

Table S2. Metabolomic profile of galactose-stressed *galT* strain

BIOCHEMICAL NAME	Mean values of raw ion counts*		Natural Log of (Mean values)		Fold of change (+) Gal/ (-) Gal**	Statistical values***		PLATFORM	KEGG	RI	MASS
	w/o Gal	w/ Gal	w/o Gal	w/ Gal		P-VALUE	Q-VALUE				
galactose	177463.13	#####	12.09	19.03	6.94	< 0.001	0.0014	GC/MS	C01662	1793.8	203.9
glucose	514464.67	7593415.31	13.15	15.84	2.69	0.0124	0.0134	GC/MS	C00293	1866.8	217.1
1-oleoylglycerophosphocholine	58639.25	270266.51	10.98	12.51	1.53	0.0331	0.0254	LC/MS pos	C03916	5700	522.4
maltotriose	278502.33	1216741.60	12.54	14.01	1.47	0.0760	0.0444	GC/MS	C01835	2419	204
mannose	463390.33	1790104.91	13.05	14.40	1.35	0.0292	0.0234	GC/MS	C00159	1753.5	203.9
Isobar: fructose 1,6-diphosphate, glucose 1,6-diphosphate	9015.70	34385.94	9.11	10.45	1.34	0.0109	0.0125	LC/MS neg	-	572	339
fructose-6-phosphate	40600.33	137862.47	10.61	11.83	1.22	0.0057	0.0091	GC/MS	C05345	1994.9	315.1
asparagine	73941.33	227441.14	11.21	12.33	1.12	0.0064	0.0094	GC/MS	C00152	1651.2	231
riboflavin (Vitamin B2)	133309.86	381043.01	11.80	12.85	1.05	< 0.001	0.0014	LC/MS pos	C00255	3111	377.2
ribose	2563519.97	7179721.10	14.76	15.79	1.03	< 0.001	0.0007	GC/MS	C00121	1650.2	204
nicotinate ribonucleoside	76041.37	203534.02	11.24	12.22	0.98	0.0149	0.0154	LC/MS pos	C05841	1105	256
maltose	1373745.58	2964171.92	14.13	14.90	0.77	0.0246	0.0226	GC/MS	C00208	2142.1	204.1
10-heptadecenoate (17:1n7)	828288.78	1680629.20	13.63	14.33	0.71	0.0933	0.0499	LC/MS neg	-	5558	267.3
cis-vaccenate (18:1n7)	4946880.93	9866664.52	15.41	16.10	0.69	0.0282	0.0234	LC/MS neg	C08367	5648	281.4
nicotinate	192799.19	357653.76	12.17	12.79	0.62	0.0150	0.0154	LC/MS neg	C00253	1221	122.1
phosphopantetheine	154988.95	250263.93	11.95	12.43	0.48	0.0753	0.0444	LC/MS pos	C01134	2323	359.1
nicotinic acid mononucleotide (NaMN)	749239.39	1158891.16	13.53	13.96	0.44	0.0188	0.0188	LC/MS pos	-	879	336
galactose 1-phosphate	89173.00	134987.33	11.40	11.81	0.41	0.0627	0.0398	GC/MS	-	1998	299.1
10-nonadecenoate (19:1n9)	189002.61	282685.00	12.15	12.55	0.40	0.0257	0.0226	LC/MS neg	-	5775	295.4
mannitol-1-phosphate	979427.63	1415534.44	13.79	14.16	0.37	0.0559	0.0375	GC/MS	-	2035	387.2
eicosenoate (20:1n9 or 11)	78785.14	112092.09	11.27	11.63	0.35	0.0947	0.0499	LC/MS neg	-	5955	309.4
ethanolamine	598512.90	764890.96	13.30	13.55	0.25	0.0932	0.0499	GC/MS	C00189	1304	174.1
arginine	352873.99	445908.68	12.77	13.01	0.23	0.0771	0.0444	GC/MS	C00062	1608.5	142
thymine	844168.14	1054175.19	13.65	13.87	0.22	0.0116	0.0130	GC/MS	C00178	1429.1	255
hypoxanthine	448030.06	518055.71	13.01	13.16	0.15	0.0046	0.0078	LC/MS neg	C00262	1313	135.1
fructose	#####	#####	16.14	16.28	0.14	0.0916	0.0499	GC/MS	C00095	1758	217
myristate (14:0)	227377.20	186617.49	12.33	12.14	-0.20	0.0798	0.0453	GC/MS	C06424	1789.7	285.2
malate	1504774.05	1227503.67	14.22	14.02	-0.20	0.0489	0.0347	GC/MS	C00149	1502	233
thymidine 5'-monophosphate	31715.98	25862.67	10.36	10.16	-0.20	0.0736	0.0444	LC/MS neg	C00364	924	321.1
N-acetylisoleucine	434430.88	348534.76	12.98	12.76	-0.22	0.0699	0.0429	LC/MS pos	-	3370	174.1
xanthine	3578253.26	2769563.60	15.09	14.83	-0.26	0.0900	0.0499	GC/MS	C00385	1889.9	353
tyrosine	#####	8636362.37	16.23	15.97	-0.26	0.0503	0.0350	LC/MS pos	C00082	1516	182.1
glycerol 3-phosphate (G3P)	3979996.81	2975739.46	15.20	14.91	-0.29	0.0583	0.0384	GC/MS	C00093	1719.7	357.1
histidine	1857307.54	1364748.14	14.43	14.13	-0.31	0.0310	0.0243	GC/MS	C00135	1837.3	154
glycine	#####	#####	17.01	16.69	-0.31	0.0091	0.0112	GC/MS	C00037	1166	101.9
pseudouridine	233302.96	168966.67	12.36	12.04	-0.32	< 0.001	0.0007	LC/MS neg	C02067	1104	243.1
4-hydroxybutyrate (GHB)	247460.87	178327.64	12.42	12.09	-0.33	0.0459	0.0339	GC/MS	C00989	1277	233.1
adenosine	967332.15	689501.79	13.78	13.44	-0.34	0.0677	0.0423	LC/MS pos	C00212	1605	268.1
2-aminobutyrate	3099893.65	2203997.05	14.95	14.61	-0.34	0.0014	0.0040	GC/MS	C02261	1215.7	130
pantothenate	4082630.38	2890565.45	15.22	14.88	-0.35	0.0623	0.0398	LC/MS pos	C00864	2218	220.1
threonine	2863023.64	1967133.85	14.87	14.49	-0.38	0.0081	0.0109	GC/MS	C00188	1412.3	218.1

alanylalanine	3474433.44	2272804.65	15.06	14.64	-0.42	0.0532	0.0363	LC/MS pos	C00993	757	161.1
N-acetylmethionine	21755.33	14016.40	9.99	9.55	-0.44	0.0287	0.0234	LC/MS neg	C02712	1805	190.1
3-hydroxybutyrate (BHBA)	995913.53	615786.19	13.81	13.33	-0.48	0.0039	0.0076	GC/MS	C01089	1203.5	116.9
acetyl CoA	780682.19	438802.89	13.57	12.99	-0.58	0.0219	0.0213	LC/MS neg	C00024,C00040	1900	808.1
N-acetylvaline	269754.28	146549.98	12.51	11.90	-0.61	0.0363	0.0273	LC/MS pos		2654	160.1
adenosine 5'diphosphoribose	26008.62	14034.68	10.17	9.55	-0.62	0.0472	0.0341	LC/MS neg	C00301	964	558.1
valine	#####	#####	17.38	16.76	-0.62	0.0083	0.0109	LC/MS pos	C00183	1040	118.1
glutamine	134185.22	70641.34	11.81	11.17	-0.64	0.0292	0.0234	GC/MS	C00064	1698.4	227.1
homoserine	324218.04	170019.29	12.69	12.04	-0.65	0.0045	0.0078	GC/MS	C00263,C00926	1471	218.1
succinate	7809463.60	3966625.09	15.87	15.19	-0.68	0.0017	0.0044	GC/MS	C00042	1348	247
nicotinate adenine dinucleotide (NAAD+)	54427.98	26387.44	10.90	10.18	-0.72	0.0011	0.0036	LC/MS neg	C00857	1236	662.9
lysine	1642510.65	789632.88	14.31	13.58	-0.73	0.0255	0.0226	GC/MS	C00047	1836.7	317.2
glutamate	#####	5311283.60	16.22	15.49	-0.74	0.0226	0.0213	LC/MS pos	C00025	681	148.1
cysteine	3378651.84	1488225.16	15.03	14.21	-0.82	0.0974	0.0506	GC/MS	C00097	1560.1	218
5,6-dihydrouracil	248323.43	107722.83	12.42	11.59	-0.84	0.0021	0.0050	GC/MS	C00429	1505.2	243
diaminopimelate	284106.83	115045.47	12.56	11.65	-0.90	0.0062	0.0094	GC/MS	C00666	1874.4	272.1
ophthalmate	2635527.80	831589.30	14.78	13.63	-1.15	0.0035	0.0073	LC/MS pos	-	1457	290.1
glutathione, reduced (GSH)	5552947.39	1649573.61	15.53	14.32	-1.21	0.0031	0.0068	LC/MS pos	C00051	1274	308.1
orotate	#####	4128077.91	16.50	15.23	-1.26	0.0019	0.0047	GC/MS	C00295	1709.6	254.1
cysteine-glutathione disulfide	917595.35	247650.01	13.73	12.42	-1.31	0.0041	0.0076	LC/MS pos	-	821	427.1
2-pyrrolidinone	895367.99	208445.73	13.70	12.25	-1.46	0.0087	0.0110	GC/MS	-	1190.9	142
N-acetylaspartate (NAA)	238449.61	55403.07	12.38	10.92	-1.46	< 0.001	0.0007	LC/MS neg	C01042	620	174.1
3-phosphoglycerate	1314934.06	296250.00	14.09	12.60	-1.49	< 0.001	0.0018	GC/MS	C00597	1753.6	299
gamma-glutamylglutamate	149946.86	32046.87	11.92	10.37	-1.54	< 0.001	0.0029	LC/MS pos	-	1036	277.1
succinyl CoA	1262993.85	221062.68	14.05	12.31	-1.74	0.0078	0.0109	LC/MS pos	C00091	2412	868
5-methylthioadenosine (MTA)	97985.96	16897.33	11.49	9.73	-1.76	< 0.001	0.0007	LC/MS pos	C00170	2427	298.1
gamma-aminobutyrate (GABA)	#####	1372119.06	16.27	14.13	-2.14	0.0013	0.0038	LC/MS pos	C00334	682	104.1
glutathione, oxidized (GSSG)	698120.48	69872.95	13.46	11.15	-2.30	0.0108	0.0125	LC/MS pos	C00127	1496	613.1
N-carbamoylaspartate	523776.54	20576.33	13.17	9.93	-3.24	< 0.001	0.0029	GC/MS	C00438	1749	257.1
dihydroorotate	1138591.27	38864.33	13.95	10.57	-3.38	< 0.001	0.0027	GC/MS	C00337	1730.4	257

\*Three independent experiments were performed and mean values of raw ion counts were calculated.

\*\*Data was sorted by ratio of metabolite which was calculated by [Ln (w/ Gal) - Ln (w/o Gal)].

\*\*\*Statistical Analysis: Missing values (if any) are assumed to be below the level of detection. Given the multiple comparisons inherent in analysis of metabolites, between-group relative differences are assessed using both Student's t-tests (p-value) and false discovery rate analysis (q-value). Pathways are assigned for each metabolite, also allowing examination of overrepresented pathways.