine	C01026	Serine biosynthesis and one-carbon metabolism	+	104.0708	1.220758	9.53E+05	1.08E+06	1.15E+06	8.60E+05	1.15E+06	1.16E+06	1.12E+06	1.04E+06	1.05E+06	1.04E+06	9.64E+05	9.92E+05	1.04E+06	9.04E+05	7.84E+05	1.05E+06	1.02E+06	8.20E+05	9.12E+05	1.01E+06	1.08E+06	1.05E+06	9.64E+05	1.01E+06
88	Betaine	C00719	Serine biosynthesis and one-carbon metabolism	+	118.0863	1.237444	3.94E+07	3.89E+07	3.66E+07	4.30E+07	4.40E+07	4.31E+07	4.30E+07	3.97E+07	4.42E+07	4.55E+07	6.26E+07	5.81E+07	5.97E+07	6.53E+07	6.56E+07	6.03E+07	6.97E+07	6.54E+07	6.56E+07	6.72E+07	3.94E+07	4.31E+07	6.26E+07	6.56E+07
89	Ornithine	C01602	urea cycle	-	131.0809	1.20645	2.67E+03	3.07E+03	1.65E+03	2.31E+03	4.10E+03	1.06E+04	7.59E+03	1.34E+04	4.89E+03	1.35E+04	3.13E+04	1.75E+04	1.94E+04	1.55E+04	1.45E+04	2.59E+04	7.54E+03	2.67E+04	1.55E+04	1.21E+04	2.67E+03	1.06E+04	1.75E+04	1.55E+04
90	Arginino-succinate	C03406	urea cycle	+	291.1292	1.265271	1.46E+05	6.40E+04	1.03E+05	1.28E+05	1.02E+05	8.53E+04	1.66E+05	2.09E+05	1.90E+05	1.52E+05	1.11E+05	1.21E+05	9.75E+04	9.18E+04	1.32E+05	1.11E+05	5.92E+04	9.65E+04	1.37E+05	1.15E+05	1.03E+05	1.66E+05	1.11E+05	1.11E+05
91	Urate	C00366	urea cycle	-	131.0809	1.20645	2.67E+03	3.07E+03	1.65E+03	2.31E+03	4.10E+03	1.06E+04	7.59E+03	1.34E+04	4.89E+03	1.35E+04	3.13E+04	1.75E+04	1.94E+04	1.55E+04	1.45E+04	2.59E+04	7.54E+03	2.67E+04	1.55E+04	1.21E+04	2.67E+03	1.06E+04	1.75E+04	1.55E+04
92	N1-Acetylspermidine	C00612	Polyamines	+	188.1752	1.195649	9.77E+07	1.00E+08	9.05E+07	8.83E+07	9.44E+07	1.17E+08	1.07E+08	1.19E+08	1.16E+08	1.07E+08	9.09E+07	8.57E+07	8.56E+07	8.88E+07	8.83E+07	9.81E+07	9.42E+07	9.88E+07	1.00E+08	1.96E+07	9.44E+07	1.16E+08	8.83E+07	9.81E+07
93	Putrescine	C00134	Polyamines	+	89.10781	1.174212	9.34E+06	9.72E+06	9.44E+06	9.60E+06	9.50E+06	8.43E+06	8.51E+06	7.73E+06	8.05E+06	7.39E+06	6.05E+06	5.74E+06	5.96E+06	6.21E+06	5.89E+06	6.24E+06	6.25E+06	6.62E+06	6.69E+06	6.54E+06	9.50E+06	8.05E+06	5.96E+06	6.54E+06
94	Cadaverine	C01672	Polyamines	+	103.1233	1.18208	2.25E+06	2.30E+06	2.30E+06	2.23E+06	2.16E+06	1.69E+06	1.63E+06	1.71E+06	1.64E+06	1.68E+06	6.41E+05	5.61E+05	5.94E+05	5.94E+05	6.22E+05	6.14E+05	5.47E+05	5.93E+05	5.66E+05	5.81E+05	2.25E+06	1.68E+06	5.94E+05	5.81E+05
95	Spermine	C00750	Polyamines	+	203.2226	1.179963	2.19E+07	1.99E+07	1.81E+07	1.89E+07	1.80E+07	1.51E+07	1.34E+07	1.32E+07	1.18E+07	1.25E+07	9.78E+06	8.86E+06	8.99E+06	9.28E+06	8.50E+06	6.79E+06	6.61E+06	6.82E+06	7.08E+06	7.40E+06	1.89E+07	1.32E+07	8.99E+06	6.82E+06
96	Spermidine	C00315	Polyamines	+	146.1648	1.162624	3.52E+07	3.26E+07	2.79E+07	2.98E+07	2.79E+07	2.29E+07	2.10E+07	1.92E+07	1.96E+07	1.88E+07	2.12E+07	1.86E+07	1.85E+07	1.89E+07	1.72E+07	2.01E+07	1.89E+07	1.98E+07	1.95E+07	1.92E+07	2.98E+07	1.96E+07	1.86E+07	1.95E+07
97	UDP-N-acetyl-D-glucosamine	C00043	Aminosugars	+	608.0869	1.30648	4.14E+05	2.09E+05	2.42E+05	2.22E+05	1.42E+05	4.14E+05	3.01E+05	2.60E+05	2.28E+05	1.70E+05	1.22E+05	7.03E+04	1.02E+05	3.16E+04	4.59E+04	2.57E+03	0.00E+00	0.00E+00	0.00E+00	4.13E+03	2.22E+05	2.60E+05	7.03E+04	0.00E+00
98	Phosphocreatine	C02305	Arginine and proline metabolism	+	212.0425	1.445728	1.32E+06	1.13E+06	1.17E+06	1.10E+06	1.17E+06	2.23E+06	1.89E+06	2.08E+06	2.14E+06	1.86E+06	1.28E+06	1.18E+06	1.10E+06	1.16E+06	1.04E+06	1.15E+06	1.21E+06	1.14E+06	1.09E+06	1.09E+06	1.17E+06	2.08E+06	1.16E+06	1.14E+06
99	Creatine	C00300	Arginine and proline metabolism	+	132.0765	1.2291	1.51E+08	1.68E+08	1.73E+08	1.66E+08	1.78E+08	1.67E+08	1.81E+08	1.83E+08	1.58E+08	1.84E+08	1.34E+08	1.48E+08	1.21E+08	1.32E+08	1.31E+08	1.39E+08	1.42E+08	1.43E+08	1.52E+08	1.61E+08	1.68E+08	1.81E+08	1.32E+08	1.43E+08

100	N-Acetyl-L-citrulline	C15532	Arginine and proline metabolism	-	216.0974	1.223572	5.09E+04	1.89E+04	1.25E+04	0.00E+00	2.61E+04	6.71E+04	5.18E+04	9.34E+04	6.30E+04	1.16E+04	0.00E+00	0.00E+00	2.49E+04	0.00E+00	1.16E+04	5.74E+04	0.00E+00	5.35E+04	2.16E+04	1.21E+04	1.89E+04	6.30E+04	0.00E+00	2.16E+04
101	N-Acetylornithine	C00437	Arginine and proline metabolism	+	175.1074	1.235881	2.51E+05	2.34E+05	1.83E+05	2.00E+05	1.88E+05	2.49E+05	2.99E+05	2.22E+05	2.16E+05	2.43E+05	1.54E+05	1.90E+05	2.41E+05	1.81E+05	1.65E+05	2.05E+05	2.94E+05	2.70E+05	3.26E+05	2.62E+05	2.00E+05	2.43E+05	1.81E+05	2.70E+05
102	N-Succinyl-L-citrulline	C18048	Arginine and proline metabolism	+	276.1184	1.226493	1.68E+05	1.47E+05	1.45E+05	1.75E+05	1.44E+05	2.20E+05	1.77E+05	3.52E+05	2.21E+05	2.43E+05	1.87E+05	1.54E+05	1.93E+05	2.07E+05	1.29E+05	1.88E+05	1.22E+05	1.60E+05	1.15E+05	1.29E+05	1.47E+05	2.21E+05	1.87E+05	1.29E+05
103	Guanidinoacetate	C00581	Arginine and proline metabolism	+	118.0612	1.221125	3.08E+04	1.21E+04	0.00E+00	2.30E+04	1.85E+04	5.42E+04	8.79E+04	3.43E+04	5.16E+04	7.93E+04	5.54E+04	3.20E+04	4.60E+04	2.01E+04	2.72E+04	1.51E+04	4.85E+04	1.95E+04	5.48E+04	9.67E+04	1.85E+04	5.42E+04	3.20E+04	4.85E+04
104	trans-4-Hydroxy-L-proline	C01157	Arginine and proline metabolism	+	132.0654	1.265345	6.61E+05	5.26E+05	6.35E+05	4.90E+05	4.98E+05	7.47E+05	8.44E+05	8.22E+05	8.26E+05	8.56E+05	6.18E+05	6.04E+05	5.48E+05	6.00E+05	7.01E+05	5.74E+05	5.79E+05	3.96E+05	5.75E+05	5.55E+05	5.26E+05	8.26E+05	6.04E+05	5.74E+05
105	sn-Glycerol 3-phosphate	C00093	Glycerophospholipid biosynthesis	+	173.0205	1.485923	1.13E+05	1.24E+05	1.29E+05	1.38E+05	1.26E+05	2.00E+05	2.26E+05	2.30E+05	2.48E+05	2.31E+05	1.18E+05	1.43E+05	1.39E+05	1.44E+05	1.31E+05	1.48E+05	1.41E+05	1.67E+05	1.56E+05	1.55E+05	1.26E+05	2.30E+05	1.39E+05	1.55E+05
106	N-Methylethanolamine phosphate	C01210	Glycerophospholipid biosynthesis	+	156.0418	1.197072	1.25E+05	1.52E+05	6.97E+04	1.16E+05	1.53E+05	2.84E+05	2.50E+05	3.90E+05	3.73E+05	3.03E+05	1.62E+05	8.32E+04	1.72E+05	1.53E+05	1.49E+05	9.22E+04	1.04E+05	8.77E+04	1.02E+05	1.10E+05	1.25E+05	3.03E+05	1.53E+05	1.02E+05
107	sn-glycero-3-Phosphoethanolamine	C01233	Glycerophospholipid biosynthesis	+	216.0625	1.286686	4.02E+05	4.33E+05	3.61E+05	3.53E+05	3.61E+05	4.18E+05	4.22E+05	4.48E+05	4.66E+05	4.12E+05	9.64E+05	8.75E+05	8.58E+05	8.69E+05	8.81E+05	7.68E+05	6.94E+05	7.32E+05	6.61E+05	6.65E+05	3.61E+05	4.22E+05	8.75E+05	6.94E+05
108	CDP-choline	C00307	Glycerophospholipid biosynthesis	+	489.1124	1.338888	7.00E+04	1.18E+04	2.01E+04	2.83E+04	5.08E+03	3.75E+04	2.39E+04	3.55E+04	2.32E+04	1.19E+04	3.21E+04	1.41E+04	8.51E+03	2.22E+04	2.56E+04	2.80E+04	2.85E+04	1.35E+04	1.63E+04	8.46E+03	2.01E+04	2.39E+04	2.22E+04	1.63E+04
109	CDP-ethanolamine	C00570	Glycerophospholipid biosynthesis	+	447.0656	1.350135	8.28E+03	5.63E+03	7.18E+03	1.38E+04	0.00E+00	1.94E+04	8.23E+03	1.14E+04	1.67E+04	9.80E+03	3.50E+04	3.21E+04	2.51E+04	2.89E+04	2.87E+04	5.39E+04	4.17E+04	2.47E+04	1.09E+04	1.46E+04	7.18E+03	1.14E+04	2.89E+04	2.47E+04
110	Ethanolamine phosphate	C00346	Glycerophospholipid biosynthesis	+	142.0261	1.328312	2.78E+04	2.50E+04	1.26E+04	6.98E+03	1.25E+04	9.47E+03	1.18E+04	7.59E+03	6.90E+03	7.04E+03	1.20E+05	7.76E+04	1.07E+05	8.51E+04	7.22E+04	7.07E+04	1.05E+05	4.66E+04	5.33E+04	6.40E+04	1.26E+04	7.59E+03	8.51E+04	6.40E+04
111	4-Aminobutanoate	C00334	Arachidonate metabolism	+	104.0708	1.220758	9.53E+05	1.08E+06	1.15E+06	8.60E+05	1.15E+06	1.16E+06	1.12E+06	1.04E+06	1.05E+06	1.04E+06	9.64E+05	9.92E+05	1.04E+06	9.04E+05	7.84E+05	1.05E+06	1.02E+06	8.20E+05	9.12E+05	1.01E+06	1.08E+06	1.05E+06	9.64E+05	1.01E+06
112	Succinate semialdehyde	C00232	Arachidonate metabolism	-	101.0226	1.221605	5.25E+05	4.95E+05	4.28E+05	4.54E+05	4.30E+05	5.16E+05	4.45E+05	4.33E+05	4.53E+05	5.01E+05	4.43E+05	4.32E+05	5.26E+05	5.20E+05	4.83E+05	5.33E+05	5.20E+05	4.65E+05	5.21E+05	4.74E+05	4.54E+05	4.53E+05	4.83E+05	5.20E+05
113	L-Allothreonine	C05519	Inositol	+	120.0655	1.22545	2.48E+06	2.21E+06	2.19E+06	2.33E+06	2.18E+06	2.88E+06	2.78E+06	2.42E+06	2.59E+06	2.39E+06	4.18E+06	3.67E+06	3.67E+06	3.99E+06	3.88E+06	3.66E+06	3.45E+06	3.75E+06	2.94E+06	3.85E+06	2.21E+06	2.59E+06	3.88E+06	3.66E+06
114	Ectoine	C06231	Inositol	-	141.0654	1.221081	1.58E+05	1.75E+05	1.64E+05	1.84E+05	1.38E+05	1.76E+05	1.62E+05	1.53E+05	1.02E+05	1.20E+05	1.56E+05	1.86E+05	1.59E+05	1.18E+05	1.80E+05	1.83E+05	9.07E+04	1.26E+05	1.54E+05	1.12E+05	1.64E+05	1.53E+05	1.59E+05	1.26E+05
115	Uracil	C00106	Panthothenate metabolism	-	111.0183	1.212711	2.47E+06	2.21E+06	2.19E+06	2.17E+06	2.22E+06	1.96E+06	1.73E+06	1.62E+06	1.72E+06	1.95E+06	2.32E+06	2.59E+06	2.32E+06	2.41E+06	2.44E+06	3.27E+06	2.62E+06	2.34E+06	2.47E+06	3.06E+06	2.21E+06	1.73E+06	2.41E+06	2.62E+06
116	Pantothenate	C00864	Panthothenate metabolism	+	220.1171	1.265178	2.83E+05	2.70E+05	2.78E+05	2.81E+05	3.02E+05	2.23E+05	2.66E+05	2.53E+05	2.41E+05	2.64E+05	2.09E+05	2.02E+05	1.92E+05	1.14E+05	1.64E+05	1.82E+05	1.44E+05	1.40E+05	1.37E+05	9.57E+04	2.81E+05	2.53E+05	1.92E+05	1.40E+05
117	D-4--Phosphopantothenate	C03492	Panthothenate metabolism	-	298.0699	1.204176	1.31E+04	1.77E+04	3.12E+04	1.56E+04	2.65E+04	9.60E+03	1.56E+04	1.07E+04	8.70E+03	4.04E+04	2.89E+04	1.36E+04	2.87E+04	2.71E+04	2.21E+04	2.62E+04	3.53E+04	2.70E+04	3.63E+04	2.35E+04	1.77E+04	1.07E+04	2.71E+04	2.70E+04
118	Iminoerythrose 4-phosphate	C12215	Unsaturated fatty acids	-	200.0315	1.231595	0.00E+00	0.00E+00	1.76E+04	0.00E+00	0.00E+00	1.95E+04	2.14E+04	3.12E+04	0.00E+00	3.25E+04	5.20E+04	1.18E+05	9.19E+04	4.21E+04	5.33E+04	2.67E+04	2.52E+04	7.90E+04	3.19E+04	4.44E+04	0.00E+00	2.14E+04	5.33E+04	3.19E+04
119	Aminofructose 6-phosphate	C12214	Unsaturated fatty acids	-	260.0522	1.462763	8.11E+04	6.98E+04	7.42E+04	8.04E+04	6.47E+04	6.69E+04	6.22E+04	7.38E+04	6.68E+04	6.15E+04	6.53E+04	6.18E+04	6.52E+04	5.88E+04	5.68E+04	5.45E+04	3.60E+04	5.43E+04	5.24E+04	5.76E+04	7.42E+04	6.68E+04	6.18E+04	5.43E+04
120	L-Carnitine	C00318	Carnitine and fatty acid metabolsim	+	162.1121	1.223887	7.85E+06	7.09E+06	6.79E+06	7.10E+06	6.40E+06	7.11E+06	6.63E+06	5.77E+06	5.97E+06	6.13E+06	6.14E+06	5.46E+06	5.67E+06	4.85E+06	5.18E+06	7.07E+06	6.24E+06	5.99E+06	5.82E+06	6.25E+06	7.09E+06	6.13E+06	5.46E+06	6.24E+06
121	O-Propanoylcarnitine	C03017	Carnitine and fatty acid metabolsim	+	218.138	1.236401	1.06E+06	1.01E+06	9.71E+05	8.45E+05	9.64E+05	6.24E+05	6.02E+05	5.50E+05	5.11E+05	5.05E+05	6.28E+05	5.44E+05	6.10E+05	3.49E+05	4.70E+05	5.52E+05	5.75E+05	5.97E+05	4.47E+05	6.26E+05	9.71E+05	5.50E+05	5.44E+05	5.75E+05
122	O-Butanoylcarnitine	C02862	Carnitine and fatty acid metabolsim	+	232.1538	1.240053	4.07E+06	3.63E+06	4.01E+06	4.38E+06	3.49E+06	5.85E+06	5.97E+06	6.16E+06	5.28E+06	5.06E+06	3.82E+06	4.06E+06	3.55E+06	3.81E+06	3.81E+06	4.23E+06	3.77E+06	4.03E+06	3.69E+06	4.05E+06	4.01E+06	5.85E+06	3.81E+06	4.03E+06
123	Taurine	C00245	Other	+	126.0219	1.278821	2.71E+05	2.62E+05	2.09E+05	2.52E+05	2.14E+05	4.15E+05	3.48E+05	3.14E+05	3.26E+05	3.48E+05	2.44E+05	2.47E+05	2.08E+05	2.23E+05	2.35E+05	2.20E+05	1.60E+05	1.35E+05	9.03E+04	1.65E+05	2.52E+05	3.48E+05	2.35E+05	1.60E+05
124	Hypotaurine	C00519	Other	+	110.0272	1.270455	9.85E+04	4.30E+04	8.71E+04	5.54E+04	3.73E+04	8.88E+04	1.17E+05	1.43E+05	1.16E+05	8.81E+04	6.75E+04	7.61E+04	2.44E+04	4.78E+04	6.42E+04	4.71E+04	5.06E+04	4.59E+04	3.09E+04	5.43E+04	5.54E+04	1.16E+05	6.42E+04	4.71E+04
125	cis-Zeatin	C15545	Other	-	220.1173	1.257357	0.00E+00	0.00E+00	9.55E+04	1.07E+05	2.00E+05	0.00E+00	1.07E+05	1.01E+05	1.48E+05	2.64E+05	7.80E+04	1.74E+05	6.87E+04	1.71E+05	1.64E+05	5.28E+04	1.44E+05	8.88E+04	1.37E+05	5.96E+04	9.55E+04	1.07E+05	1.64E+05	8.88E+04
126	6-Pyruvoyltetrahydropterin	C03684	Other	-	236.0783	1.210526	5.69E+05	4.48E+05	4.12E+05	4.49E+05	4.52E+05	4.43E+05	3.89E+05	5.11E+05	4.24E+05	4.39E+05	6.30E+05	3.99E+05	5.60E+05	5.02E+05	5.47E+05	5.71E+05	5.84E+05	4.71E+05	6.20E+05	6.11E+05	4.49E+05	4.39E+05	5.47E+05	5.84E+05
127	6-Lactoyl-5-6-7-8-tetrahydropterin	C04244	Other	-	240.1087	1.273578	2.98E+07	3.65E+07	3.40E+07	3.39E+07	3.27E+07	3.05E+07	3.02E+07	3.43E+07	3.33E+07	3.19E+07	3.02E+07	3.35E+07	3.75E+07	3.35E+07	3.81E+07	3.79E+07	4.55E+07	4.46E+07	4.00E+07	4.16E+07	3.39E+07	3.19E+07	3.35E+07	4.16E+07
128	L-4-Hydroxyglutamate semialdehyde	C05938	Other	-	148.06	1.224408	7.97E+07	8.00E+07	7.69E+07	8.79E+07	8.31E+07	8.34E+07	8.91E+07	7.78E+07	8.36E+07	7.97E+07	8.28E+07	7.96E+07	8.09E+07	8.34E+07	8.34E+07	7.47E+07	7.60E+07	6.45E+07	6.92E+07	7.37E+07	8.00E+07	8.34E+07	8.28E+07	7.37E+07
129	Muramic acid	C06470	Other	-	252.1078	1.397156	6.25E+04	4.44E+04	5.66E+04	4.93E+04	4.64E+04	2.47E+04	2.71E+04	1.23E+04	1.89E+04	2.17E+04	1.64E+04	1.08E+04	1.71E+04	1.43E+04	1.27E+04	1.66E+04	9.50E+03	4.19E+03	1.45E+04	1.60E+04	4.93E+04	2.17E+04	1.43E+04	1.45E+04
130	D-2-Aminobutyrate	C02261	Other	-	104.0708	1.220758	9.53E+05	1.08E+06	1.15E+06	8.60E+05	1.15E+06	1.16E+06	1.12E+06	1.04E+06	1.05E+06	1.04E+06	9.64E+05	9.92E+05	1.04E+06	9.04E+05	7.84E+05	1.05E+06	1.02E+06	8.20E+05	9.12E+05	1.01E+06	1.08E+06	1.05E+06	9.64E+05	1.01E+06
131	L-2-Aminoadipate	C00956	Other	-	162.0757	1.234836	4.33E+06	4.14E+06	4.04E+06	3.93E+06	4.44E+06	7.60E+06	7.78E+06	6.89E+06	7.44E+06	6.85E+06	9.29E+06	9.20E+06	9.41E+06	9.40E+06	9.50E+06	8.60E+06	9.15E+06	8.37E+06	7.70E+06	8.14E+06	4.14E+06	7.44E+06	9.40E+06	8.37E+06
132	Creatinine	C00791	Other	-	114.0663	1.227014	9.86E+05	9.62E+05	9.65E+05	1.08E+06	1.05E+06	1.03E+06	1.00E+06	9.22E+05	9.80E+05	9.78E+05	9.80E+05	9.52E+05	8.81E+05	9.36E+05	9.48E+05	9.36E+05	9.65E+05	1.02E+06	9.62E+05	1.15E+06	9.86E+05	9.80E+05	9.48E+05	9.65E+05
133	Maleamate	C01596	Other	+	116.0343	1.23383	1.43E+05	2.28E+05	2.07E+05	1.65E+05	1.50E+05	7.87E+04	1.28E+05	1.04E+05	1.84E+05	1.61E+05	1.79E+05	2.29E+05	1.53E+05	2.04E+05	1.83E+05	1.66E+05	1.53E+05	1.69E+05	1.16E+05	8.64E+04	1.65E+05	1.28E+05	1.83E+05	1.53E+05
134	(R)-S-Lactoylglutathione	C03451	Other	-	378.0959	1.23884	2.06E+05	2.24E+05	1.78E+05	1.99E+05	2.00E+05	1.82E+05	2.56E+05	2.18E+05	2.72E+05	2.10E+05	2.59E+05	2.58E+05	2.26E+05	2.25E+05	1.21E+05	2.97E+05	2.14E+05	1.54E+05	1.52E+05	1.42E+05	2.00E+05	2.18E+05	2.26E+05	1.54E+05
135	Atherospermidine	C09347	Other	-	306.0744	1.693107	2.53E+05	2.45E+05	2.42E+05	2.41E+05	2.28E+05	2.31E+05	1.78E+05	1.98E+05	1.76E+05	1.61E+05	2.05E+05	1.95E+05	1.93E+05	1.52E+05	1.66E+05	2.45E+05	1.99E+05	2.25E+05	1.96E+05	2.10E+05	2.42E+05	1.78E+05	1.93E+05	2.10E+05
136	(R)-3-Hydroxyhexanoyl-[acp]	C05747	Other	-	146.0442	1.223692	8.10E+07	9.26E+07	9.63E+07	7.83E+07	8.04E+07	7.95E+07	9.88E+07	9.06E+07	8.67E+07	8.79E+07	9.28E+07	8.82E+07	9.91E+07	9.70E+07	8.85E+07	7.33E+07	8.36E+07	8.18E+07	7.72E+07	7.78E+07	8.10E+07	8.79E+07	9.28E+07	7.78E+07
137	N-Formyl-L-glutamate	C01045	Other	-	176.0549	1.259393	5.97E+04	1.95E+04	1.91E+04	1.92E+04	1.12E+04	6.31E+04	4.82E+04	4.17E+04	3.51E+04	4.02E+04	4.33E+04	1.65E+04	1.23E+04	4.57E+04	3.44E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E+04	1.92E+04	4.17E+04	3.44E+04	0.00E+00
138	5-Aminolevulinate	C00430	Other	-	132.0654	1.264651	6.61E+05	5.26E+05	6.35E+05	4.90E+05	4.98E+05	7.47E+05	8.44E+05	8.22E+05	8.26E+05	8.56E+05	6.18E+05	6.04E+05	5.48E+05	6.00E+05	4.68E+05	5.74E+05	5.79E+05	3.96E+05	5.75E+05	5.55E+05	5.26E+05	8.26E+05	6.00E+05	5.74E+05
139	N-Acetyl-D-glucosamine 6-phosphate	C00357	Other	-	302.0632	1.486011	2.52E+03	5.12E+03	4.27E+03	7.35E+03	4.63E+03	5.72E+03	1.27E+04	1.07E+04	1.08E+04	1.08E+04	2.38E+03	9.15E+03	1.06E+04	4.69E+03	7.91E+03	5.97E+03	7.02E+03	1.19E+04	5.56E+03	1.23E+04	4.63E+03	1.08E+04	7.91E+03	7.02E+03
140	(R)-Mevalonate	C00418	Other	-	149.0804	1.245308	2.57E+05	2.46E+05	3.20E+05	3.44E+05	3.51E+05	3.84E+05	3.33E+05	4.05E+05	3.88E+05	3.47E+05	4.42E+05	5.23E+05	3.86E+05	4.41E+05	4.61E+05	3.98E+05	4.51E+05	4.46E+05	3.81E+05	4.69E+05	3.20E+05	3.84E+05	4.42E+05	4.46E+05
141	Triacanthine	C08435	Other	+	204.1225	1.23588	5.63E+06	5.39E+06	4.75E+06	6.09E+06	5.16E+06	4.59E+06	4.77E+06	4.71E+06	3.97E+06	4.46E+06	3.86E+06	3.62E+06	3.55E+06	2.88E+06	3.65E+06	4.08E+06	4.27E+06	3.25E+06	3.90E+06	3.36E+06	5.39E+06	4.59E+06	3.62E+06	3.90E+06
142	Erythritol	C00503	Other	+	123.0663	0.995477	3.29E+04	4.16E+04	4.01E+04	3.79E+04	2.55E+04	4.43E+04	3.52E+04	1.48E+04	3.76E+04	1.67E+04	4.16E+04	5.16E+04	3.29E+04	2.46E+04	1.71E+04	4.36E+04	5.65E+04	1.51E+04	3.61E+04	0.00E+00	3.79E+04	3.52E+04	3.29E+04	3.61E+04
143	Lactaldehyde	C05999	Other	+	75.04473	1.342153	1.85E+05	1.89E+05	1.56E+05	1.68E+05	1.92E+05	2.30E+05	1.70E+05	1.79E+05	1.74E+05	1.75E+05	1.59E+05	2.19E+05	1.46E+05	1.94E+05	1.72E+05	1.73E+05	2.32E+05	1.67E+05	2.08E+05	1.73E+05	1.85E+05	1.75E+05	1.72E+05	1.73E+05

🟧 Aminoacids
🟦 Nucleotides
🟥 Glycolysis
🟩 TCA cycle
🟨 Pentose Phosphate Pathway
🟫 GSH homeostasis
🟪 Serine biosynthesis and one-carbon metabolism
⬜ Urea cycle and polyamines
🟧 Aminosugars
🟩 Arachidonic acid metabolism
Arginine and proline metabolism
🟩 Glycerophospholipid biosynthesis
🟦 Inositol
🟪 Panthotenate metabolism
🟩 Carnitine and fatty acid metabolism