Supplementary Table 1 Kinome Library Screen Data indicating transcriptonal activity of SRC-3 upon knockdown of respective kinases from three different sets of siRNA.

Gene ID	Gene Symbol	Name	Set A	Set B	Set C
25	ABL1	v-abl Abelson murine leukemia viral oncogene homolog 1	1.225	1.689	1.593
27	ABL2	v-abl Abelson murine leukemia viral oncogene homolog 2 (arg, Abelson-related gene)	1.159	1.432	1.025
90	ACVR1	activin A receptor, type I	1.152	1.584	1.223
91	ACVR1B	activin A receptor, type IB	0.867	1.949	1.192
92	ACVR2	activin A receptor, type II	0.519	1.741	1.283
93	ACVR2B	activin A receptor, type IIB	1.426	1.726	1.941
94	ACVRL1	activin A receptor type II-like 1	2.041	1.892	1.132
132	ADK	adenosine kinase	1.445	0.808	1.101
156	ADRBK1	adrenergic, beta, receptor kinase 1	0.684	1.708	1.084
157	ADRBK2	adrenergic, beta, receptor kinase 2	0.784	1.599	1.365
203	AK1	adenylate kinase 1	1.574	0.613	0.852
205	AK3	adenylate kinase 3	1.706	0.909	0.783
207	AKT1	v-akt murine thymoma viral oncogene homolog 1	0.975	0.659	0.684
208	AKT2	v-akt murine thymoma viral oncogene homolog 2	1.194	1.29	1.692
238	ALK	anaplastic lymphoma kinase (Ki-1)	1.138	1.944	3.278
269	AMHR2	anti-Mullerian hormone receptor, type II	0.637	1.387	1.587
369	ARAF	v-raf murine sarcoma 3611 viral oncogene homolog	2.378	3.385	2.487
472	ATM	ataxia telangiectasia mutated (includes complementation groups A, C and D)	2.508	2.682	2.323
545	ATR	ataxia telangiectasia and Rad3 related	1.985	1.285	1.075
558	AXL	AXL receptor tyrosine kinase	1.374	1.159	1.057
613	BCR	breakpoint cluster region	1.758	1.03	1.192
640	BLK	B lymphoid tyrosine kinase	0.532	1.151	1.174
657	BMPR1A	bone morphogenetic protein receptor, type IA	1.143	0.71	0.717
658	BMPR1B	bone morphogenetic protein receptor, type IB	0.364	0.672	0.696
659	BMPR2	bone morphogenetic protein receptor, type II (serine/threonine kinase)	0.919	1.43	0.976
660	BMX	BMX non-receptor tyrosine kinase	0.791	0.818	1.458
673	BRAF	v-raf murine sarcoma viral oncogene homolog B1	2.929	1.312	1.064
676	BRDT	bromodomain, testis-specific	1.375	1.535	1.424
695	BTK	Bruton agammaglobulinemia tyrosine kinase	1.367	2.213	0.944
699	BUB1	BUB1 budding uninhibited by benzimidazoles 1 homolog (yeast)	0.547	0.622	0.613
701	BUB1B	BUB1 budding uninhibited by benzimidazoles 1 homolog beta (yeast)	1.056	1.492	1.542
780	DDR1	discoidin domain receptor family, member 1	0.887	1.13	1.232
801	CALM1	calmodulin 1 (phosphorylase kinase, delta)	0.879	0.848	0.724
805	CALM2	calmodulin 2 (phosphorylase kinase, delta)	0.798	0.954	1.107
808	CALM3	calmodulin 3 (phosphorylase kinase, delta)	1.044	1.1	1.022
814	CAMK4	calcium/calmodulin-dependent protein kinase IV	1.271	1.631	1.391
815	CAMK2A	calcium/calmodulin-dependent protein kinase (CaM kinase) II alpha	1.296	1.305	1.591
816	CAMK2B	calcium/calmodulin-dependent protein kinase (CaM kinase) II beta	1.709	1.606	1.32
817	CAMK2D	calcium/calmodulin-dependent protein kinase (CaM kinase) II delta	1.026	1.173	1.344
818	CAMK2G	calcium/calmodulin-dependent protein kinase (CaM kinase) II gamma	1.72	0.858	1.249
983	CDC2	cell division cycle 2, G1 to S and G2 to M	0.907	1.697	1.112
984	CDC2L1	cell division cycle 2-like 1 (PITSLRE proteins)	1.155	0.666	0.708
1017	CDK2	cyclin-dependent kinase 2	0.518	0.99	0.642
1018	CDK3	cyclin-dependent kinase 3	1.331	0.812	1.437
1019	CDK4	cyclin-dependent kinase 4	1.627	1.124	1.058
1020	CDK5	cyclin-dependent kinase 5	0.787	0.743	0.787
1021	CDK6	cyclin-dependent kinase 6	1.955	0.976	1.289
1022	CDK7	cyclin-dependent kinase 7 (MO15 homolog, Xenopus laevis, cdk-activating kinase)	1.475	2.203	1.256
1024	CDK8	cyclin-dependent kinase 8	1.045	1.986	1.474

1025	**CDK9**	**cyclin-dependent kinase 9 (CDC2-related kinase)**	0.474	2.043	2.727
1111	**CHEK1**	**CHK1 checkpoint homolog (S. pombe)**	1.748	1.488	0.939
1119	**CHKA**	**choline kinase alpha**	1.548	0.7	0.679
1147	**CHUK**	**conserved helix-loop-helix ubiquitous kinase**	1.301	1.364	1.859
1158	**CKM**	**creatine kinase, muscle**	1.458	0.608	0.617
1159	**CKMT1**	**creatine kinase, mitochondrial 1 (ubiquitous)**	1.739	0.479	0.794
1160	**CKMT2**	**creatine kinase, mitochondrial 2 (sarcomeric)**	0.875	0.6	0.775
1195	**CLK1**	**CDC-like kinase 1**	1.174	2.254	1.489
1196	**CLK2**	**CDC-like kinase 2**	1.777	1.115	1.133
1198	**CLK3**	**CDC-like kinase 3**	0.586	1.088	1.226
1263	**PLK3**	**polo-like kinase 3 (Drosophila)**	2.163	1.965	1.966
1326	**MAP3K8**	**mitogen-activated protein kinase kinase kinase 8**	1.181	1.093	0.692
1399	**CRKL**	**v-crk sarcoma virus CT10 oncogene homolog (avian)-like**	2.425	0.664	0.714
1432	**MAPK14**	**mitogen-activated protein kinase 14**	1.442	1.235	1.402
1436	**CSF1R**	**colony stimulating factor 1 receptor, formerly McDonough feline sarcoma viral (v-fms) oncogene homolog**	1.401	0.128	1.392
1445	**CSK**	**c-src tyrosine kinase**	1.487	1.494	1.167
1452	**CSNK1A1**	**casein kinase 1, alpha 1**	0.523	1.107	1.025
1453	**CSNK1D**	**casein kinase 1, delta**	0.556	1.007	0.745
1454	**CSNK1E**	**casein kinase 1, epsilon**	0.95	0.601	0.577
1455	**CSNK1G2**	**casein kinase 1, gamma 2**	2.483	1.081	1.388
1456	**CSNK1G3**	**casein kinase 1, gamma 3**	0.763	1.138	1.039
1457	**CSNK2A1**	**casein kinase 2, alpha 1 polypeptide**	1.115	1.292	1.292
1459	**CSNK2A2**	**casein kinase 2, alpha prime polypeptide**	1.722	1.424	1.212
1606	**DGKA**	**diacylglycerol kinase, alpha 80kDa**	1.601	1.002	0.666
1607	**DGKB**	**diacylglycerol kinase, beta 90kDa**	0.9	0.502	0.888
1608	**DGKG**	**diacylglycerol kinase, gamma 90kDa**	1.952	1.494	0.955
1609	**DGKQ**	**diacylglycerol kinase, theta 110kDa**	1.593	0.955	0.788
1612	**DAPK1**	**death-associated protein kinase 1**	1.033	1.792	1.87
1613	**DAPK3**	**death-associated protein kinase 3**	0.666	1.408	1.714
1716	**DGUOK**	**deoxyguanosine kinase**	1.78	0.625	0.894
1739	**DLG1**	**discs, large homolog 1 (Drosophila)**	1.791	0.88	1.233
1740	**DLG2**	**discs, large homolog 2, chapsyn-110 (Drosophila)**	1.283	0.732	0.703
1741	**DLG3**	**discs, large homolog 3 (neuroendocrine-dlg, Drosophila)**	1.48	0.869	0.776
1742	**DLG4**	**discs, large homolog 4 (Drosophila)**	1.504	0.447	0.678
1760	**DMPK**	**dystrophia myotonica-protein kinase**	1.589	1.557	1.401
1841	**DTYMK**	**deoxythymidylate kinase (thymidylate kinase)**	0.662	0.921	0.913
1859	**DYRK1A**	**dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 1A**	1.523	1.238	1.404
1956	**EGFR**	**epidermal growth factor receptor (erythroblastic leukemia viral (v-erb-b) oncogene homolog, avian)**	2.32	3.205	3.417
1969	**EPHA2**	**EPH receptor A2**	1.51	1.207	1.117
2011	**MARK2**	**MAP/microtubule affinity-regulating kinase 2**	0.861	1.22	1.215
2041	**EPHA1**	**EPH receptor A1**	1.029	0.871	1.097
2042	**EPHA3**	**EPH receptor A3**	0.581	0.83	1.385
2043	**EPHA4**	**EPH receptor A4**	0.917	0.782	1.105
2044	**EPHA5**	**EPH receptor A5**	0.577	0.896	1.02
2045	**EPHA7**	**EPH receptor A7**	1.233	1.428	1.805
2046	**EPHA8**	**EPH receptor A8**	0.579	1.348	1.361
2047	**EPHB1**	**EPH receptor B1**	1	1.286	1.018
2048	**EPHB2**	**EPH receptor B2**	1.293	1.577	1.128
2049	**EPHB3**	**EPH receptor B3**	1.759	2.295	2.558
2050	**EPHB4**	**EPH receptor B4**	0.581	1.252	0.963
2051	**EPHB6**	**EPH receptor B6**	2.573	1.474	1.051

2064	ERBB2	v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avia	1.338	1.726	1.516
2065	ERBB3	v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)	0.778	1.18	1.164
2066	ERBB4	v-erb-a erythroblastic leukemia viral oncogene homolog 4 (avian)	3.74	2.31	1.931
2081	ERN1	endoplasmic reticulum to nucleus signalling 1	1.277	0.855	1.286
2185	PTK2B	PTK2B protein tyrosine kinase 2 beta	1.201	0.718	1.251
2241	FER	fer (fps/fes related) tyrosine kinase (phosphoprotein NCP94)	2.251	0.973	1.582
2242	FES	feline sarcoma oncogene	1.274	1.021	1.175
2261	FGFR3	fibroblast growth factor receptor 3 (achondroplasia, thanatophoric dwarfism)	0.916	1.013	1.232
2263	FGFR2	fibroblast growth factor receptor 2 (bacteria-expressed kinase, keratinocyte growth factor receptor, craniofacial d	0.836	1.168	1.732
2264	FGFR4	fibroblast growth factor receptor 4	0.809	1.242	1.443
2268	FGR	Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog	1.773	1.13	2.409
2321	FLT1	fms-related tyrosine kinase 1 (vascular endothelial growth factor/vascular permeability factor receptor)	2.454	1.637	1.213
2322	FLT3	fms-related tyrosine kinase 3	0.82	2.345	2.33
2324	FLT4	fms-related tyrosine kinase 4	1.633	1.755	1.397
2395	FXN	frataxin	1.263	0.594	0.761
2444	FRK	fyn-related kinase	1.172	1.18	1.546
2475	FRAP1	FK506 binding protein 12-rapamycin associated protein 1	0.971	2.43	3.452
2534	FYN	FYN oncogene related to SRC, FGR, YES	2.458	2.029	2.539
2580	GAK	cyclin G associated kinase	0.843	1.682	1.234
2585	GALK2	galactokinase 2	1.743	0.646	0.754
2645	GCK	glucokinase (hexokinase 4, maturity onset diabetes of the young 2)	0.821	0.666	0.843
2712	GK2	glycerol kinase 2	1.082	0.558	1.201
2868	GRK4	G protein-coupled receptor kinase 4	0.907	1.308	1.079
2869	GRK5	G protein-coupled receptor kinase 5	1.687	4.365	3.03
2870	GRK6	G protein-coupled receptor kinase 6	1.122	1.072	1.465
2872	MKNK2	MAP kinase interacting serine/threonine kinase 2	1.97	0.927	1.222
2931	GSK3A	glycogen synthase kinase 3 alpha	1.179	0.988	0.881
2932	GSK3B	glycogen synthase kinase 3 beta	1.529	1.044	1.597
2984	GUCY2C	guanylate cyclase 2C (heat stable enterotoxin receptor)	1.475	2.072	1.71
2986	GUCY2F	guanylate cyclase 2F, retinal	0.706	1.079	1.277
3000	GUCY2D	guanylate cyclase 2D, membrane (retina-specific)	1.03	1.414	1.403
3055	HCK	hemopoietic cell kinase	0.712	0.722	0.507
3098	HK1	hexokinase 1	1.958	0.808	1.214
3099	HK2	hexokinase 2	1.153	0.641	1.083
3101	HK3	hexokinase 3 (white cell)	2.137	0.756	1.202
3480	IGF1R	insulin-like growth factor 1 receptor	1.205	2.134	3.055
3482	IGF2R	insulin-like growth factor 2 receptor	1.19	0.568	1.057
3551	IKBKB	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	1.808	1.482	1.357
3611	ILK	integrin-linked kinase	1.51	0.898	0.846
3643	INSR	insulin receptor	1.171	0.987	1.626
3645	INSRR	insulin receptor-related receptor	1.632	1.049	0.909
3654	IRAK1	interleukin-1 receptor-associated kinase 1	2.054	0.931	1.299
3656	IRAK2	interleukin-1 receptor-associated kinase 2	1.426	1.996	1.394
3702	ITK	IL2-inducible T-cell kinase	1.439	1.791	1.72
3705	ITPK1	inositol 1,3,4-triphosphate 5/6 kinase	2.359	0.689	1.078
3706	ITPKA	inositol 1,4,5-trisphosphate 3-kinase A	0.561	0.724	0.748
3707	ITPKB	inositol 1,4,5-trisphosphate 3-kinase B	2.2	0.492	0.743
3716	JAK1	Janus kinase 1 (a protein tyrosine kinase)	1.585	5.74	3.284
3717	JAK2	Janus kinase 2 (a protein tyrosine kinase)	0.834	1.587	1.687
3718	JAK3	Janus kinase 3 (a protein tyrosine kinase, leukocyte)	0.766	1.613	1.115
3791	KDR	kinase insert domain receptor (a type III receptor tyrosine kinase)	1	1.128	0.899

3795	**KHK**	**ketohexokinase (fructokinase)**	1.602	0.587	0.944
3815	**KIT**	**v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog**	1.177	0.733	2.126
3932	**LCK**	**lymphocyte-specific protein tyrosine kinase**	0.649	1.415	1.078
3984	**LIMK1**	**LIM domain kinase 1**	1.398	0.948	1.204
3985	**LIMK2**	**LIM domain kinase 2**	0.766	0.766	0.72
4058	**LTK**	**leukocyte tyrosine kinase**	1.285	0.78	1.065
4067	**LYN**	**v-yes-1 Yamaguchi sarcoma viral related oncogene homolog**	0.429	0.912	1.15
4117	**MAK**	**male germ cell-associated kinase**	1.073	0.996	1.023
4139	**MARK1**	**MAP/microtubule affinity-regulating kinase 1**	1.314	0.985	1.463
4140	**MARK3**	**MAP/microtubule affinity-regulating kinase 3**	1.338	1.244	1.055
4145	**MATK**	**megakaryocyte-associated tyrosine kinase**	0.764	0.937	0.726
4214	**MAP3K1**	**mitogen-activated protein kinase kinase kinase 1**	1.854	0.591	1.008
4215	**MAP3K3**	**mitogen-activated protein kinase kinase kinase 3**	1.763	1.415	1.364
4216	**MAP3K4**	**mitogen-activated protein kinase kinase kinase 4**	1.7	0.778	1.2
4217	**MAP3K5**	**mitogen-activated protein kinase kinase kinase 5**	1.106	0.993	0.994
4233	**MET**	**met proto-oncogene (hepatocyte growth factor receptor)**	2.981	0.97	1.107
4293	**MAP3K9**	**mitogen-activated protein kinase kinase kinase 9**	1.568	0.933	1.249
4294	**MAP3K10**	**mitogen-activated protein kinase kinase kinase 10**	1.196	1.095	1.746
4296	**MAP3K11**	**mitogen-activated protein kinase kinase kinase 11**	1.139	2.415	0.943
4342	**MOS**	**v-mos Moloney murine sarcoma viral oncogene homolog**	0.729	0.766	0.749
4354	**MPP1**	**membrane protein, palmitoylated 1, 55kDa**	1.861	0.514	0.618
4355	**MPP2**	**membrane protein, palmitoylated 2 (MAGUK p55 subfamily member 2)**	0.949	0.832	0.869
4356	**MPP3**	**membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3)**	1.472	0.498	0.93
4486	**MST1R**	**macrophage stimulating 1 receptor (c-met-related tyrosine kinase)**	1.327	0.861	1.241
4593	**MUSK**	**muscle, skeletal, receptor tyrosine kinase**	2.521	1.684	1.501
4598	**MVK**	**mevalonate kinase (mevalonic aciduria)**	1.009	0.683	1.041
4638	**MYLK**	**myosin, light polypeptide kinase**	1.584	0.963	1.351
4750	**NEK1**	**NIMA (never in mitosis gene a)-related kinase 1**	1.294	2.517	2.859
4751	**NEK2**	**NIMA (never in mitosis gene a)-related kinase 2**	0.693	1.013	1.04
4752	**NEK3**	**NIMA (never in mitosis gene a)-related kinase 3**	0.625	1.016	0.964
4831	**NME2**	**non-metastatic cells 2, protein (NM23B) expressed in**	0.991	0.562	1.076
4881	**NPR1**	**natriuretic peptide receptor A/guanylate cyclase A (atrionatriuretic peptide receptor A)**	0.893	1.118	1.054
4882	**NPR2**	**natriuretic peptide receptor B/guanylate cyclase B (atrionatriuretic peptide receptor B)**	0.869	1.449	0.959
4914	**NTRK1**	**neurotrophic tyrosine kinase, receptor, type 1**	1.467	1.639	1.225
4915	**NTRK2**	**neurotrophic tyrosine kinase, receptor, type 2**	2.04	1.406	1.157
4916	**NTRK3**	**neurotrophic tyrosine kinase, receptor, type 3**	0.847	1.044	1.462
4919	**ROR1**	**receptor tyrosine kinase-like orphan receptor 1**	0.74	1.005	1.082
4920	**ROR2**	**receptor tyrosine kinase-like orphan receptor 2**	0.873	1.203	1.235
4921	**DDR2**	**discoidin domain receptor family, member 2**	2.066	2.529	2.212
5058	**PAK1**	**p21/Cdc42/Rac1-activated kinase 1 (STE20 homolog, yeast)**	1.571	2.283	1.378
5062	**PAK2**	**p21 (CDKN1A)-activated kinase 2**	1.166	2.567	1.301
5063	**PAK3**	**p21 (CDKN1A)-activated kinase 3**	0.737	1.223	1.03
5127	**PCTK1**	**PCTAIRE protein kinase 1**	0.944	0.57	0.931
5128	**PCTK2**	**PCTAIRE protein kinase 2**	0.877	1.348	1.694
5129	**PCTK3**	**PCTAIRE protein kinase 3**	0.906	0.676	1.445
5156	**PDGFRA**	**platelet-derived growth factor receptor, alpha polypeptide**	0.798	1.175	1.385
5157	**PDGFRL**	**platelet-derived growth factor receptor-like**	1.084	0.613	1.269
5159	**PDGFRB**	**platelet-derived growth factor receptor, beta polypeptide**	1.237	0.833	1.165
5163	**PDK1**	**pyruvate dehydrogenase kinase, isoenzyme 1**	1.425	1.079	1.117
5164	**PDK2**	**pyruvate dehydrogenase kinase, isoenzyme 2**	0.658	1.241	1.395
5165	**PDK3**	**pyruvate dehydrogenase kinase, isoenzyme 3**	0.611	0.991	0.506

5166	**PDK4**	**pyruvate dehydrogenase kinase, isoenzyme 4**	1.782	1.201	1.347
5170	**PDPK1**	**3-phosphoinositide dependent protein kinase-1**	3.177	0.931	1.985
5207	**PFKFB1**	**6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 1**	2.098	0.643	0.964
5208	**PFKFB2**	**6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 2**	0.724	0.854	0.824
5209	**PFKFB3**	**6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3**	0.99	0.804	1.078
5210	**PFKFB4**	**6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 4**	0.235	0.564	0.529
5211	**PFKL**	**phosphofructokinase, liver**	0.718	1.191	1.056
5213	**PFKM**	**phosphofructokinase, muscle**	2.029	1.397	1.509
5214	**PFKP**	**phosphofructokinase, platelet**	0.47	0.592	1.261
5218	**PFTK1**	**PFTAIRE protein kinase 1**	1.206	0.768	0.874
5230	**PGK1**	**phosphoglycerate kinase 1**	1.288	0.869	1.203
5232	**PGK2**	**phosphoglycerate kinase 2**	0.403	0.92	0.769
5255	**PHKA1**	**phosphorylase kinase, alpha 1 (muscle)**	1.145	0.933	0.816
5256	**PHKA2**	**phosphorylase kinase, alpha 2 (liver)**	1.345	1.126	0.834
5257	**PHKB**	**phosphorylase kinase, beta**	0.776	0.977	1.015
5260	**PHKG1**	**phosphorylase kinase, gamma 1 (muscle)**	1.742	1.451	1.214
5261	**PHKG2**	**phosphorylase kinase, gamma 2 (testis)**	1.101	1.247	0.988
5286	**PIK3C2A**	**phosphoinositide-3-kinase, class 2, alpha polypeptide**	1.174	0.982	0.925
5287	**PIK3C2B**	**phosphoinositide-3-kinase, class 2, beta polypeptide**	0.651	1.01	0.835
5288	**PIK3C2G**	**phosphoinositide-3-kinase, class 2, gamma polypeptide**	0.926	0.956	1.336
5289	**PIK3C3**	**phosphoinositide-3-kinase, class 3**	0.917	0.755	0.828
5290	**PIK3CA**	**phosphoinositide-3-kinase, catalytic, alpha polypeptide**	0.721	0.955	1.052
5291	**PIK3CB**	**phosphoinositide-3-kinase, catalytic, beta polypeptide**	1.299	1.221	1.06
5292	**PIM1**	**pim-1 oncogene**	1.555	0.993	0.901
5293	**PIK3CD**	**phosphoinositide-3-kinase, catalytic, delta polypeptide**	1.334	1.072	1.267
5294	**PIK3CG**	**phosphoinositide-3-kinase, catalytic, gamma polypeptide**	1.437	0.75	0.955
5297	**PIK4CA**	**phosphatidylinositol 4-kinase, catalytic, alpha polypeptide**	0.771	1.286	0.852
5298	**PIK4CB**	**phosphatidylinositol 4-kinase, catalytic, beta polypeptide**	1.604	1	0.697
5305	**PIP5K2A**	**phosphatidylinositol-4-phosphate 5-kinase, type II, alpha**	0.996	0.858	1.096
5313	**PKLR**	**pyruvate kinase, liver and RBC**	0.885	1.052	1.163
5315	**PKM2**	**pyruvate kinase, muscle**	1.179	0.841	0.743
5347	**PLK1**	**polo-like kinase 1 (Drosophila)**	0.649	0.854	0.501
5394	**EXOSC10**	**exosome component 10**	0.664	0.597	0.867
5562	**PRKAA1**	**protein kinase, AMP-activated, alpha 1 catalytic subunit**	1.051	1.049	1.335
5563	**PRKAA2**	**protein kinase, AMP-activated, alpha 2 catalytic subunit**	1.474	0.573	0.971
5566	**PRKACA**	**protein kinase, cAMP-dependent, catalytic, alpha**	0.602	0.862	0.828
5567	**PRKACB**	**protein kinase, cAMP-dependent, catalytic, beta**	1.735	1.105	1.825
5568	**PRKACG**	**protein kinase, cAMP-dependent, catalytic, gamma**	1.027	1.103	1.082
5578	**PRKCA**	**protein kinase C, alpha**	1.201	0.812	0.596
5579	**PRKCB1**	**protein kinase C, beta 1**	0.86	1.346	0.926
5580	**PRKCD**	**protein kinase C, delta**	1.173	0.854	1.254
5581	**PRKCE**	**protein kinase C, epsilon**	2.009	0.406	1.008
5582	**PRKCG**	**protein kinase C, gamma**	0.952	0.847	1
5583	**PRKCH**	**protein kinase C, eta**	0.832	1.641	1.389
5584	**PRKCI**	**protein kinase C, iota**	0.818	1.015	1.147
5585	**PKN1**	**protein kinase N1**	1.484	2.185	1.801
5586	**PKN2**	**protein kinase N2**	1.421	1.843	1.981
5587	**PRKD1**	**protein kinase D1**	0.897	1.061	0.772
5588	**PRKCQ**	**protein kinase C, theta**	1.239	1.217	1.156
5590	**PRKCZ**	**protein kinase C, zeta**	0.893	0.569	0.689
5591	**PRKDC**	**protein kinase, DNA-activated, catalytic polypeptide**	1.721	1.575	1.239

5592	**PRKG1**	**protein kinase, cGMP-dependent, type I**	0.798	2.216	1.962
5593	**PRKG2**	**protein kinase, cGMP-dependent, type II**	1.261	1.297	1.118
5594	**MAPK1**	**mitogen-activated protein kinase 1**	1.164	0.768	0.755
5595	**MAPK3**	**mitogen-activated protein kinase 3**	1.096	0.782	0.63
5596	**MAPK4**	**mitogen-activated protein kinase 4**	0.667	0.852	0.485
5597	**MAPK6**	**mitogen-activated protein kinase 6**	1.037	1.143	1.171
5598	**MAPK7**	**mitogen-activated protein kinase 7**	1.4	1.083	1.108
5599	**MAPK8**	**mitogen-activated protein kinase 8**	0.471	1.392	1.135
5600	**MAPK11**	**mitogen-activated protein kinase 11**	1.41	1.035	0.664
5601	**MAPK9**	**mitogen-activated protein kinase 9**	1.55	2.414	1.268
5602	**MAPK10**	**mitogen-activated protein kinase 10**	0.859	1.288	0.8
5603	**MAPK13**	**mitogen-activated protein kinase 13**	1.242	1.043	1.346
5604	**MAP2K1**	**mitogen-activated protein kinase kinase 1**	3.581	1.414	1.194
5605	**MAP2K2**	**mitogen-activated protein kinase kinase 2**	1.46	1.32	0.925
5606	**MAP2K3**	**mitogen-activated protein kinase kinase 3**	1.643	0.491	0.764
5607	**MAP2K5**	**mitogen-activated protein kinase kinase 5**	1.53	1.862	1.878
5608	**MAP2K6**	**mitogen-activated protein kinase kinase 6**	1.516	1.116	1.542
5609	**MAP2K7**	**mitogen-activated protein kinase kinase 7**	0.375	0.641	0.631
5610	**EIF2AK2**	**eukaryotic translation initiation factor 2-alpha kinase 2**	1.956	2.608	1.361
5613	**PRKX**	**protein kinase, X-linked**	0.59	1.027	0.632
5616	**PRKY**	**protein kinase, Y-linked**	1.753	0.816	2.162
5631	**PRPS1**	**phosphoribosyl pyrophosphate synthetase 1**	0.742	1.071	0.421
5634	**PRPS2**	**phosphoribosyl pyrophosphate synthetase 2**	1.121	0.923	0.574
5681	**PSKH1**	**protein serine kinase H1**	1.228	0.877	0.944
5747	**PTK2**	**PTK2 protein tyrosine kinase 2**	1.419	1.192	1.483
5753	**PTK6**	**PTK6 protein tyrosine kinase 6**	1.589	0.957	1.31
5754	**PTK7**	**PTK7 protein tyrosine kinase 7**	1.592	1.141	1.552
5756	**PTK9**	**PTK9 protein tyrosine kinase 9**	2.154	1.451	1.639
5832	**ALDH18A1**	**aldehyde dehydrogenase 18 family, member A1**	2.478	1.004	1.241
5871	**MAP4K2**	**mitogen-activated protein kinase kinase kinase kinase 2**	0.954	0.767	0.926
5891	**RAGE**	**renal tumor antigen**	1.719	0.746	1.108
5894	**RAF1**	**v-raf-1 murine leukemia viral oncogene homolog 1**	1.776	2.538	2.011
5979	**RET**	**ret proto-oncogene (multiple endocrine neoplasia and medullary thyroid carcinoma 1, Hirschsprung disease)**	1.178	0.966	1.044
5987	**RFP**	**ret finger protein**	0.4	1.536	0.576
6011	**GRK1**	**G protein-coupled receptor kinase 1**	1.3	1.15	1.223
6041	**RNASEL**	**ribonuclease L (2',5'-oligoisoadenylate synthetase-dependent)**	1.014	1.067	1.56
6046	**BRD2**	**bromodomain containing 2**	0.578	0.933	1.046
6093	**ROCK1**	**Rho-associated, coiled-coil containing protein kinase 1**	1.03	1.186	1.032
6098	**ROS1**	**v-ros UR2 sarcoma virus oncogene homolog 1 (avian)**	1.772	1.131	1.13
6195	**RPS6KA1**	**ribosomal protein S6 kinase, 90kDa, polypeptide 1**	0.987	1.02	1.15
6196	**RPS6KA2**	**ribosomal protein S6 kinase, 90kDa, polypeptide 2**	2.007	1.46	1.446
6197	**RPS6KA3**	**ribosomal protein S6 kinase, 90kDa, polypeptide 3**	2.92	1.624	1.052
6198	**RPS6KB1**	**ribosomal protein S6 kinase, 70kDa, polypeptide 1**	2.365	0.889	1.355
6199	**RPS6KB2**	**ribosomal protein S6 kinase, 70kDa, polypeptide 2**	1.528	1.022	1.154
6259	**RYK**	**RYK receptor-like tyrosine kinase**	1.63	1.437	1.318
6300	**MAPK12**	**mitogen-activated protein kinase 12**	1.964	3.323	1.775
6347	**CCL2**	**chemokine (C-C motif) ligand 2**	0.71	1.266	0.686
6416	**MAP2K4**	**mitogen-activated protein kinase kinase 4**	1.53	1.2	1.292
6446	**SGK**	**serum/glucocorticoid regulated kinase**	1.449	0.949	0.63
6714	**SRC**	**v-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)**	1.482	1.104	1.194
6725	**SRMS**	**src-related kinase lacking C-terminal regulatory tyrosine and N-terminal myristylation sites**	1.301	2.325	1.464

6732	**SRPK1**	**SFRS protein kinase 1**	0.862	1.743	3.317
6733	**SRPK2**	**SFRS protein kinase 2**	0.971	1.091	1.239
6787	**NEK4**	**NIMA (never in mitosis gene a)-related kinase 4**	0.791	2.042	1.344
6788	**STK3**	**serine/threonine kinase 3 (STE20 homolog, yeast)**	1.218	1.116	1.379
6789	**STK4**	**serine/threonine kinase 4**	1.489	1.364	1.796
6790	**STK6**	**serine/threonine kinase 6**	1.556	1.368	2.166
6792	**CDKL5**	**cyclin-dependent kinase-like 5**	1.071	0.527	1.029
6793	**STK10**	**serine/threonine kinase 10**	1.593	1.168	1.261
6794	**STK11**	**serine/threonine kinase 11 (Peutz-Jeghers syndrome)**	1.408	1.448	1.91
6795	**AURKC**	**aurora kinase C**	1.106	1.02	1.373
6850	**SYK**	**spleen tyrosine kinase**	1.123	1.314	1.293
6872	**TAF1**	**TAF1 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 250kDa**	2.081	0.988	1.314
6885	**MAP3K7**	**mitogen-activated protein kinase kinase kinase 7**	0.723	1.386	1.249
7006	**TEC**	**tec protein tyrosine kinase**	1.301	0.918	1.286
7010	**TEK**	**TEK tyrosine kinase, endothelial (venous malformations, multiple cutaneous and mucosal)**	1.028	0.807	0.534
7016	**TESK1**	**testis-specific kinase 1**	0.898	1.219	1.057
7046	**TGFBR1**	**transforming growth factor, beta receptor I (activin A receptor type II-like kinase, 53kDa)**	0.767	1.263	0.871
7048	**TGFBR2**	**transforming growth factor, beta receptor II (70/80kDa)**	0.89	1.112	1.282
7075	**TIE1**	**tyrosine kinase with immunoglobulin-like and EGF-like domains 1**	1.466	1.968	1.437
7084	**TK2**	**thymidine kinase 2, mitochondrial**	1.292	1.027	1.592
7204	**TRIO**	**triple functional domain (PTPRF interacting)**	1.492	1.713	1.16
7272	**TTK**	**TTK protein kinase**	2.238	2.047	1.378
7273	**TTN**	**titin**	0.362	1.075	1.302
7294	**TXK**	**TXK tyrosine kinase**	1.139	2.03	2.601
7297	**TYK2**	**tyrosine kinase 2**	0.836	0.857	1.132
7301	**TYRO3**	**TYRO3 protein tyrosine kinase**	1.733	0.971	2.012
7371	**UCK2**	**uridine-cytidine kinase 2**	1.117	1.17	0.804
7443	**VRK1**	**vaccinia related kinase 1**	1.22	0.933	1.547
7444	**VRK2**	**vaccinia related kinase 2**	1.268	1.026	1.076
7465	**WEE1**	**WEE1 homolog (S. pombe)**	1.782	0.705	1.044
7525	**YES1**	**v-yes-1 Yamaguchi sarcoma viral oncogene homolog 1**	1.161	1.529	1.423
7535	**ZAP70**	**zeta-chain (TCR) associated protein kinase 70kDa**	0.566	1.422	1.313
7786	**MAP3K12**	**mitogen-activated protein kinase kinase kinase 12**	1.094	1.272	0.854
7867	**MAPKAPK3**	**mitogen-activated protein kinase-activated protein kinase 3**	3.261	1.364	1.722
8019	**BRD3**	**bromodomain containing 3**	0.407	0.921	0.91
8295	**TRRAP**	**transformation/transcription domain-associated protein**	1.018	1.193	1.284
8317	**CDC7**	**CDC7 cell division cycle 7 (S. cerevisiae)**	0.633	1.205	1.197
8382	**NME5**	**non-metastatic cells 5, protein expressed in (nucleoside-diphosphate kinase)**	0.672	0.841	0.82
8395	**PIP5K1B**	**phosphatidylinositol-4-phosphate 5-kinase, type I, beta**	0.445	0.971	0.98
8396	**PIP5K2B**	**phosphatidylinositol-4-phosphate 5-kinase, type II, beta**	0.686	0.915	0.494
8408	**ULK1**	**unc-51-like kinase 1 (C. elegans)**	0.781	1.052	1.107
8428	**STK24**	**serine/threonine kinase 24 (STE20 homolog, yeast)**	1.254	1.468	1.384
8444	**DYRK3**	**dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3**	2.706	5.119	4.6
8445	**DYRK2**	**dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 2**	0.791	0.903	1.273
8476	**CDC42BPA**	**CDC42 binding protein kinase alpha (DMPK-like)**	1.358	1.004	1.287
8491	**MAP4K3**	**mitogen-activated protein kinase kinase kinase kinase 3**	1.2	1.145	1.451
8525	**DGKZ**	**diacylglycerol kinase, zeta 104kDa**	0.598	1.091	0.653
8526	**DGKE**	**diacylglycerol kinase, epsilon 64kDa**	0.63	1.292	0.969
8527	**DGKD**	**diacylglycerol kinase, delta 130kDa**	0.907	1.172	1.309
8536	**CAMK1**	**calcium/calmodulin-dependent protein kinase I**	0.382	0.959	1.072
8550	**MAPKAPK5**	**mitogen-activated protein kinase-activated protein kinase 5**	0.639	1.024	1.198

8558	**CDK10**	**cyclin-dependent kinase (CDC2-like) 10**	1.907	0.974	1.004
8566	**PDXK**	**pyridoxal (pyridoxine, vitamin B6) kinase**	0.706	1.005	1.12
8569	**MKNK1**	**MAP kinase interacting serine/threonine kinase 1**	1.345	1.607	2.536
8573	**CASK**	**calcium/calmodulin-dependent serine protein kinase (MAGUK family)**	1.609	1.506	0.929
8576	**STK16**	**serine/threonine kinase 16**	0.59	1.3	1.088
8621	**CDC2L5**	**cell division cycle 2-like 5 (cholinesterase-related cell division controller)**	1.599	1.477	1.737
8631	**SCAP1**	**src family associated phosphoprotein 1**	0.657	1.137	1.202
8711	**TNK1**	**tyrosine kinase, non-receptor, 1**	1.145	1.534	1.892
8737	**RIPK1**	**receptor (TNFRSF)-interacting serine-threonine kinase 1**	1.72	2.484	2.334
8767	**RIPK2**	**receptor-interacting serine-threonine kinase 2**	1.446	0.838	1.483
8780	**RIOK3**	**RIO kinase 3 (yeast)**	1.093	0.567	1.228
8798	**DYRK4**	**dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 4**	1.038	1.365	1.292
8814	**CDKL1**	**cyclin-dependent kinase-like 1 (CDC2-related kinase)**	1.542	1.569	0.952
8844	**KSR**	**kinase suppressor of ras**	0.949	0.863	0.693
8859	**STK19**	**serine/threonine kinase 19**	1.546	0.82	1.253
8877	**SPHK1**	**sphingosine kinase 1**	0.69	1.001	1.037
8899	**PRPF4B**	**PRP4 pre-mRNA processing factor 4 homolog B (yeast)**	1.92	1.689	1.313
8935	**SCAP2**	**src family associated phosphoprotein 2**	0.903	0.997	0.805
8986	**RPS6KA4**	**ribosomal protein S6 kinase, 90kDa, polypeptide 4**	4.26	1.06	0.719
8999	**CDKL2**	**cyclin-dependent kinase-like 2 (CDC2-related kinase)**	1.238	1.41	2.106
9020	**MAP3K14**	**mitogen-activated protein kinase kinase kinase 14**	0.772	1.181	1.33
9024	**BRSK2**	**BR serine/threonine kinase 2**	1.638	1.896	1.199
9064	**MAP3K6**	**mitogen-activated protein kinase kinase kinase 6**	1.251	1.726	1.52
9088	**PKMYT1**	**protein kinase, membrane associated tyrosine/threonine 1**	1.072	2.118	1.355
9113	**LATS1**	**LATS, large tumor suppressor, homolog 1 (Drosophila)**	0.92	0.957	1.092
9149	**DYRK1B**	**dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 1B**	1.446	1.385	1.302
9162	**DGKI**	**diacylglycerol kinase, iota**	0.947	0.737	0.618
9175	**MAP3K13**	**mitogen-activated protein kinase kinase kinase 13**	0.747	0.753	0.797
9201	**DCAMKL1**	**doublecortin and CaM kinase-like 1**	0.857	0.979	0.816
9212	**AURKB**	**aurora kinase B**	1.346	1.833	1.58
9223	**BAIAP1**	**BAI1-associated protein 1**	1.39	0.95	0.832
9252	**RPS6KA5**	**ribosomal protein S6 kinase, 90kDa, polypeptide 5**	1.263	0.555	1.203
9261	**MAPKAPK2**	**mitogen-activated protein kinase-activated protein kinase 2**	1.36	0.689	0.773
9262	**STK17B**	**serine/threonine kinase 17b (apoptosis-inducing)**	1.132	2.033	1.453
9263	**STK17A**	**serine/threonine kinase 17a (apoptosis-inducing)**	1.327	1.086	1.539
9344	**TAOK2**	**TAO kinase 2**	1	1.593	1.27
9414	**TJP2**	**tight junction protein 2 (zona occludens 2)**	0.821	1.354	0.735
9448	**MAP4K4**	**mitogen-activated protein kinase kinase kinase kinase 4**	0.791	2.009	1.964
9451	**EIF2AK3**	**eukaryotic translation initiation factor 2-alpha kinase 3**	0.478	0.965	1.041
9475	**ROCK2**	**Rho-associated, coiled-coil containing protein kinase 2**	1.155	1.182	1.328
9578	**CDC42BPB**	**CDC42 binding protein kinase beta (DMPK-like)**	2.278	1.587	2.945
9625	**AATK**	**apoptosis-associated tyrosine kinase**	1.344	0.491	0.96
9641	**IKBKE**	**inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon**	2.213	2.195	2.332
9706	**ULK2**	**unc-51-like kinase 2 (C. elegans)**	1.341	1.056	1.164
9748	**SLK**	**STE20-like kinase (yeast)**	1.106	1.315	1.07
9807	**IHPK1**	**inositol hexaphosphate kinase 1**	1.255	0.594	0.802
9833	**MELK**	**maternal embryonic leucine zipper kinase**	1.232	1.231	1.426
9874	**TLK1**	**tousled-like kinase 1**	1.449	1.373	0.904
9891	**ARK5**	**AMP-activated protein kinase family member 5**	1.107	1.682	1.078
9942	**XYLB**	**xylulokinase homolog (H. influenzae)**	0.422	1.206	1.201
9943	**OXSR1**	**oxidative-stress responsive 1**	1.264	1.138	0.822

10000	**AKT3**	**v-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)**	2.693	1.811	1.846
10020	**GNE**	**glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine kinase**	1.674	0.78	1.027
10087	**COL4A3BP**	**collagen, type IV, alpha 3 (Goodpasture antigen) binding protein**	1.253	0.803	0.911
10110	**SGK2**	**serum/glucocorticoid regulated kinase 2**	0.964	1.242	0.835
10114	**HIPK3**	**homeodomain interacting protein kinase 3**	1.098	1.83	1.419
10155	**TRIM28**	**tripartite motif-containing 28**	1.183	0.768	1.003
10188	**TNK2**	**tyrosine kinase, non-receptor, 2**	1.124	1.758	1.448
10201	**NME6**	**non-metastatic cells 6, protein expressed in (nucleoside-diphosphate kinase)**	1.028	0.608	0.794
10221	**TRIB1**	**tribbles homolog 1 (Drosophila)**	1.472	1.617	2.11
10290	**APEG1**	**aortic preferentially expressed gene 1**	1.072	2.316	1.718
10295	**BCKDK**	**branched chain ketoacid dehydrogenase kinase**	1.604	2.086	1.622
10298	**PAK4**	**p21(CDKN1A)-activated kinase 4**	0.767	1.336	0.988
10420	**TESK2**	**testis-specific kinase 2**	1.377	1.662	1.309
10461	**MERTK**	**c-mer proto-oncogene tyrosine kinase**	1.42	1.153	1.205
10494	**STK25**	**serine/threonine kinase 25 (STE20 homolog, yeast)**	0.747	1.441	0.967
10595	**ERN2**	**endoplasmic reticulum to nucleus signalling 2**	1.093	0.691	0.893
10645	**CAMKK2**	**calcium/calmodulin-dependent protein kinase kinase 2, beta**	1.438	1.062	1.155
10654	**PMVK**	**phosphomevalonate kinase**	0.734	0.574	0.915
10733	**PLK4**	**polo-like kinase 4 (Drosophila)**	1.497	2.299	1.451
10746	**MAP3K2**	**mitogen-activated protein kinase kinase kinase 2**	1.022	1.03	1.265
10769	**PLK2**	**polo-like kinase 2 (Drosophila)**	1.207	1.237	1.751
10783	**NEK6**	**NIMA (never in mitosis gene a)-related kinase 6**	3.022	0.952	1.223
11011	**TLK2**	**tousled-like kinase 2**	1.751	2.824	1.84
11035	**RIPK3**	**receptor-interacting serine-threonine kinase 3**	1.23	1.442	2.572
11040	**PIM2**	**pim-2 oncogene**	0.808	1.301	1.316
11113	**CIT**	**citron (rho-interacting, serine/threonine kinase 21)**	1.165	1.748	1.281
11139	**KALRN**	**kalirin, RhoGEF kin**	1	2.415	1.694
11183	**MAP4K5**	**mitogen-activated protein kinase kinase kinase kinase 5**	1.16	0.826	0.899
11184	**MAP4K1**	**mitogen-activated protein kinase kinase kinase kinase 1**	1.189	0.921	1.689
11200	**CHEK2**	**CHK2 checkpoint homolog (S. pombe)**	1.361	0.507	0.944
11213	**IRAK3**	**interleukin-1 receptor-associated kinase 3**	0.494	1.189	0.915
11329	**STK38**	**serine/threonine kinase 38**	0.631	1.01	1.301
11344	**PTK9L**	**PTK9L protein tyrosine kinase 9-like (A6-related protein)**	0.757	0.977	0.723
22848	**AAK1**	**AP2 associated kinase 1**	0.857	1.307	1.676
22853	**LMTK2**	**lemur tyrosine kinase 2**	0.837	0.946	1.287
22858	**ICK**	**intestinal cell (MAK-like) kinase**	1.516	0.859	1.973
22928	**SEPHS2**	**selenophosphate synthetase 2**	1.565	0.772	1.059
22983	**MAST1**	**microtubule associated serine/threonine kinase 1**	1.774	1.457	1.165
23012	**STK38L**	**serine/threonine kinase 38 like**	1.071	1.512	1.517
23031	**MAST3**	**microtubule associated serine/threonine kinase 3**	3.286	1.213	1.198
23043	**TNIK**	**TRAF2 and NCK interacting kinase**	0.825	1.265	1.072
23049	**SMG1**	**PI-3-kinase-related kinase SMG-1**	1.696	1.211	1.696
23097	**CDC2L6**	**cell division cycle 2-like 6 (CDK8-like)**	1.118	2.174	2.45
23139	**MAST2**	**microtubule associated serine/threonine kinase 2**	1.408	0.794	1.386
23178	**PASK**	**PAS domain containing serine/threonine kinase**	1.203	1.194	1.338
23227	**MAST4**	**microtubule associated serine/threonine kinase family member 4**	2.204	0.838	1.067
23235	**SNF1LK2**	**SNF1-like kinase 2**	2.56	1.879	1.47
23387	**KIAA0999**	**KIAA0999 protein**	0.873	1.264	1.196
23396	**PIP5K1C**	**phosphatidylinositol-4-phosphate 5-kinase, type I, gamma**	1.025	1.158	0.809
23476	**BRD4**	**bromodomain containing 4**	1.232	1.254	0.844
23552	**CCRK**	**cell cycle related kinase**	2.153	1.952	1.558

23604	**DAPK2**	**death-associated protein kinase 2**	1.21	1.952	1.231
23617	**TSSK2**	**testis-specific serine kinase 2**	0.944	2.032	1.604
23678	**SGKL**	**serum/glucocorticoid regulated kinase-like**	0.798	1.082	1.09
23683	**PRKD3**	**protein kinase D3**	0.679	0.996	0.652
25778	**RIPK5**	**receptor interacting protein kinase 5**	1.623	0.897	1.081
25865	**PRKD2**	**protein kinase D2**	1.108	1.194	1.082
25989	**ULK3**	**unc-51-like kinase 3 (C. elegans)**	1.755	1.888	1.44
26289	**AK5**	**adenylate kinase 5**	2.113	0.512	0.871
26353	**HSPB8**	**heat shock 22kDa protein 8**	1.761	0.817	1.669
26524	**LATS2**	**LATS, large tumor suppressor, homolog 2 (Drosophila)**	1.373	1.2	1.495
26576	**STK23**	**serine/threonine kinase 23**	0.545	1.213	1.169
26750	**RPS6KC1**	**ribosomal protein S6 kinase, 52kDa, polypeptide 1**	0.821	1.17	1.001
27010	**TPK1**	**thiamin pyrophosphokinase 1**	2.879	0.771	0.98
27102	**EIF2AK1**	**eukaryotic translation initiation factor 2-alpha kinase 1**	0.93	1.28	1.27
27148	**STK36**	**serine/threonine kinase 36 (fused homolog, Drosophila)**	0.759	1.686	1.189
27330	**RPS6KA6**	**ribosomal protein S6 kinase, 90kDa, polypeptide 6**	1.492	1.109	1.21
27347	**STK39**	**serine threonine kinase 39 (STE20/SPS1 homolog, yeast)**	0.246	1.05	1.156
28951	**TRIB2**	**tribbles homolog 2 (Drosophila)**	0.703	0.852	0.504
28996	**HIPK2**	**homeodomain interacting protein kinase 2**	1.244	7.497	2.306
29110	**TBK1**	**TANK-binding kinase 1**	0.661	0.943	1.462
29904	**EEF2K**	**eukaryotic elongation factor-2 kinase**	1.669	1.841	1.884
29922	**NME7**	**non-metastatic cells 7, protein expressed in (nucleoside-diphosphate kinase)**	1.486	0.587	0.879
29941	**PKN3**	**protein kinase N3**	1.448	2.247	3.586
29959	**NRBP**	**nuclear receptor binding protein**	0.758	1.94	2.383
30811	**HUNK**	**hormonally upregulated Neu-associated kinase**	1.809	1.614	1.432
30849	**PIK3R4**	**phosphoinositide-3-kinase, regulatory subunit 4, p150**	1.675	1.265	3.436
50488	**MINK1**	**misshapen-like kinase 1 (zebrafish)**	0.738	0.917	1.058
50808	**AK3L1**	**adenylate kinase 3 like 1**	1.328	0.549	0.98
51086	**TNNI3K**	**TNNI3 interacting kinase**	1.453	1.367	1.745
51135	**IRAK4**	**interleukin-1 receptor-associated kinase 4**	0.598	0.922	1.185
51231	**VRK3**	**vaccinia related kinase 3**	1.652	2.368	2.797
51265	**CDKL3**	**cyclin-dependent kinase-like 3**	1.385	1.516	1.425
51347	**TAOK3**	**TAO kinase 3**	0.298	1.097	0.939
51592	**TRIM33**	**tripartite motif-containing 33**	1.109	0.866	0.824
51701	**NLK**	**nemo like kinase**	1.422	0.834	1.356
51727	**CMPK**	**UMP-CMP kinase**	0.592	0.47	0.842
51755	**CRK7**	**CDC2-related protein kinase 7**	1.82	1.203	1.582
51765	**MASK**	**Mst3 and SOK1-related kinase**	1.573	1.54	1.793
51776	**ZAK**	**sterile alpha motif and leucine zipper containing kinase AZK**	1.108	1.969	1.822
53354	**PANK1**	**pantothenate kinase 1**	1.058	1.375	0.727
53834	**FGFRL1**	**fibroblast growth factor receptor-like 1**	0.992	0.913	0.942
53904	**MYO3A**	**myosin IIIA**	2.375	1.04	1.093
53944	**CSNK1G1**	**casein kinase 1, gamma 1**	2.12	3.662	2.259
54101	**RIPK4**	**receptor-interacting serine-threonine kinase 4**	1.791	1.2	1.415
54822	**TRPM7**	**transient receptor potential cation channel, subfamily M, member 7**	0.852	1.64	1.504
54861	**SNRK**	**SNF related kinase**	1.655	1.485	1.604
54899	**PXK**	**PX domain containing serine/threonine kinase**	1.388	0.633	0.758
54963	**UCKL1**	**uridine-cytidine kinase 1-like 1**	0.993	1.027	0.643
54986	**ULK4**	**unc-51-like kinase 4 (C. elegans)**	0.843	0.803	0.687
55224	**ETNK2**	**ethanolamine kinase 2**	0.994	0.867	0.822
55229	**PANK4**	**pantothenate kinase 4**	1.336	1.065	0.61

55300	**PI4K2B**	**phosphatidylinositol 4-kinase type-II beta**	1.492	0.719	1.012
55312	**RFK**	**riboflavin kinase**	1.071	1.107	0.694
55351	**STK32B**	**serine/threonine kinase 32B**	0.859	0.795	0.975
55359	**STYK1**	**serine/threonine/tyrosine kinase 1**	1.593	2.569	1.418
55361	**PI4KII**	**phosphatidylinositol 4-kinase type II**	0.942	1.005	0.745
55437	**ALS2CR2**	**amyotrophic lateral sclerosis 2 (juvenile) chromosome region, candidate 2**	2.371	0.816	1.533
55500	**ETNK1**	**ethanolamine kinase 1**	0.887	1.212	0.946
55561	**CDC42BPG**	**CDC42 binding protein kinase gamma (DMPK-like)**	1.921	0.983	0.846
55577	**NAGK**	**N-acetylglucosamine kinase**	1.228	0.894	0.707
55589	**BMP2K**	**BMP2 inducible kinase**	1.258	0.681	0.71
55681	**SCYL2**	**SCY1-like 2 (S. cerevisiae)**	2.873	1.328	2.419
55750	**MULK**	**multiple substrate lipid kinase**	0.643	1.04	0.921
55781	**RIOK2**	**RIO kinase 2 (yeast)**	0.994	1.133	0.677
55872	**PBK**	**PDZ binding kinase**	0.933	0.659	0.75
56155	**TEX14**	**testis expressed sequence 14**	1.205	1.294	1.072
56164	**STK31**	**serine/threonine kinase 31**	0.8	1.076	1.141
56848	**SPHK2**	**sphingosine kinase 2**	0.659	0.978	0.914
56924	**PAK6**	**p21(CDKN1A)-activated kinase 6**	1.107	0.728	1.362
56997	**CABC1**	**chaperone, ABC1 activity of bc1 complex like (S. pombe)**	0.98	2.821	3.202
57118	**CAMK1D**	**calcium/calmodulin-dependent protein kinase ID**	0.488	0.805	0.554
57143	**ADCK1**	**aarF domain containing kinase 1**	0.592	0.81	0.739
57144	**PAK7**	**p21(CDKN1A)-activated kinase 7**	1.774	1.599	1.505
57147	**PACE-1**	**ezrin-binding partner PACE-1**	1.079	1.086	1.192
57172	**CAMK1G**	**calcium/calmodulin-dependent protein kinase IG**	1.341	0.95	1.145
57396	**CLK4**	**CDC-like kinase 4**	1.355	0.711	1.27
57410	**SCYL1**	**SCY1-like 1 (S. cerevisiae)**	1.361	1.236	1.293
57538	**ALPK3**	**alpha-kinase 3**	1.513	1.709	1.36
57551	**TAOK1**	**TAO kinase 1**	1.063	1.558	1.573
57761	**TRIB3**	**tribbles homolog 3 (Drosophila)**	1.358	1.04	1.252
57787	**MARK4**	**MAP/microtubule affinity-regulating kinase 4**	1.619	0.918	1.165
64080	**RBKS**	**ribokinase**	0.662	0.854	0.554
64122	**FN3K**	**fructosamine 3 kinase**	0.805	0.998	0.89
64781	**CERK**	**ceramide kinase**	1.023	1.137	0.697
65018	**PINK1**	**PTEN induced putative kinase 1**	2.328	1.388	2.528
65061	**ALS2CR7**	**amyotrophic lateral sclerosis 2 (juvenile) chromosome region, candidate 7**	0.985	1.09	0.97
65125	**WNK1**	**WNK lysine deficient protein kinase 1**	0.703	1.108	1.406
65220	**NADK**	**NAD kinase**	2.086	1.052	1.452
65266	**WNK4**	**WNK lysine deficient protein kinase 4**	1.87	2.083	1.745
65267	**WNK3**	**WNK lysine deficient protein kinase 3**	0.839	1.523	1.362
65268	**WNK2**	**WNK lysine deficient protein kinase 2**	1.902	1.104	1.157
65975	**STK33**	**serine/threonine kinase 33**	1.198	1.208	1.179
79012	**CAMKV**	**CaM kinase-like vesicle-associated**	2.087	1.539	1.282
79646	**PANK3**	**pantothenate kinase 3**	0.705	0.982	1.302
79705	**LRRK1**	**leucine-rich repeat kinase 1**	1.849	1.217	1.508
79834	**0**	**KIAA2002 protein**	0.857	0.983	1.391
79837	**PIP5K2C**	**phosphatidylinositol-4-phosphate 5-kinase, type II, gamma**	1.151	1.594	0.769
79858	**NEK11**	**NIMA (never in mitosis gene a)- related kinase 11**	1.015	1.31	0.768
79934	**ADCK4**	**aarF domain containing kinase 4**	1.753	1.389	1.157
80025	**PANK2**	**pantothenate kinase 2 (Hallervorden-Spatz syndrome)**	1.201	1.303	1.217
80122	**YSK4**	**Yeast Sps1/Ste20-related kinase 4 (S. cerevisiae)**	1.873	1.007	1.21
80216	**ALPK1**	**alpha-kinase 1**	1.641	1.269	1.658

80271	**ITPKC**	**inositol 1,4,5-trisphosphate 3-kinase C**	0.66	1.18	0.873
80347	**COASY**	**Coenzyme A synthase**	0.935	1.126	0.953
81629	**STK22C**	**serine/threonine kinase 22C (spermiogenesis associated)**	0.964	0.883	0.507
81788	**SNARK**	**likely ortholog of rat SNF1/AMP-activated protein kinase**	0.969	0.896	0.84
83440	**ADPGK**	**ADP-dependent glucokinase**	0.473	0.749	0.616
83549	**UCK1**	**uridine-cytidine kinase 1**	0.641	0.769	1.14
83694	**RPS6KL1**	**ribosomal protein S6 kinase-like 1**	1.728	1.314	1.422
83732	**RIOK1**	**RIO kinase 1 (yeast)**	1.148	1.048	1.171
83903	**GSG2**	**germ cell associated 2 (haspin)**	0.906	1.422	1.544
83931	**STK40**	**serine/threonine kinase 40**	1.757	1.258	1.422
83983	**SSTK**	**serine/threonine protein kinase SSTK**	1.554	0.727	0.82
84197	**0**	**hypothetical protein FLJ23356**	1.056	1.598	1.449
84254	**CAMKK1**	**calcium/calmodulin-dependent protein kinase kinase 1, alpha**	1.466	0.661	0.997
84446	**BRSK1**	**BR serine/threonine kinase 1**	0.754	0.955	1.255
84451	**KIAA1804**	**mixed lineage kinase 4**	1.491	1.347	1.669
84630	**TTBK1**	**tau tubulin kinase 1**	1.078	0.912	1.19
84930	**MASTL**	**microtubule associated serine/threonine kinase-like**	1.494	1.121	1.021
85366	**MYLK2**	**myosin light chain kinase 2, skeletal muscle**	1.35	1.92	1.073
85443	**DCAMKL3**	**doublecortin and CaM kinase-like 3**	1.152	0.98	1.014
85481	**PSKH2**	**protein serine kinase H2**	0.917	2.357	2.653
90956	**ADCK2**	**aarF domain containing kinase 2**	0.813	1.096	0.38
91461	**0**	**hypothetical protein BC007901**	0.443	0.95	0.93
91754	**NEK9**	**NIMA (never in mitosis gene a)- related kinase 9**	1.525	1.565	1.292
91807	**MLCK**	**cardiac-MyBP-C associated Ca/CaM kinase**	2.204	0.996	1.618
92335	**LYK5**	**protein kinase LYK5**	0.686	1.088	1.094
93627	**MGC16169**	**hypothetical protein MGC16169**	0.948	1.131	1.036
112858	**TP53RK**	**TP53 regulating kinase**	1.488	1.73	1.196
114783	**LMTK3**	**lemur tyrosine kinase 3**	1.282	1.134	1.202
115701	**ALPK2**	**alpha-kinase 2**	0.893	0.98	0.903
117283	**IHPK3**	**inositol hexaphosphate kinase 3**	0.961	0.585	0.778
120892	**LRRK2**	**leucine-rich repeat kinase 2**	0.557	1.262	1.002
122011	**CSNK1A1L**	**casein kinase 1, alpha 1-like**	2.317	2.077	1.487
122481	**AK7**	**adenylate kinase 7**	1.272	0.725	0.943
124923	**FLJ25006**	**hypothetical protein FLJ25006**	0.529	0.804	1.381
127933	**UHMK1**	**U2AF homology motif (UHM) kinase 1**	2.593	2.563	2.734
130399	**ACVR1C**	**activin A receptor, type IC**	1.532	1.728	1.34
131890	**GRK7**	**G protein-coupled receptor kinase 7**	1.051	1.278	0.95
138429	**PIP5KL1**	**phosphatidylinositol-4-phosphate 5-kinase-like 1**	0.674	0.645	0.888
140469	**MYO3B**	**myosin IIIB**	1.272	1.143	1.933
140609	**NEK7**	**NIMA (never in mitosis gene a)-related kinase 7**	1.156	1.49	1.663
140803	**TRPM6**	**transient receptor potential cation channel, subfamily M, member 6**	1.546	1.214	1.188
140901	**STK35**	**serine/threonine kinase 35**	1.856	1.168	2.581
146057	**TTBK2**	**tau tubulin kinase 2**	1.207	0.804	0.99
147746	**HIPK4**	**homeodomain interacting protein kinase 4**	1.706	2.184	2.087
149420	**PDIK1L**	**PDLIM1 interacting kinase 1 like**	0.582	1.49	1.368
150094	**SNF1LK**	**SNF1-like kinase**	1.052	1.487	1.543
152110	**FLJ32685**	**hypothetical protein FLJ32685**	0.683	1.418	0.479
157285	**0**	**hypothetical protein DKFZp761P0423**	0.413	0.838	0.89
160851	**DGKH**	**diacylglycerol kinase, eta**	1.309	0.454	0.819
162417	**NAGS**	**N-acetylglutamate synthase**	2.262	0.634	1.148
166614	**DCAMKL2**	**doublecortin and CaM kinase-like 2**	0.664	1.211	1.4

167359	**MGC42105**	**hypothetical protein MGC42105**	1.319	1.105	1.478
169436	**C9orf96**	**chromosome 9 open reading frame 96**	1.942	1.322	1.57
197258	**FUK**	**fucokinase**	1.232	0.681	0.836
197259	**MLKL**	**mixed lineage kinase domain-like**	0.732	0.908	0.987
200576	**PIP5K3**	**phosphatidylinositol-3-phosphate/phosphatidylinositol 5-kinase, type III**	1.032	0.442	0.811
202374	**STK32A**	**serine/threonine kinase 32A**	1.518	0.697	0.866
203054	**ADCK5**	**aarF domain containing kinase 5**	1.357	0.986	0.501
203447	**NRK**	**Nik related kinase**	1.471	1.635	1.785
204851	**HIPK1**	**homeodomain interacting protein kinase 1**	0.726	1.043	0.559
253430	**IPMK**	**inositol polyphosphate multikinase**	1.858	0.531	0.719
255239	**ANKK1**	**ankyrin repeat and kinase domain containing 1**	1.736	1.773	0.781
260425	**MAGI3**	**membrane-associated guanylate kinase-related (MAGI-3)**	0.662	0.649	0.683
282974	**STK32C**	**serine/threonine kinase 32C**	1.384	1.17	1.058
283455	**KSR2**	**kinase suppressor of ras 2**	2.644	0.673	1.288
283629	**TSSK4**	**testis-specific serine kinase 4**	0.816	1.261	1.27
284086	**NEK8**	**NIMA (never in mitosis gene a)- related kinase 8**	1.321	2.317	1.576
284656	**EPHA10**	**EPH receptor A10**	0.632	0.859	1.117
340156	**0**	**hypothetical protein LOC340156**	2.822	0.815	1.083
340371	**NRBP2**	**nuclear receptor binding protein 2**	1.686	1.014	1.014
341676	**NEK5**	**similar to Serine/threonine-protein kinase Nek1 (NimA-related protein kinase 1)**	1.229	0.733	1.115
344387	**CDKL4**	**cyclin-dependent kinase-like 4**	2.198	1.102	1.248
388228	**SBK1**	**SH3-binding domain kinase 1**	1.033	0.748	0.877
389840	**MAP3K15**	**mitogen-activated protein kinase kinase kinase 15**	0.885	1.059	1.307
390975	**0**	**similar to protein kinase Bsk146**	1.104	0.946	0.924
415116	**PIM3**	**pim-3 oncogene**	2.251	1.583	1.949
440275	**EIF2AK4**	**similar to GCN2 eIF2alpha kinase**	0.705	1.132	0.971

Supplementary Table 2. data showing differential usage of nutrients in SRC-3 overexpressing cells from the metabolic phenotypic assay.
n **=3 plates run from biologically independent experiments; Two-way ANOVA with Sidak's multiple comparison test.**

							Sidak's multiple comparisons test				
Metabolites	**Adv. GFP**			**Adv. SRC-3**			**Mean Diff.**	**95.00% CI of diff.**	**Significant?**	**Summary**	***P* Value**
a-Cyclodextrin	18.65	14	16.32	7.3	3.28	20.05	6.113	-2.66 to 14.89	No	ns	0.769374
Dextrin	51.16	45.27	48.63	55.29	58.37	50.5	-6.367	-15.14 to 2.407	No	ns	0.670286
Glycogen	49.57	43.05	47.75	55.05	57.73	50.32	-7.577	-16.35 to 1.197	No	ns	0.229314
Maltitol	54.22	49.05	52.41	58.89	59.4	46.26	-2.957	-11.73 to 5.817	No	ns	>0.999999
Maltotriose	53.54	45.35	50.08	55.82	57.42	51.36	-5.21	-13.98 to 3.564	No	ns	0.975746
D-Maltose	50.8	45.24	47.81	55.72	54.11	48.1	-4.693	-13.47 to 4.08	No	ns	0.997666
Trehalose	19.45	18.14	18.71	22.22	22.15	21.98	-3.35	-12.12 to 5.424	No	ns	>0.999999
D-Cellobiose	18.58	16.01	19.35	18.73	19.19	19.79	-1.257	-10.03 to 7.517	No	ns	>0.999999
Gentiobiose	15.47	14.04	15.83	17.72	18.96	17.65	-2.997	-11.77 to 5.777	No	ns	>0.999999
D-Glucose-6-Phosphate	18.85	14.56	18.64	28.52	29.49	31.92	-12.63	-21.4 to -3.853	Yes	****	0.000077
a-D-Glucose-1-Phosphate	37.69	35.28	34.95	34.98	33.14	17.46	7.447	-1.327 to 16.22	No	ns	0.264489
L-Glucose	15.12	13.69	13.87	17.22	16.5	19.45	-3.497	-12.27 to 5.277	No	ns	>0.999999
a-D-Glucose	40.37	44.9	45.85	56.44	59.29	57.68	-14.1	-22.87 to -5.323	Yes	****	0.000004
a-D-Glucose	41.68	42.73	43.07	58.9	58.65	59.33	-16.47	-25.24 to -7.693	Yes	****	<0.000001
a-D-Glucose	42.38	41.98	40.85	57.12	58.38	59.8	-16.7	-25.47 to -7.923	Yes	****	<0.000001
3-O-Methylglucose	20.15	11.07	20.07	17.82	16.4	16.58	0.1633	-8.61 to 8.937	No	ns	>0.999999
a-Methyl-D-Glucoside	18.31	16.57	18.38	21.13	20.96	20.4	-3.077	-11.85 to 5.697	No	ns	>0.999999
b-Methyl-D-Glucoside	16.88	13.56	15.5	13.6	18.78	16.43	-0.9567	-9.73 to 7.817	No	ns	>0.999999
Salicin	17.93	15.04	17.42	18.37	20.31	17.24	-1.843	-10.62 to 6.93	No	ns	>0.999999
D-Sorbitol	15.82	13.68	15.88	16.49	18.7	16.96	-2.257	-11.03 to 6.517	No	ns	>0.999999
N-Acetyl-D-Glucosamine	16.06	15.96	15.28	19.36	17.18	17.05	-2.097	-10.87 to 6.677	No	ns	>0.999999
D-Glucosaminic acid	17.64	17.2	12.86	17.31	13.86	19.41	-0.96	-9.734 to 7.814	No	ns	>0.999999
D-Glucuronic acid	14.84	14.74	17.68	18.28	17.87	15.77	-1.553	-10.33 to 7.22	No	ns	>0.999999
Chondroitin Sulfate C	16.56	15.85	17.1	19.74	15.31	20.32	-1.953	-10.73 to 6.82	No	ns	>0.999999
Mannan	18.87	19.07	18.18	19.23	19.24	19.55	-0.6333	-9.407 to 8.14	No	ns	>0.999999
D-Mannose	22.78	18.73	24.45	31.69	30.09	29.67	-8.497	-17.27 to 0.2771	No	ns	0.073183
a-Methyl-D-Mannoside	17.66	15.04	17.45	19.25	12.58	19.7	-0.46	-9.234 to 8.314	No	ns	>0.999999
D-Mannitol	17.58	14.93	15.08	19.02	16.91	17.48	-1.94	-10.71 to 6.834	No	ns	>0.999999
N-Acetyl-D-Mannosamine	15.46	7.28	14.71	18.37	9.4	18.52	-2.947	-11.72 to 5.827	No	ns	>0.999999
D-Melezitose	17.67	14.74	15.69	20.18	18.17	17.99	-2.747	-11.52 to 6.027	No	ns	>0.999999
Sucrose	17.02	15.77	15.92	19.85	16.99	18.48	-2.203	-10.98 to 6.57	No	ns	>0.999999
Palatinose	41.18	33.78	36.15	37.38	42.55	35.75	-1.523	-10.3 to 7.25	No	ns	>0.999999
D-(+)-Turanose	45.16	42.8	43.44	52.92	52.71	46.31	-6.847	-15.62 to 1.927	No	ns	0.472153
D-Tagatose	26.91	22.48	15.09	18.96	20.4	25.35	-0.07667	-8.85 to 8.697	No	ns	>0.999999
L-Sorbose	19.96	14.04	16.29	17.95	12.91	20.17	-0.2467	-9.02 to 8.527	No	ns	>0.999999
L-Rhamnose	15.69	13.52	13.63	16.65	14.6	17.85	-2.087	-10.86 to 6.687	No	ns	>0.999999
L-Fucose	17.56	15.13	14.78	16.4	15.94	17.2	-0.69	-9.464 to 8.084	No	ns	>0.999999
D-Fucose	17.83	15.02	15.85	18.97	12.76	19.41	-0.8133	-9.587 to 7.96	No	ns	>0.999999
D-Fructose-6-Phosphate	30.73	31.32	31.5	31.82	30.15	31.19	0.13	-8.644 to 8.904	No	ns	>0.999999
D-Fructose	21.6	20.91	19.89	23.5	20.45	22.45	-1.333	-10.11 to 7.44	No	ns	>0.999999
Stachyose	15.83	11.75	14.97	18.69	17.05	15.43	-2.873	-11.65 to 5.9	No	ns	>0.999999
D-Raffinose	16.55	13.87	17.23	17.47	16.68	18.82	-1.773	-10.55 to 7	No	ns	>0.999999
D-Lactitol	14.92	14.93	16.29	17.62	15.82	15.16	-0.82	-9.594 to 7.954	No	ns	>0.999999
Lactulose	16.68	13.97	15.38	16.49	18.03	17.52	-2.003	-10.78 to 6.77	No	ns	>0.999999
a-D-Lactose	17.12	13.62	12.44	17.05	15.22	17.12	-2.07	-10.84 to 6.704	No	ns	>0.999999

Melibionic acid	16.52	14.34	10.96	14.37	14.2	17.38	-1.377	-10.15 to 7.397	No	ns	>0.999999
D-Melibiose	16.07	14.46	12.32	18.01	14.4	19.75	-3.103	-11.88 to 5.67	No	ns	>0.999999
D-Galactose	16.98	15.23	14.95	21.13	19.1	18.87	-3.98	-12.75 to 4.794	No	ns	0.999988
a-Methyl-D-Galactoside	16.91	14.39	13.56	15.1	13.81	18.14	-0.73	-9.504 to 8.044	No	ns	>0.999999
Methyl b-D-Galactoside	16.16	15.07	13.18	18.77	13.44	17.79	-1.863	-10.64 to 6.91	No	ns	>0.999999
N-Acetylneuraminic acid	16.11	16.06	8.43	19.93	15.9	19.53	-4.92	-13.69 to 3.854	No	ns	0.992629
Pectin	15.24	11.11	11.38	18.61	17.96	19.81	-6.217	-14.99 to 2.557	No	ns	0.730268
Sedoheptulosan	16.53	14.83	14.13	17.05	14.35	17.11	-1.007	-9.78 to 7.767	No	ns	>0.999999
Thymidine	12.83	11.58	12.81	16.83	14.86	13.7	-2.723	-11.5 to 6.05	No	ns	>0.999999
Uridine	25.71	27.63	22.54	36.98	33.05	31.11	-8.42	-17.19 to 0.3538	No	ns	0.081101
Adenosine	11.62	13.92	3.38	20.59	19.24	18.65	-9.853	-18.63 to -1.08	Yes	*	0.010013
Inosine	22.99	23.45	25.16	33.67	36.49	38.99	-12.52	-21.29 to -3.743	Yes	****	0.000095
Adonitol	18.8	14.47	15.69	16.68	15.48	20.82	-1.34	-10.11 to 7.434	No	ns	>0.999999
L-Arabinose	17.28	17.37	16.15	17.13	15.77	16.92	0.3267	-8.447 to 9.1	No	ns	>0.999999
D-Arabinose	18.51	15.53	15.38	17.02	14.79	18.85	-0.4133	-9.187 to 8.36	No	ns	>0.999999
b-Methyl-D-Xylopyranoside	14.15	12.85	14.21	14.73	14.16	11.89	0.1433	-8.63 to 8.917	No	ns	>0.999999
Xylitol	14.87	14.11	13.93	17.53	14.42	17.6	-2.213	-10.99 to 6.56	No	ns	>0.999999
myo-Inositol	16.04	15.17	15.15	20.33	16.15	6.94	0.98	-7.794 to 9.754	No	ns	>0.999999
i-Erythritol	14.6	16.18	13.82	17.64	14.02	17.21	-1.423	-10.2 to 7.35	No	ns	>0.999999
Propylene Glycol	14.36	13.85	13.63	17.74	15.77	7.2	0.3767	-8.397 to 9.15	No	ns	>0.999999
Ethanolamine	18.17	14.83	19.95	12.38	18.68	17.01	1.627	-7.147 to 10.4	No	ns	>0.999999
DL-Glycerol Phosphate		25.43	25.29	32.13	31.53	35.45	-7.677	-17.49 to 2.133	No	ns	0.464389
Glycerol	13.81	2.51	12.33	18.21	12.44	13.86	-5.287	-14.06 to 3.487	No	ns	0.968258
Citric acid	17.8	21.04	16.66	20.52	18.17	21.6	-1.597	-10.37 to 7.177	No	ns	>0.999999
Tricarballylic acid	17	14.83	13.5	13.55	12.44	24.04	-1.567	-10.34 to 7.207	No	ns	>0.999999
DL-Lactic Acid		14.79	13.96	16.9	15.52	21.2	-3.498	-13.31 to 6.311	No	ns	>0.999999
D-Lactic acid Methyl Ester	16.98	14.41	15.74	15.67	14.62	20.62	-1.26	-10.03 to 7.514	No	ns	>0.999999
Methyl pyruvate	14.55	14.15	14.66	15.23	14.7	2.28	3.717	-5.057 to 12.49	No	ns	>0.999999
Pyruvic acid	44.74	44.82	41.56	42.91	37.59	41.94	2.893	-5.88 to 11.67	No	ns	>0.999999
a-Ketoglutaric acid	34	36.47	34.73	35.91	31.79	35.74	0.5867	-8.187 to 9.36	No	ns	>0.999999
Succinamic acid	48.12	48.31	38.82	48.04	43.61	44.84	-0.4133	-9.187 to 8.36	No	ns	>0.999999
Succinic acid	15.68	13.62	15.2	19.77	16.81	20.51	-4.197	-12.97 to 4.577	No	ns	0.999919
Mono-Methylsuccinate	31.82	25.84	32.79	40.73	37.45	36.37	-8.033	-16.81 to 0.7405	No	ns	0.133536
L-Malic acid	15.2	14.36	15.21	19.87	16.2	7.39	0.4367	-8.337 to 9.21	No	ns	>0.999999
D-Malic acid	15.63	2.75	13.16	20.07	18.43	3.09	-3.35	-12.12 to 5.424	No	ns	>0.999999
m-Tartaric acid	14.84	13.03	14.51	14.17	13.81	14.53	-0.04333	-8.817 to 8.73	No	ns	>0.999999
Lithium acetoacetate	20.45	15.44	17.12	10.48	12.29	20.93	3.103	-5.67 to 11.88	No	ns	>0.999999
g-Amino-N-Butyric acid	19.09	15.51	16.58	12.54	16.33	21.59	0.24	-8.534 to 9.014	No	ns	>0.999999
a-KetoButyric acid	30.22	31.27	29.76	25.3	8.17	28.02	9.92	1.146 to 18.69	Yes	**	0.009014
a-Hydroxybutyric acid	15.16	12.88	14.99	13.87	15.31	20.91	-2.353	-11.13 to 6.42	No	ns	>0.999999
b-Hydroxybutyric acid	13.71	13.91	6.52	19.09	16.04	20.73	-7.24	-16.01 to 1.534	No	ns	0.327976
g-Hydroxybutyric acid	16.68	15.38	14.58	17.69	6.09	21.1	0.5867	-8.187 to 9.36	No	ns	>0.999999
Butyric acid	9.18	8.14	8.89	9.76	7.54	12.59	-1.227	-10 to 7.547	No	ns	>0.999999
23-Butanediol		11.95	15.09	13.13	15.31	7.33	1.597	-8.213 to 11.41	No	ns	>0.999999
3-Hydroxy-2-butanone	13.97	12.63	14.84	15.16	14.58	16.53	-1.61	-10.38 to 7.164	No	ns	>0.999999
Propionic acid	15.54	13.22	13.12	13.84	16.32	15.87	-1.383	-10.16 to 7.39	No	ns	>0.999999
Acetic acid	16.93	3.42	11.72	15.48	14.11	14.96	-4.16	-12.93 to 4.614	No	ns	0.99994
Hexanoic acid	16.07	13.76	13.33	12.81	12.49	10.79	2.357	-6.417 to 11.13	No	ns	>0.999999

Supplementary Table 3 Mass Spectrometric Identification of Proteins Present in PFKFB4 Protein Prep.

Accession	Description	Score	Coverage	# Proteins	# Unique Peptides	# Peptides	# PSMs	# AAs	MW [kDa]	calc. pI
441610463	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X5 [Nomascus leucogenys]	1358.57	58.39	1428	1	26	214	435	50.1	5.94
953876539	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X5 [Equus caballus]	1344.46	57.75	1600	2	28	199	445	51.2	6.05
884935300	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X4 [Cavia porcellus]	1330.28	52.87	1594	0	26	223	435	50.3	6.19
507620286	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X2 [Octodon degus]	1308.03	46.10	1109	0	24	213	462	53.3	7.18
1016691066	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 [Erinaceus europaeus]	1275.06	44.14	1290	0	22	212	469	52.9	5.41
918651007	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 [Chinchilla lanigera]	1149.31	33.59	1509	0	19	164	515	59.2	8.06
1012173223	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X4 [Rousettus aegyptiacus]	1136.26	57.01	1591	2	27	204	435	50.3	6.05
675727347	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X4 [Callithrix jacchus]	1094.80	65.29	1631	1	28	216	435	50.2	6.09
731469423	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X5 [Loxodonta africana]	1022.06	50.00	1418	0	22	181	432	49.9	5.80
1008754772	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X1 [Peromyscus maniculatus bairdii]	994.70	42.57	1110	1	20	167	451	51.9	5.67
634888524	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X5 [Orycteropus afer afer]	984.64	43.65	1412	0	21	170	433	49.8	6.01
545533845	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X2 [Canis lupus familiaris]	982.07	55.63	1588	0	24	197	435	50.4	6.14
752425840	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X2 [Ailuropoda melanoleuca]	906.16	54.02	1579	1	23	153	435	50.5	6.28
183393229	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 splice isoform 9 [Mus musculus]	855.87	44.24	960	1	17	113	330	38.2	5.12
586486424	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X3 [Chrysochloris asiatica]	704.39	37.34	1411	0	19	153	458	52.6	5.81
471355905	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X3 [Trichechus manatus latirostris]	300.05	43.30	1513	0	19	120	448	51.8	5.81
821469807	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X1 [Sarcophilus harrisii]	284.53	35.92	1505	1	15	112	426	49.5	6.11
54299283	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 4 splice isoform 2 biphosphatase polypeptide [Mus musculus]	195.23	45.42	957	2	14	54	251	29.0	6.28
675724924	PREDICTED: keratin, type I cytoskeletal 9, partial [Pan paniscus]	177.02	29.35	30	10	10	16	535	55.2	5.07
1049402832	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X1 [Corvus brachyrhynchos]	166.63	25.98	1381	1	12	60	458	52.9	6.73
668728209	glutathione S-transferase sigma 4 [Spodoptera litura]	159.40	23.53	2	4	4	8	204	23.1	5.08
874489449	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X1 [Anas platyrhynchos]	155.78	24.89	1379	1	12	60	474	54.7	5.85
426348414	PREDICTED: keratin, type I cytoskeletal 10 [Gorilla gorilla gorilla]	152.67	20.04	842	7	8	9	489	51.7	5.07
113015252	chitinase [Plutella xylostella multiple nucleopolyhedrovirus]	144.97	16.52	19	7	7	8	551	61.5	5.00
224036304	Chain A, Structural Characterization Of An Engineered Allosteric Protein	142.63	33.64	114	9	9	20	214	25.0	6.15
426372622	PREDICTED: keratin, type II cytoskeletal 1 [Gorilla gorilla gorilla]	139.11	21.96	520	6	13	18	642	65.9	8.12
795247621	PREDICTED: keratin, type I cytoskeletal 16 isoform X1 [Mandrillus leucophaeus]	138.47	9.89	764	2	5	6	839	92.1	4.97
157113751	AAEL006582-PA [Aedes aegypti]	136.43	9.52	1644	7	7	9	998	109.5	5.50
965911305	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 1 isoform X5 [Ovis aries musimon]	116.71	17.14	972	1	7	31	385	44.6	5.44
972973282	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X3 [Lepisosteus oculatus]	114.91	18.85	1080	1	8	33	435	50.4	6.62
47229094	unnamed protein product, partial [Tetraodon nigroviridis]	110.24	11.27	724	1	4	20	417	48.6	6.80
334303360	glutathione S-transferase s1 protein [Spodoptera litura]	109.35	6.97	1	1	1	3	201	22.9	6.23
230765	Chain E, Crystal Structure Of An Engineered Subtilisin Inhibitor Complexed With Bovine Trypsin	101.96	23.18	43	3	3	6	220	22.9	8.21
1042294165	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase-like isoform X3 [Ictalurus punctatus]	98.21	12.44	696	1	4	20	426	49.6	6.76
507116798	heat shock protein 90 cognate [Spodoptera littoralis]	97.84	10.82	147	6	6	7	619	71.6	5.26
9627769	apoptosis inhibitor [Autographa californica nucleopolyhedrovirus]	95.40	13.99	3	3	3	6	286	33.3	4.83
435549	early 49 kDa protein [Autographa californica nucleopolyhedrovirus]	93.68	10.59	12	4	4	4	425	49.3	9.09
507531701	PREDICTED: keratin, type II cytoskeletal 1 [Jaculus jaculus]	93.19	7.36	305	0	5	7	625	64.5	8.02
146741522	keratin 16 [Pan troglodytes verus]	91.44	10.41	564	1	4	4	461	50.2	5.00
334303362	glutathione S-transferase s2 protein [Spodoptera litura]	90.67	17.16	2	3	3	3	204	23.2	5.69
154091282	ADP/ATP tranlocase [Heliconius melpomene]	89.14	28.67	2162	7	7	10	300	32.8	9.79
821004410	PREDICTED: keratin, type II cytoskeletal 2 epidermal isoform X3 [Nomascus leucogenys]	83.14	4.98	337	0	3	4	623	63.9	7.20
397133547	P24 [Bombyx mandarina nucleopolyhedrovirus S2]	79.26	30.77	12	4	4	4	195	21.8	6.92
829724257	PREDICTED: keratin, type II cytoskeletal 1 [Microcebus murinus]	78.83	7.40	310	0	6	8	649	66.1	8.34
657781790	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4 isoform X2 [Cynoglossus semilaevis]	75.73	13.66	800	1	7	21	454	52.7	5.60
940377799	Dm0-like lamin [Spodoptera frugiperda]	75.32	4.22	1	2	2	2	616	70.3	6.68
217071826	unknown [Medicago truncatula]	74.36	9.85	256	1	2	2	406	45.2	6.35
21759389	RecName: Full=60S ribosomal protein L13 [Spodoptera frugiperda]	73.70	10.50	11	2	2	2	219	24.9	11.49
397522071	PREDICTED: keratin, type II cytoskeletal 2 epidermal isoform X3 [Pan paniscus]	73.33	5.63	258	1	3	4	639	65.5	8.00
114051710	mitochondrial prohibitin complex protein 2 [Bombyx mori]	73.13	5.35	9	1	1	1	299	33.2	9.70
512895401	PREDICTED: 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase isoform X4 [Bombyx mori]	72.84	9.77	341	3	4	10	471	54.4	6.73
296322	unnamed protein product [Autographa californica nucleopolyhedrovirus]	72.13	15.48	2	1	1	1	84	9.5	7.24
9627817	AcOrf-74 peptide [Autographa californica nucleopolyhedrovirus]	71.28	18.49	3	4	4	4	265	30.5	5.12
831226795	PREDICTED: keratin, type II cytoskeletal 6A [Otolemur garnettii]	71.13	9.28	550	1	4	4	442	47.4	8.84
563854778	hypothetical protein [Mesorhizobium sp. L48C026A00]	69.25	8.57	58	1	1	1	105	11.0	10.48
1495233	HSC70 [Trichoplusia ni]	68.92	20.98	668	10	12	13	653	71.8	5.67
1043526329	beta-1-tubulin, partial [Thitarodes armoricanus]	66.97	25.29	6699	1	9	13	431	48.5	4.78
114051313	chaperonin containing t-complex polypeptide 1 beta subunit [Bombyx mori]	66.62	2.99	1	1	1	1	536	57.6	6.76
91982130	unknown [Plutella xylostella multiple nucleopolyhedrovirus]	65.93	9.48	13	3	3	4	327	38.7	7.44
1016158487	60S ribosomal protein L23, partial [Dufourea novaeangliae]	65.59	22.94	34	2	2	2	109	11.7	10.37
83025072	uncharacterized protein LOC641565 [Danio rerio]	64.40	21.43	5341	1	7	7	448	50.2	4.89
998523268	PREDICTED: tubulin beta chain-like [Neodiprion lecontei]	64.40	10.56	3844	1	5	6	445	50.0	4.89
1026573754	Tubulin beta chain, partial [Eufriesea mexicana]	64.29	14.99	3570	1	5	6	427	47.6	5.25
9627778	nuclear matrix associated phosphoprotein [Autographa californica nucleopolyhedrovirus]	63.07	8.73	1	2	2	2	275	31.3	9.55
23476498	LEF-3 [Rachiplusia ou MNPV]	62.81	8.05	4	3	3	3	385	44.5	5.24
914558757	putative fatty acid synthase, partial [Operophtera brumata]	62.14	3.07	5	1	1	1	358	38.4	8.27
607358304	26S protease regulatory subunit [Cerapachys biroi]	61.16	5.53	98	1	1	1	235	26.0	7.99
671401695	Bm12665, partial [Brugia malayi]	60.22	30.23	651	1	1	1	43	4.9	9.32
930653035	Heat shock 70 kDa protein cognate 3 [Papilio xuthus]	60.07	8.23	13	2	4	4	656	72.6	5.26
9627852	AcOrf-109 peptide [Autographa californica nucleopolyhedrovirus]	58.99	4.36	1	1	1	1	390	44.8	8.27
334303364	glutathione S-transferase s3 protein [Spodoptera litura]	58.97	4.90	1	1	1	2	204	23.6	5.69
91982221	vp80 [Plutella xylostella multiple nucleopolyhedrovirus]	58.20	4.49	7	2	2	2	691	79.9	5.55
297613770	heat shock protein, partial [Actias selene]	57.54	15.19	23	2	2	2	158	17.7	7.65
914559265	60S acidic ribosomal protein P1 [Operophtera brumata]	57.06	14.55	14	1	1	1	110	11.3	4.28
9627823	occlusion-derived virus glycoprotein [Autographa californica nucleopolyhedrovirus]	56.15	12.96	15	4	4	4	409	45.4	8.03
332409	23.7 kDa protein [Autographa californica nucleopolyhedrovirus]	56.05	5.37	6	1	1	1	205	23.8	8.32
23476506	major capsid protein [Rachiplusia ou MNPV]	55.78	3.17	3	1	1	1	347	39.0	6.98
389615184	chaperonin, partial [Papilio polytes]	54.55	12.07	7	1	1	1	116	12.5	5.95
1046840413	truncated FP25K [Autographa californica multiple nucleopolyhedrovirus]	54.37	13.66	11	2	2	2	161	18.6	9.09
357612498	chaperonin subunit 4 delta [Danaus plexippus]	53.22	3.54	1	1	1	2	536	56.6	7.31
23476505	unknown [Rachiplusia ou MNPV]	53.21	6.53	14	2	2	3	352	40.8	7.97
914558624	Uncharacterized protein OBRU01_20832 [Operophtera brumata]	51.96	2.30	2	1	1	1	479	52.0	8.76
700275750	AcOrf-81 [Autographa californica nucleopolyhedrovirus]	51.70	5.91	7	1	1	1	220	25.5	9.03
11120626	cationic trypsinogen, partial [Homo sapiens]	50.92	11.90	67	1	1	2	84	9.1	9.06
657809926	PREDICTED: ATP-dependent RNA helicase DDX3X-like [Cynoglossus semilaevis]	49.89	14.10	1439	1	1	1	78	8.8	4.49
930651401	40S ribosomal protein S18 [Papilio xuthus]	48.09	17.07	32	2	2	2	123	14.3	10.30
229358205	V-CATH [Bombyx mandarina nucleopolyhedrovirus]	47.69	7.12	14	2	2	2	323	37.0	6.67
113015260	p94 [Plutella xylostella multiple nucleopolyhedrovirus]	47.57	1.62	4	1	1	1	803	94.5	6.43
170067585	mitochondrial inner membrane protein translocase, 13kD-subunit [Culex quinquefasciatus]	47.24	21.21	9	1	1	1	66	7.4	5.36
27260898	ribosomal protein S9, partial [Spodoptera frugiperda]	46.13	12.39	1	1	1	1	113	12.8	10.58
931580770	PREDICTED: dermcidin isoform X2 [Pan paniscus]	44.79	10.89	9	1	1	1	101	10.4	7.14
350536343	26S protease regulatory subunit 4 [Taeniopygia guttata]	42.68	2.73	900	1	1	2	440	49.2	6.21
357629861	mitochondrial carnitine/acylcarnitine translocase [Danaus plexippus]	42.66	4.70	7	1	1	1	298	32.2	8.98
328670887	voltage-dependent anion-selective channel [Helicoverpa armigera]	40.44	5.32	8	1	1	1	282	30.1	7.52
57546919	TPA: Hornerin [Homo sapiens]	33.97	5.12	4	3	3	3	2850	282.2	10.02
1742980	p25 protein, partial [Bombyx mori nucleopolyhedrovirus]	33.95	8.72	10	1	1	1	172	19.2	7.93
558705956	DnaJ [Spodoptera frugiperda]	33.24	4.71	1	2	2	2	403	45.4	6.90
296324	unnamed protein product [Autographa californica nucleopolyhedrovirus]	28.09	18.35	2	1	1	1	109	12.5	4.54
91982167	proliferating cell nuclear antigen [Plutella xylostella multiple nucleopolyhedrovirus]	27.60	8.98	4	1	1	1	256	28.6	5.48
91982184	unknown [Plutella xylostella multiple nucleopolyhedrovirus]	0.00	1.11	4	1	1	1	808	93.9	5.34
435550	late 43 kDa protein [Autographa californica nucleopolyhedrovirus]	0.00	5.73	6	2	2	2	384	43.5	7.40
1050355174	hypothetical protein XELAEV_18003546mg [Xenopus laevis]	0.00	8.56	1	2	2	2	362	41.2	8.85

Source data for gels

Fig. 1e

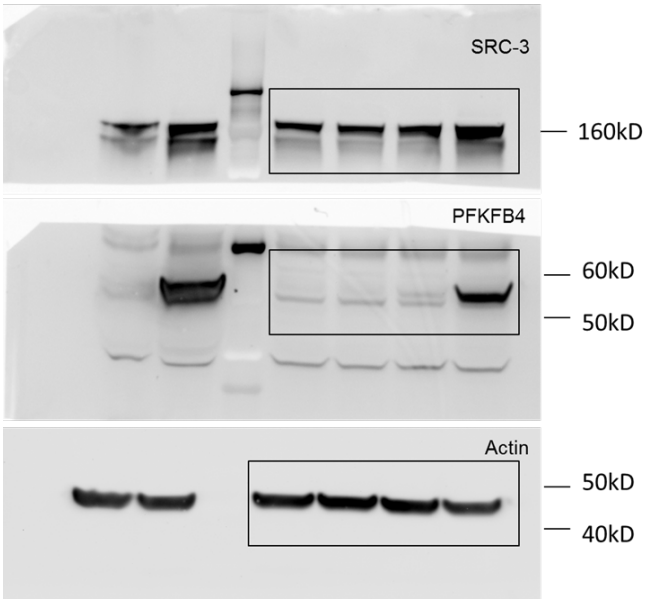


Fig. 2b

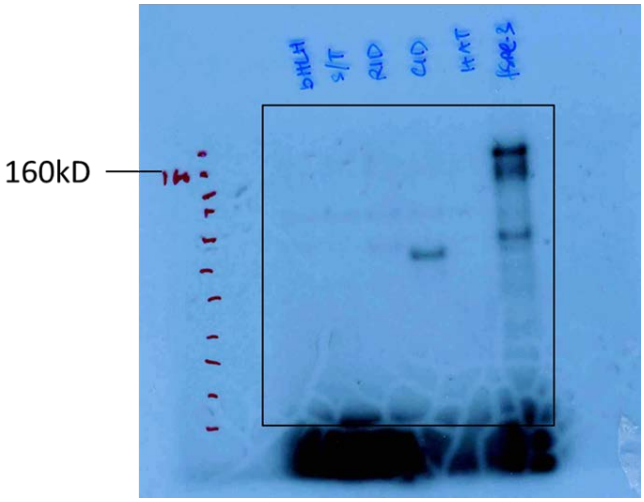


Fig. 2a

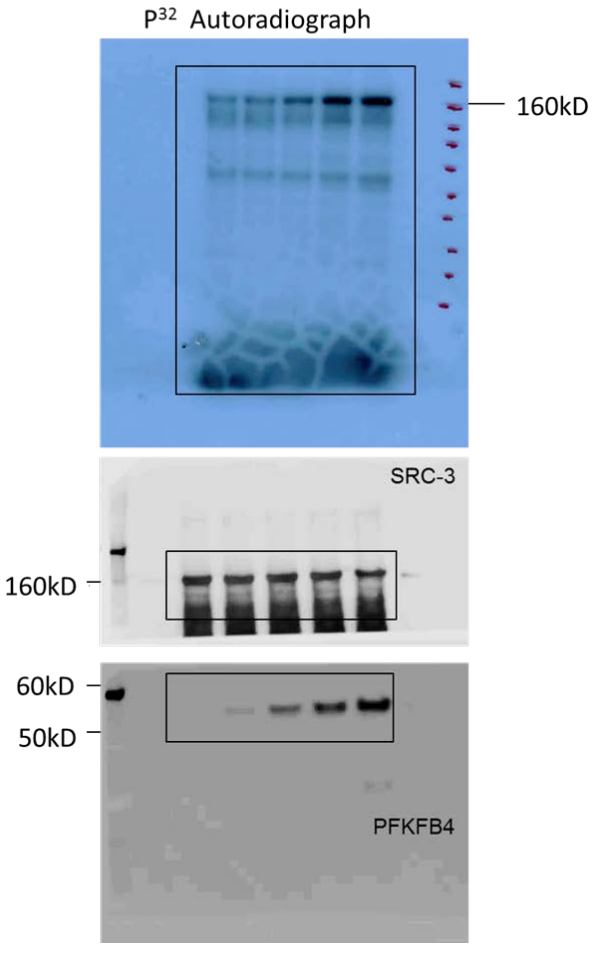


Fig. 2c

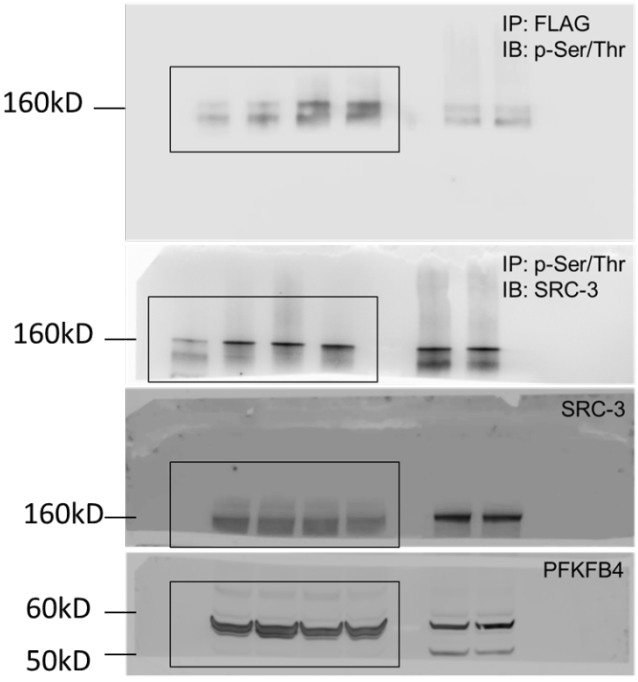


Fig. 2d

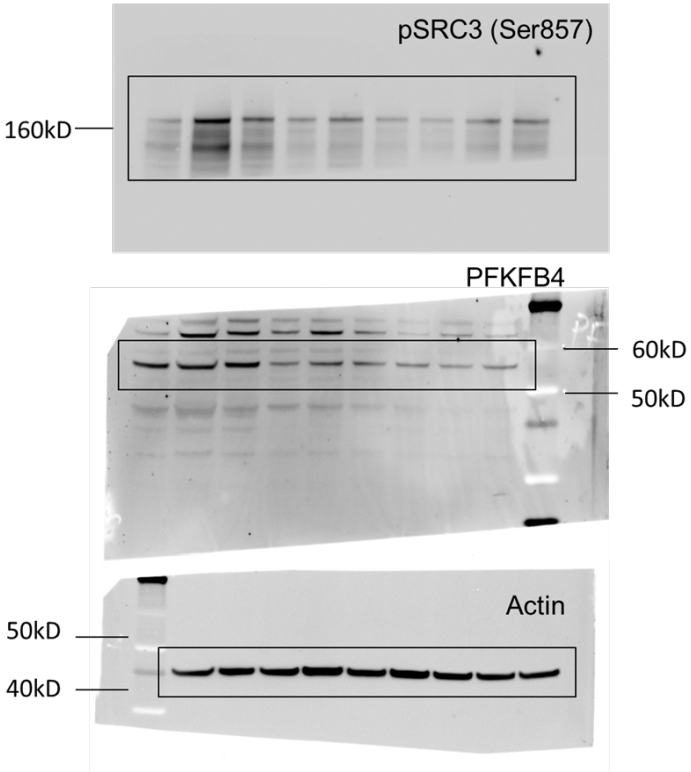


Fig. ED2c

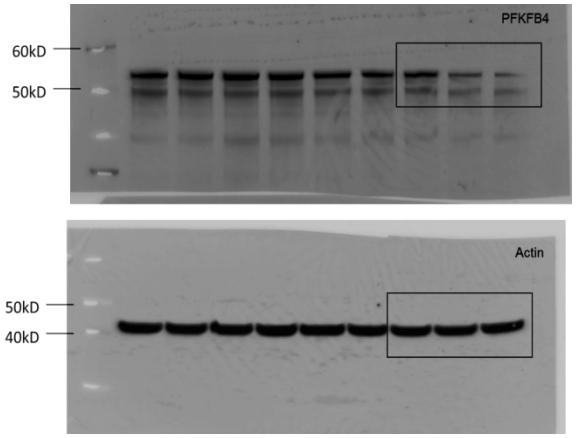
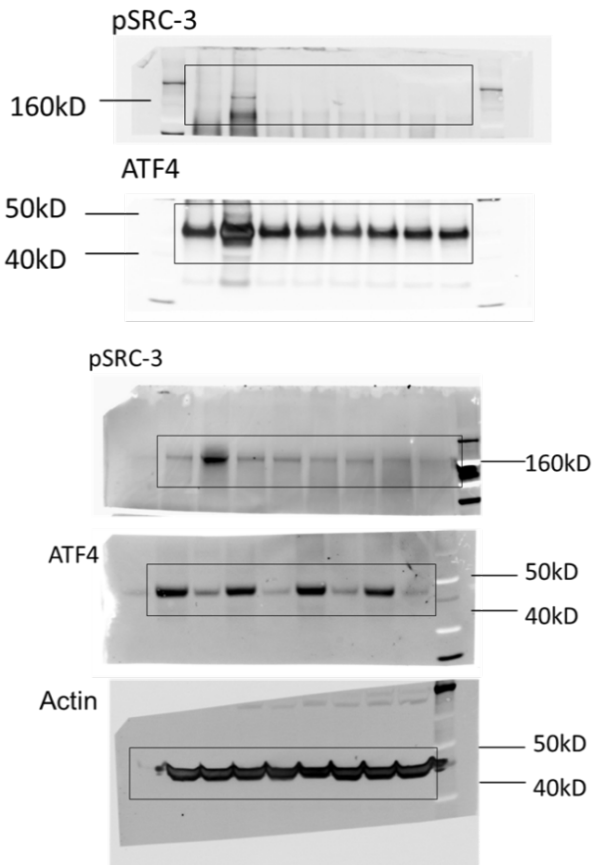
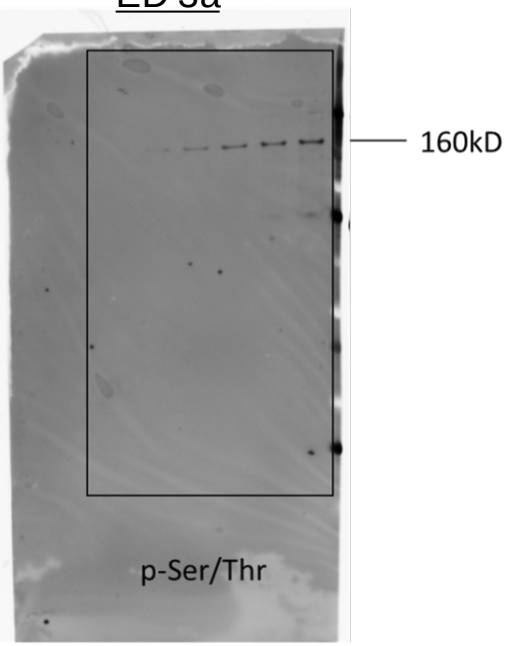


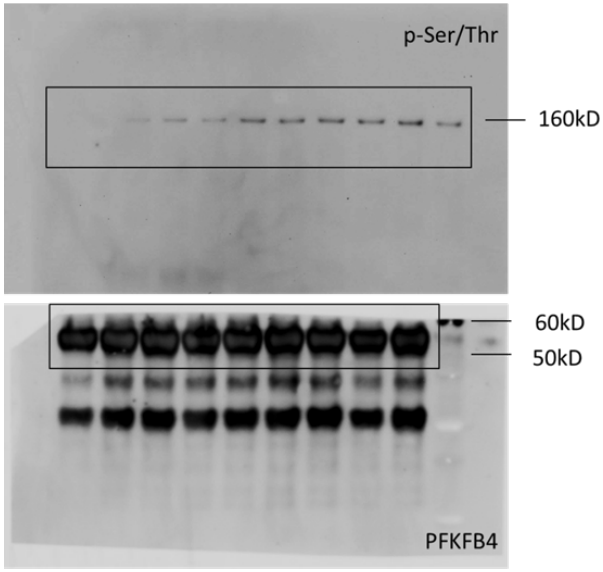
Fig. 3d



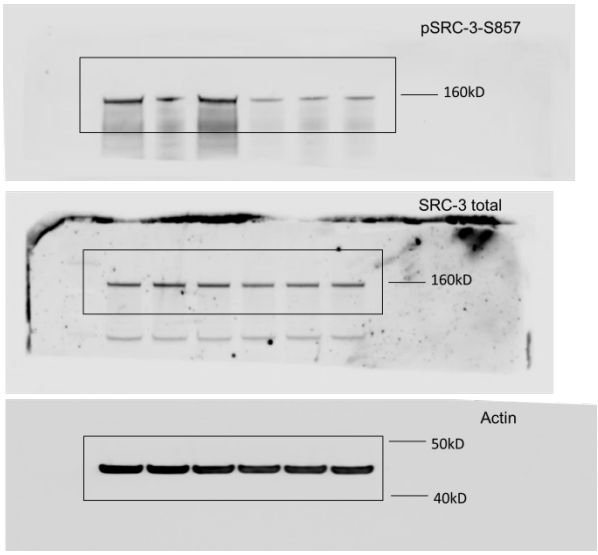
ED 3a



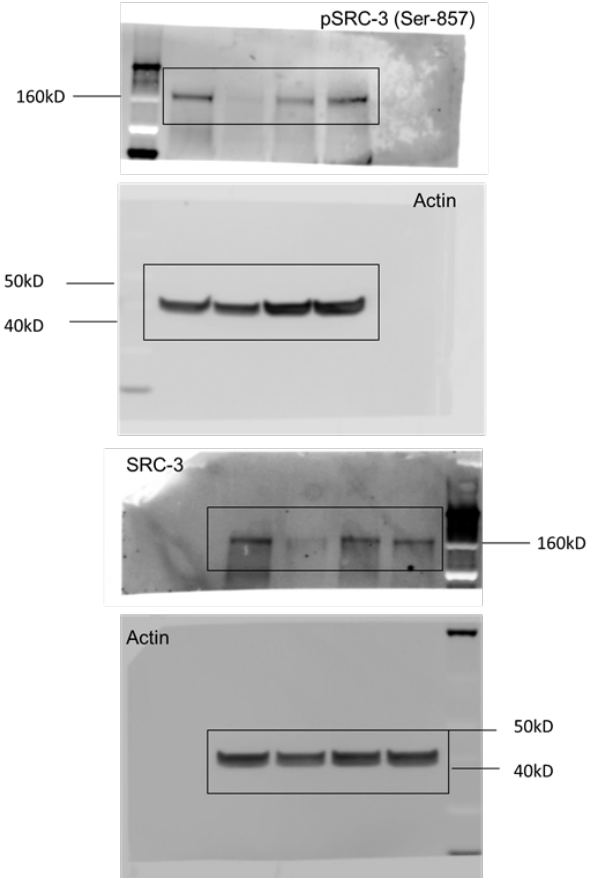
ED. 3b



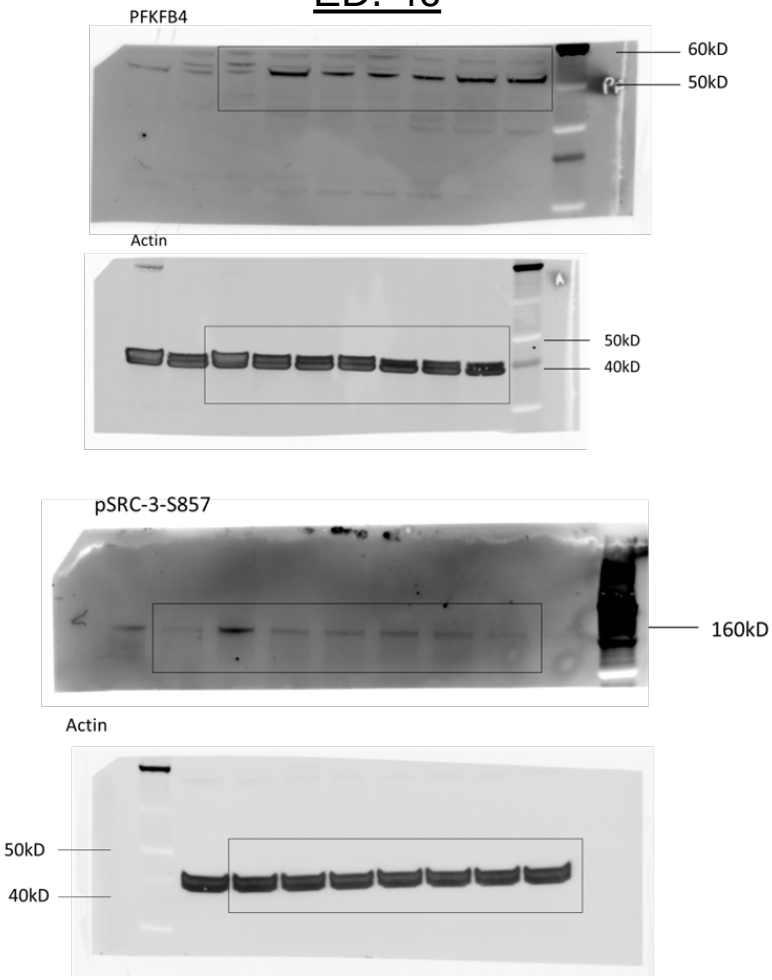
ED 3h



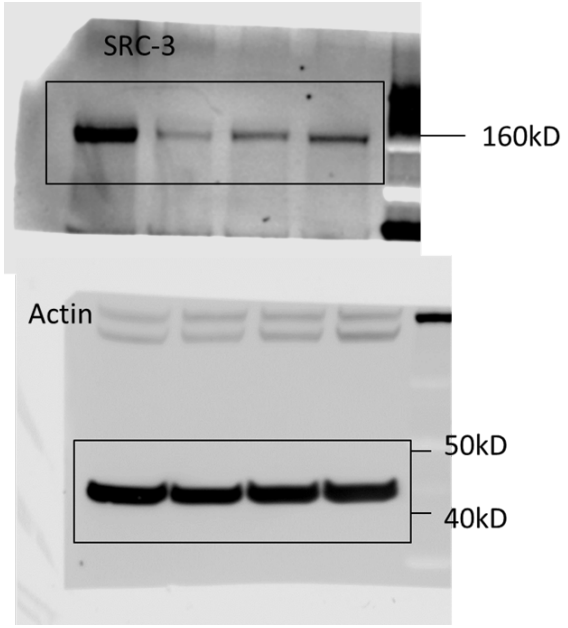
ED. 3g



ED. 4c



ED. 9e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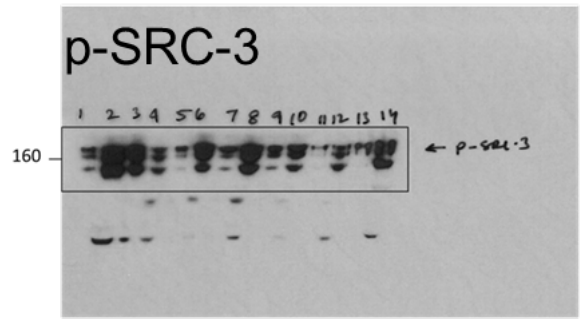
Actin
50kD
40kD

ED. 10a, b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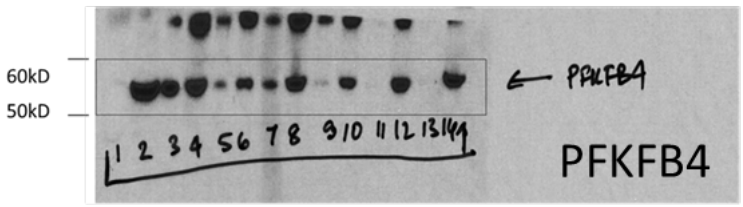
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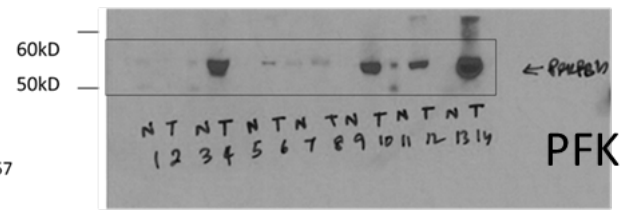
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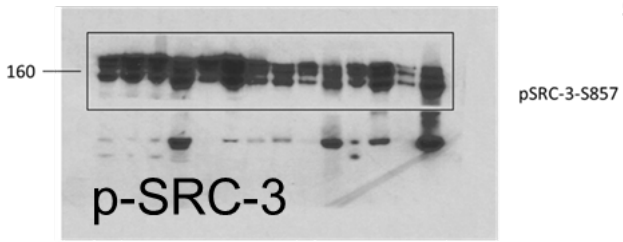
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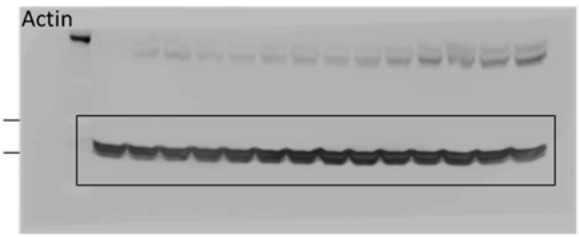
Actin
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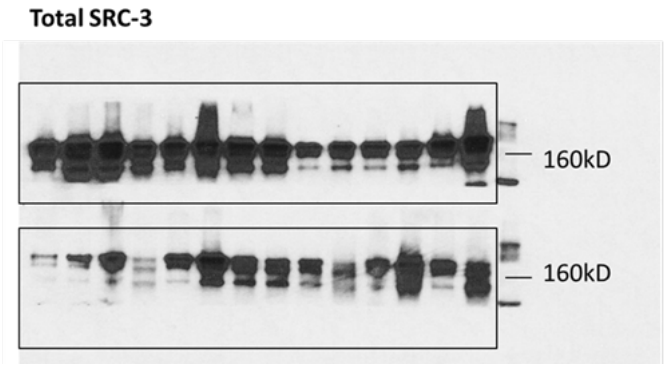
Total SRC-3
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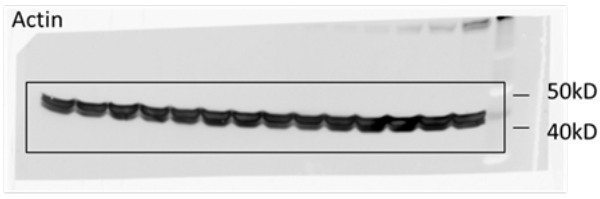
160kD


Actin
50kD
40kD