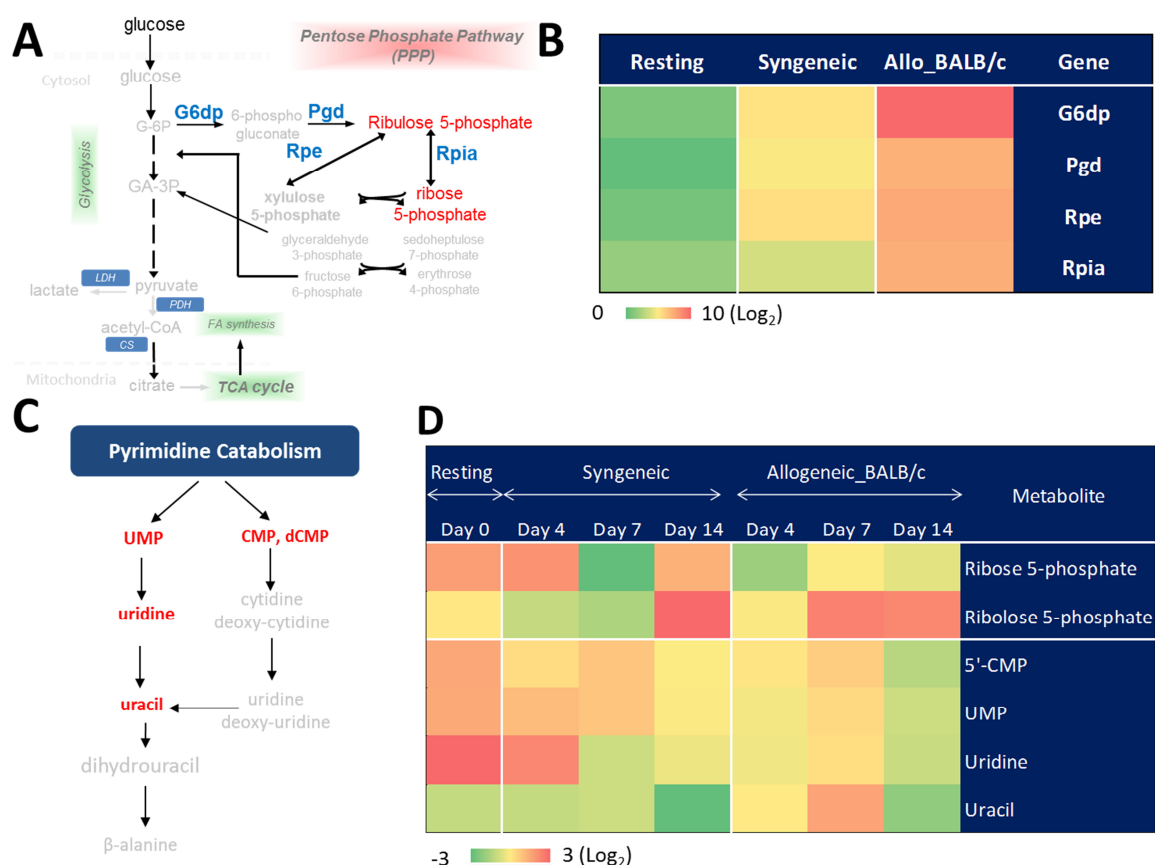
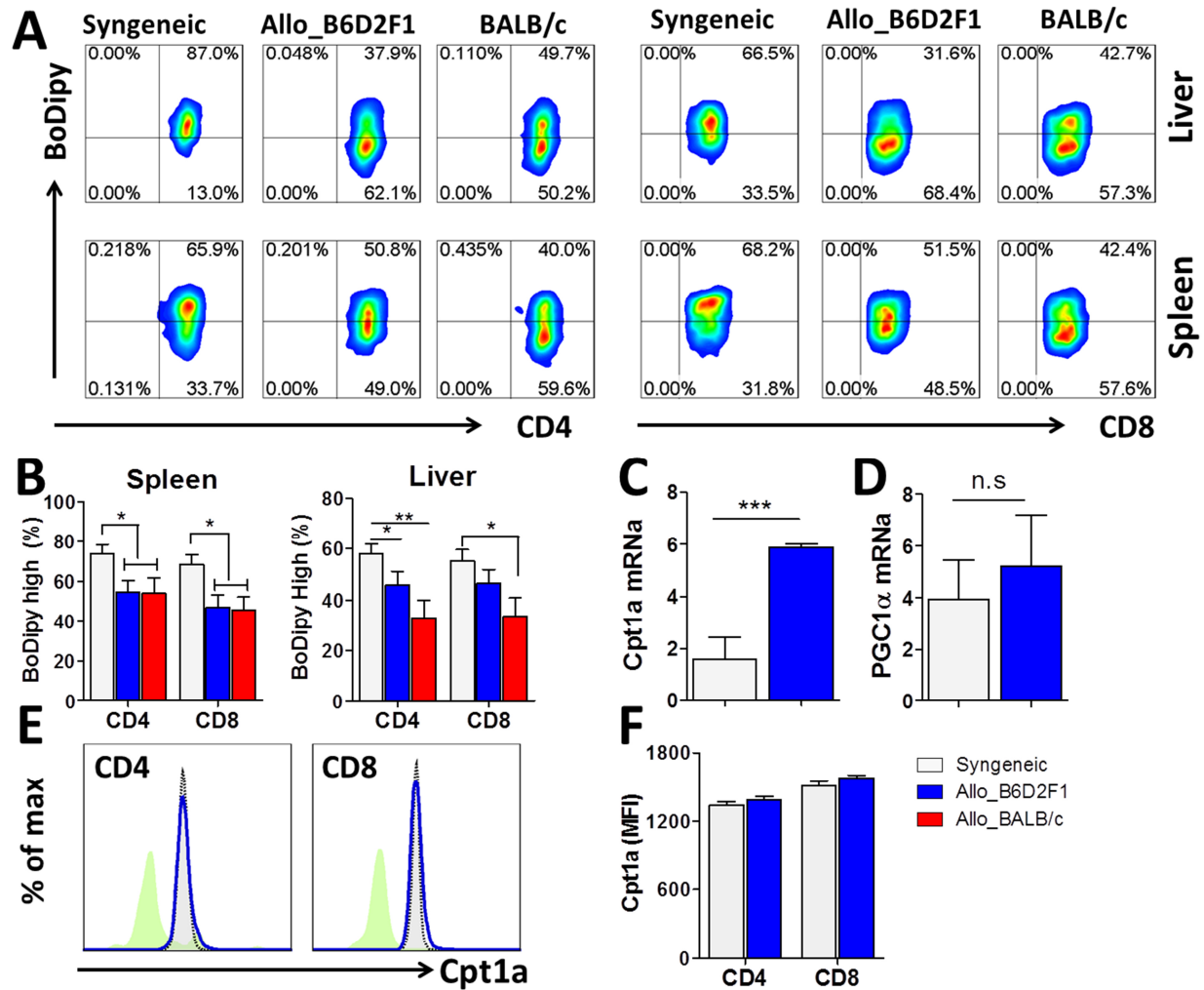




Supplemental Figure 2. Alloantigen-activated T cells alter PPP and pyridine catabolism after BMT. The pentose phosphate pathway (PPP) (A) and pyrimidine catabolism (C) are elucidated and the key metabolites measured are highlighted in red and PPP regulating genes displayed in blue (D). The heat map represents the log₂ value of the relative individual mRNA expression (B) and key metabolites of PPP, pyrimidine catabolism (D). The input gene list and expression profile are provided in Supplemental Table 8 and Supplemental Table 1-3, respectively. Data were pooled from two independent experiments with 3 and 6 replicate samples for mRNA and metabolite, respectively.

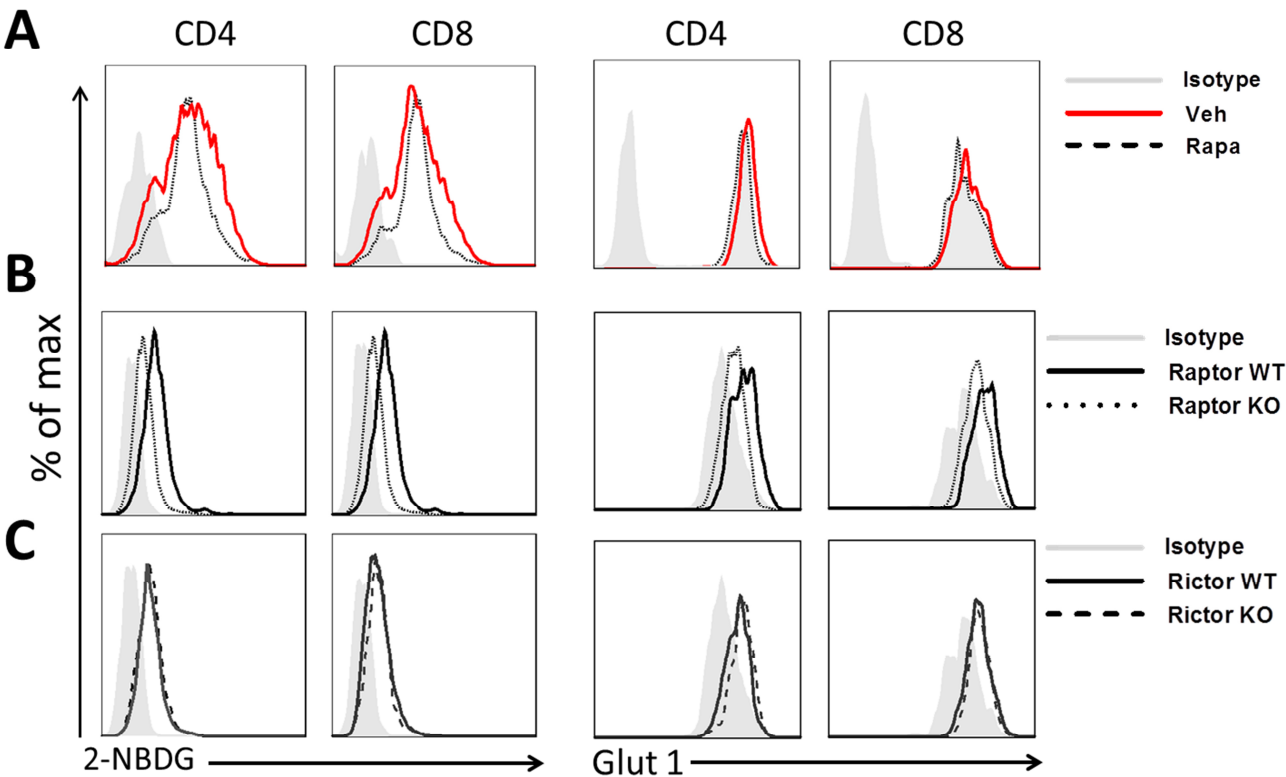


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982 **Supplemental Figure 3. FA uptake of alloantigen-activated T cells is decreased after BMT.**
 983 Lethally irradiated B6, B6D2F1 (1100 cGy, split doses), or BALB/c (700 cGy) (*n* = 7-10 per group)
 984 mice were transplanted with 5 x 10⁶/mouse TCD-BM from B6.Ly5.1 plus 1.0 - 2.0 x 10⁶/mouse T cells
 985 from B6 donors. (A) BoDipy uptake and (B) summary of BoDipy uptake on gated H-2K^bLy5.1⁻CD4⁺
 986 or CD8⁺ T cells in recipient spleens and livers were shown. The mRNA expression of Cpt1a (C) and
 987 PGC1-α (D) in spleen T cells were determined by qPCR (C). The input gene list was provided in
 988 Supplemental Table 4. The expression of Cpt1a in the T cells isolated from either syngeneic or
 989 allogeneic recipients is demonstrated by histogram (E) and the summary of Cpt1a expression (F).
 990 Error bar represents the standard deviation from the mean of 7-10 and 3 replicate samples for flow and
 991 mRNA, respectively. The data were representative of two independent experiments. Bar graph shows
 992 the mean and SE. * *p* < .05; ** *p* < .01, 2-tailed Student t-test (B-D, and F).

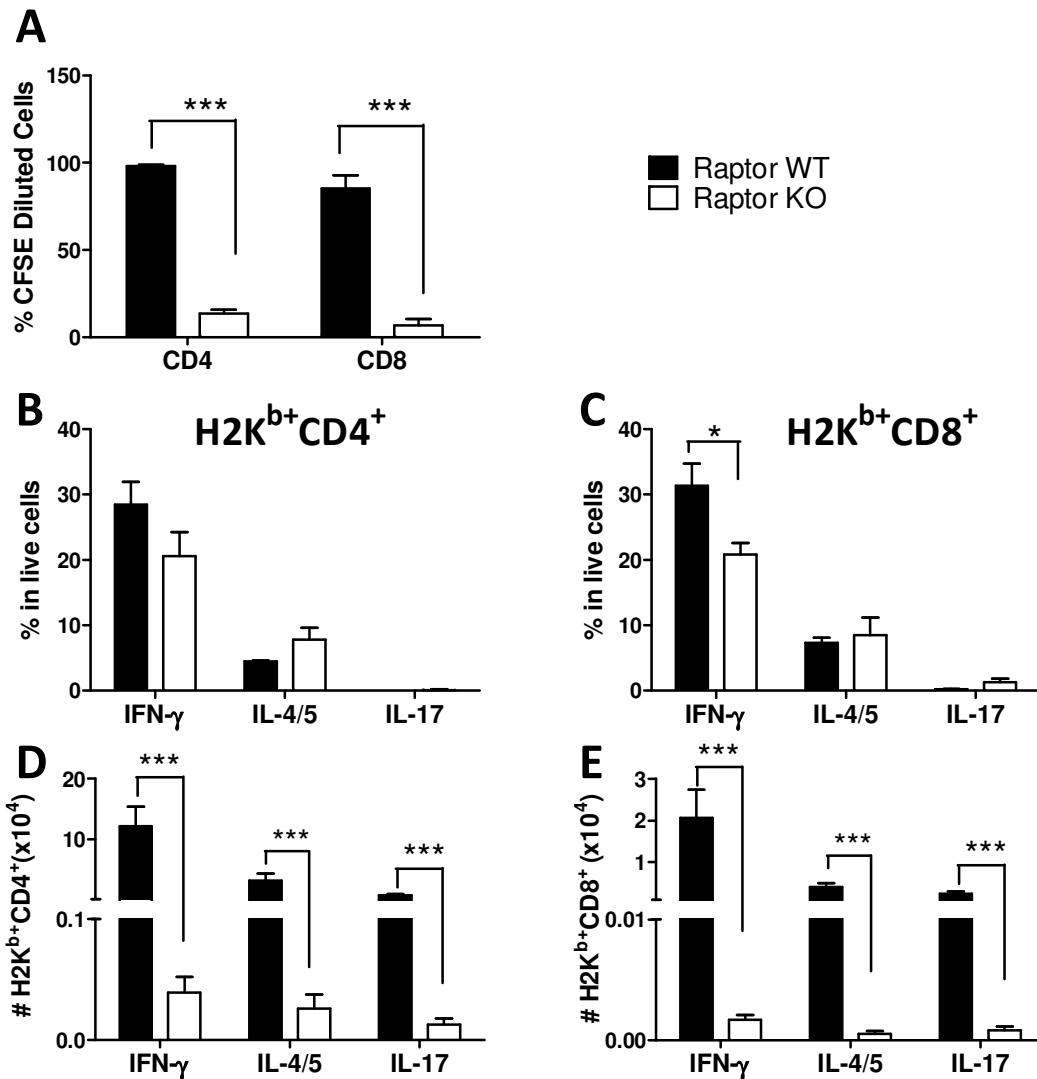
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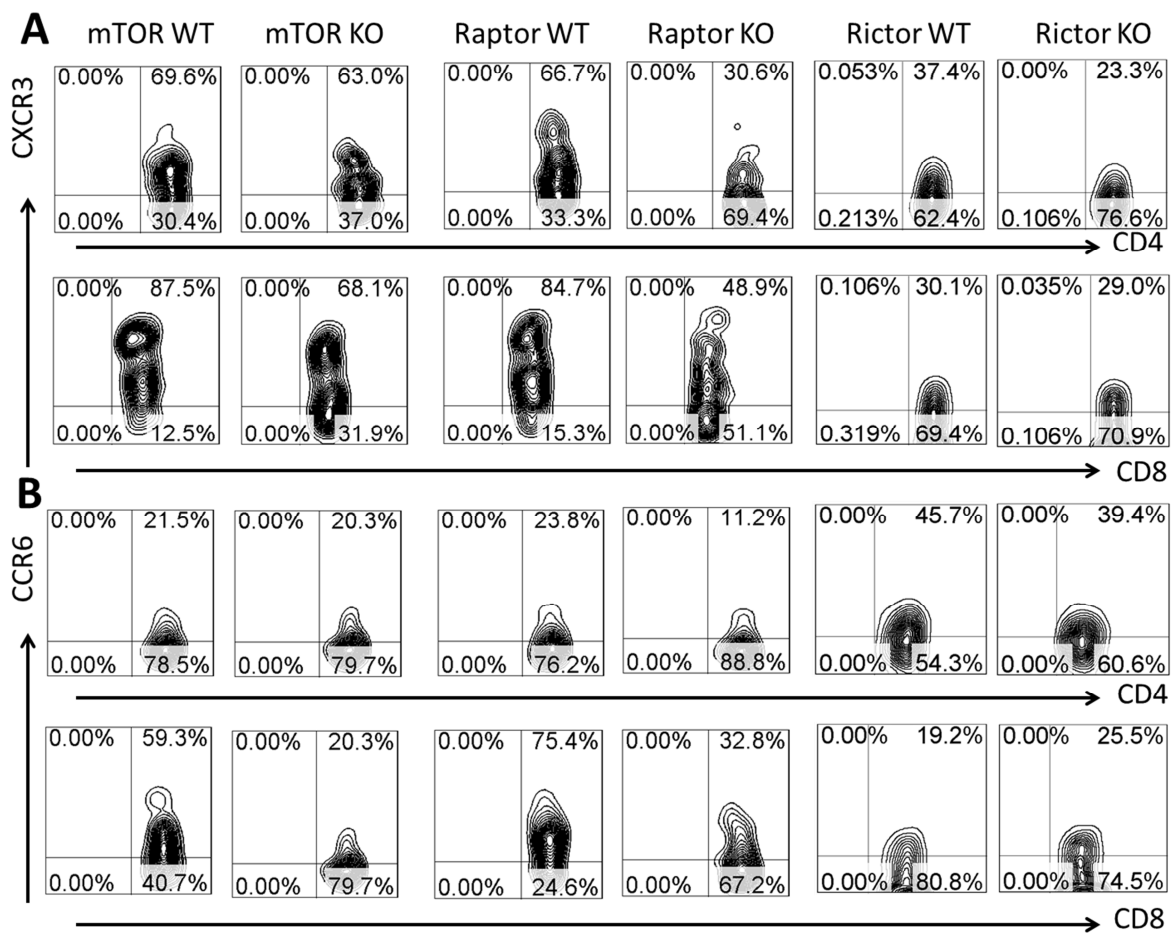


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997 **Supplemental Figure 4. Rapamycin treatment or mTORC1 depletion decreases glucose uptake**
998 **activity and glut 1 expression on alloantigen-activated T cells after BMT.** (A) Lethally irradiated
999 BALB/c mice ($n=5-7$ mice per group) were transplanted with 5×10^6 /mouse TCD-BM from B6 Ly5.1
1000 mice plus 1×10^6 /mouse T cells isolated from B6 mice. Recipients were administrated daily *i.p* with
1001 rapamycin (1.5 mg/kg) or 0.5% methylcellulose (vehicle) started from day 7 until day 14 post-BMT.
1002 The expression of glut 1 and glucose uptake activity are shown in histogram for spleen T cells isolated
1003 from vehicle and rapamycin- treated recipients. Data are representative from two independent
1004 experiments. (B and C) Lethally irradiated BALB/c mice ($n=5$ mice per group) were transplanted with
1005 TCD-BM alone or plus 1.0×10^6 /mouse CD25-depleted T cells isolated from WT or KO donor mice
1006 on B6 background. Recipients were euthanized 14 days after BMT. The glucose uptake activity
1007 indicated by 2-NBDG uptake and glut 1 expression of T cells were displayed in histograms. Data
1008 represent one of 3 independent experiments.



Supplemental Figure 5. Ablation of Raptor results in a significant decrease in donor T-cell proliferation and differentiation into Th1 cells. Lethally irradiated BALB/c mice were transplanted with CFSE-labelled CD25-depleted WT or Raptor KO T cells at 1×10^6 /mouse. Four days after cell transfer, splenocytes were subjected to surface staining for CD4, CD8, and $H2K^b$ as well as intracellular staining for IFN- γ , IL-4/5 and IL-17A. Summary of donor T-cell proliferation reflected by CFSE dilution is shown (A). The frequencies of cytokine-secreting cells are shown among divided $CD4^{+}$ (B) and $CD8^{+}$ cells (C), respectively. Absolute numbers of cytokine-secreting cells are shown among divided $CD4^{+}$ (D) and $CD8^{+}$ cells (E), respectively. Data are representative from 2 independent experiments with five mice per group. Error bars indicate mean $\pm$ SE. * $p < .05$; ** $p < .01$; *** $p < .001$, 2-tailed Student t-test (A-F).



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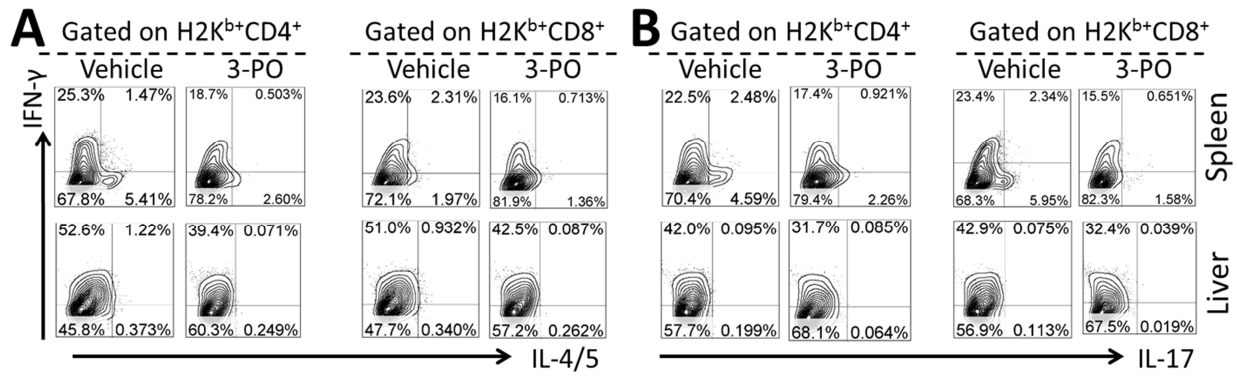
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Supplemental Figure 6. T cells deficient for mTOR or mTORC1 not mTORC2 reduces chemokine receptors during GVHD. Lethally irradiated BALB/c mice were transplanted with TCD-BM alone or plus 1.0×10^6 /mouse CD25-depleted T cells isolated from WT or KO donor mice on B6 background. The expression of CXCR3 or CCR6 is shown on gated H-2K^bLy5.1⁻ CD4⁺ or CD8⁺ T cells in spleens. Data represent one of 3 independent experiments with 12-15 mice per group.



Supplemental Figure 7. 3-PO treatment alters the differentiation and chemokine receptors of T cells after allo-BMT. Lethally irradiated BALB/c mice were transplanted with 5×10^6 TCD-BM alone or plus 1.0×10^6 /mouse T cells from WT B6 donors. Recipients ($n=5$ mice per group) were daily injected *i.p* with vehicle (DMSO) or 3-PO (35 mg/kg/day) beginning on the day 0 and ending on day 7 when the experiment was terminated. (**A** and **B**) IFN- γ , IL-4/5 and IL-17 secreting donor CD4⁺ or CD8⁺ T cells from recipient spleen or livers were shown. Data were from a representative of two independent experiments with similar results.

Supplemental Table 1. Metabolomics of T cells for Figure, 2 and 3, and Supplemental Figure S, 1 and 2

Biochemical	Pathway	Naïve	Naïve	Naïve	Naïve	Naïve	Naïve	Syn_D4	Syn_D4	Syn_D4	Syn_D4	Syn_D4	Syn_D4	Allo_D4	Allo_D4	Allo_D4	Allo_D4	Allo_D4	Allo_D4
5-methylthioadenosine (MTA)	Amino Acid	0.7611	1.5262	0.879	1.6375	1.2007	1.8691	1.3865	1.0019	0.6927	2.25	0.7344	0.8624	0.9981	0.9069	0.9067	0.6927	0.8996	0.7275
arginine	Amino Acid	1.1082	1.4148	0.8804	1.1703	1.5754	1.5052	1.1782	1.115	1.1726	2.3099	1.1658	1	0.7349	0.7341	0.5538	0.8081	0.6032	0.5484
asparagine	Amino Acid	1.3468	0.9121	0.2526	1.3317	0.2526	1.2222	1.0598	1.5669	1.6104	2.3069	1.1095	1.0523	0.6701	0.6509	0.5677	0.3661	0.5993	0.2526
aspartate	Amino Acid	1.3466	1.8663	0.9975	1.6702	1.3763	0.9229	0.7833	0.6049	0.631	1.596	0.8692	0.6941	1.438	1.5824	1.2167	1.2843	1.6129	1.4555
creatine	Amino Acid	1.245	1.758	1.1294	1.0002	1.247	1.2171	0.8888	0.9466	1.186	2.698	1.1365	0.9743	0.8328	0.9205	0.6924	0.9551	0.6395	0.7668
cysteine	Amino Acid	0.8339	1.2896	0.6495	0.8951	0.9291	0.7527	0.7895	0.5716	0.6255	0.6779	1.0709	0.9122	2.6977	2.2018	1.9696	1.5415	3.1562	4.1863
cysteine-glutathione disulfide	Amino Acid	1	0.2046	0.8198	0.9333	0.2046	0.8855	1.1354	1.0559	2.2836	0.2046	0.6687	0.7528	0.452	0.8532	0.9434	1.5113	0.3723	1.1051
gamma-aminobutyrate (GABA)	Amino Acid	0.9115	0.9115	0.9115	0.9115	0.9115	0.9115	0.9115	0.9115	0.9115	0.9115	0.9115	0.9115	0.9654	0.9115	0.9115	0.9115	1.0264	0.9115
glutamate	Amino Acid	1.5953	1.2021	1.341	0.974	1.7727	1.3719	0.9451	0.8016	0.4961	1.8495	1.099	1.0779	1	0.9567	0.6665	1.2925	1.0211	0.9974
glutamine	Amino Acid	1.546	0.9125	0.6973	0.5402	1	0.6503	3.9905	3.8536	1.7682	1.3549	2.0214	2.617	1.1415	0.8825	0.8146	0.8882	1.2122	0.6862
glutathione, oxidized (GSSG)	Amino Acid	1.4743	1.3776	1.0161	1.1497	0.8743	0.9167	2.3398	2.3043	2.5988	0.6887	0.8712	0.6395	0.0258	0.0258	0.0258	1.1935	0.0258	0.0258
glutathione, reduced (GSH)	Amino Acid	1.3611	2.323	0.9939	1.3074	1.5158	1.6953	1.0009	1.0165	0.7251	1.8289	0.9568	0.8186	0.0405	0.1084	0.0662	0.2799	0.049	0.1356
glycine	Amino Acid	0.9655	1.154	0.603	1.2196	0.9886	0.9806	0.7533	0.9719	0.648	1.2977	0.8188	0.9826	1.6069	1.5025	1.3046	1.0117	1.5411	1.3183
histidine	Amino Acid	1.704	1.4752	1.1566	0.2921	1.6258	0.2921	1.9017	1.7092	1	1.2559	1.3938	1.6571	0.8947	0.7595	0.5485	0.7292	0.8729	0.6704
hypotaurine	Amino Acid	3.2555	1.9701	1.0517	2.8187	1.2685	1.1725	0.7792	0.4496	0.4496	0.4496	0.4496	0.4496	1.0118	0.8548	1.1554	0.7517	1.1841	0.7836
isoleucine	Amino Acid	1.1389	1.5694	0.8122	1.0836	0.9585	0.7216	1.1495	1.0646	1.3092	0.8706	0.911	0.9491	1.0423	1	0.8628	0.5135	1.0604	0.6634
leucine	Amino Acid	0.6699	0.7247	0.4455	0.6601	0.5349	0.4147	1.4065	1.1956	1.5433	0.7849	1.0078	1.2349	1.3751	1.1144	1	0.5952	1.3761	0.7806
lysine	Amino Acid	0.9671	0.9378	0.564	1.073	0.8374	0.886	1.5212	0.9549	0.7541	1.4616	1.1756	1.3348	1.5148	1	1.0594	0.7938	1.155	0.877
methionine	Amino Acid	0.7828	0.7955	0.4078	0.6808	0.7261	0.5692	1.3205	1.1335	1.0092	1	0.8783	1.0873	1.3124	1.0461	0.8856	0.6746	1.1169	0.9111
N-acetylmethionine	Amino Acid	0.6035	0.6035	0.6035	0.6035	0.6035	0.6035	0.6035	0.6035	0.6035	0.6035	0.6035	0.6035	0.9557	1.1376	0.8916	0.8162	0.6035	0.8151
ornithine	Amino Acid	0.7291	0.5692	0.4587	0.7233	0.7024	0.4639	0.9392	0.6343	0.4587	0.806	0.5051	0.6487	1.0266	0.9734	1.1549	0.6849	1.2409	0.8398
phenylalanine	Amino Acid	0.6626	0.5425	0.3384	0.5526	0.4493	0.4188	1.8076	1.4943	1.6346	1.1108	1.3975	1.469	1.3656	1.2001	0.9558	0.8079	1.3143	0.8532
proline	Amino Acid	0.4665	1.4441	0.9682	1.2433	1.0116	1.7242	0.7068	1.1305	0.81	1.7016	0.9704	0.7553	0.6734	1	0.7751	0.7184	0.5866	0.5912
putrescine	Amino Acid	0.4545	1.9446	0.3061	1.3139	0.7724	0.8698	1.1028	0.6666	0.5857	0.8972	0.5455	0.5192	2.2009	1.6272	1.7188	1.7922	1.9428	2.1162
S-adenosylhomocysteine (SAH)	Amino Acid	0.6822	0.6822	0.6822	0.6822	0.6822	0.6822	0.6822	0.6822	0.6822	0.6822	0.6822	0.6822	0.9467	0.8574	0.6822	0.9134	0.7782	0.7524
serine	Amino Acid	0.9463	0.7982	0.464	1.1784	0.9407	0.6536	1.6732	2.1157	1.0908	1.4105	1	1.8702	1.1918	1.0919	1.0078	0.5747	0.989	0.8019
spemidine	Amino Acid	0.18	0.1997	0.1504	0.8676	0.3802	0.1974	0.4636	0.4146	0.5089	1.3641	0.9116	0.6384	1.0873	1.0264	0.6688	1.0713	1.0485	1.3537
spermine	Amino Acid	0.6287	0.1317	0.2958	1.2214	0.6566	0.2189	0.5814	0.6072	0.3547	1.4166	0.9121	0.6758	0.9823	0.9798	0.7189	1.05	1.37	1.862
taurine	Amino Acid	1.489	1.9008	1	1.3345	1.0708	0.9774	0.8037	0.6566	0.9456	0.977	0.7088	0.5621	1.0245	0.9844	0.8751	0.7979	0.9638	0.8178
threonine	Amino Acid	1.2122	1.0117	0.8491	0.6197	1.1747	1.4705	1.802	1.5248	0.7797	1.6884	1.4227	1.3013	0.9252	0.8663	0.6503	1	1.0061	0.6282
tryptophan	Amino Acid	0.7667	1.0741	0.4223	1.1989	0.9305	1.1311	1.2184	1.1248	1.5289	1.2371	0.892	1.4647	0.9746	1	0.7311	0.8631	1.0994	0.6603
tyrosine	Amino Acid	0.8058	0.7095	0.5316	0.5645	0.4327	0.3646	1.1934	1.0634	1.1788	0.9478	1.1212	1.0747	1.0733	0.843	0.7646	0.4845	0.8995	0.6355
valine	Amino Acid	0.9603	1.4671	0.8405	1.0067	0.9286	0.7093	1.5115	1.3609	1.1669	1	0.9288	1.1713	1.1151	1.0226	0.8317	0.5912	0.9744	0.6606
glucose	Carbohydrate	1.9936	1.351	0.4852	0.6295	0.7089	0.3945	2.5427	2.5646	3.558	1.0036	0.9485	0.867	1.3714	1.0912	1	0.634	1.169	0.6389
glucose-6-phosphate (G6P)	Carbohydrate	1.788	0.9931	0.4075	0.2965	0.2965	0.8009	0.6495	0.5684	0.2965	0.2965	0.3737	1.0069	2.3168	1.1837	1.6346	1.1554	1.8549	1.1757
Isobar: pentulose 5-phosphates	Carbohydrate	0.2146	2.5909	0.2146	1.1406	0.2146	0.2146	1.2389	0.2146	0.2146	0.2146	0.2146	0.7522	0.2146	1.0144	0.8023	0.7722	0.3408	0.2724
N-acetylneuraminic acid	Carbohydrate	0.4404	0.4404	0.4404	0.4404	0.4404	0.5295	0.6747	0.9245	1.2328	0.4404	0.4404	0.6912	0.5709	1	0.7131	0.4404	0.6848	0.4404
ribose 5-phosphate	Carbohydrate	0.9704	1.3578	1	1.1466	0.1911	1.9586	0.7845	1.8673	1.1241	2.8097	0.1911	0.1911	0.4086	0.1911	0.5013	0.1911	0.5781	0.1911
sorbitol	Carbohydrate	2.6902	1.6373	0.165	1.8828	2.2885	0.165	0.165	0.165	0.165	0.165	0.3978	1	1.1113	0.7672	0.8404	1.3609	0.8986	1.1229
3'-dephosphocoenzyme A	Cofactors and Vitamins	0.6838	0.6838	0.6838	0.6838	0.6838	0.6838	0.6838	0.6838	0.6838	0.6838	0.6838	0.6838	1.627	1.5132	1.0118	1.0269	0.9425	1.1679
adenosine 5'diphosphonibose	Cofactors and Vitamins	1.6882	1.7686	1.5178	2.391	2.1332	1.7584	1.1628	1.0879	0.9535	1.7358	1.0666	1.1033	0.472	0.5532	0.2486	0.2389	0.3893	0.2389
alpha-tocopherol	Cofactors and Vitamins	0.1789	0.1789	0.1789	0.1789	2.5932	0.1789	0.1789	0.1789	0.1789	0.1789	0.1789	0.1789	0.6348	1.1324	1.1306	1.0875	0.8318	1.151
ascorbate (Vitamin C)	Cofactors and Vitamins	1.0878	2.3507	1.1581	1.8072	1.1036	0.7332	0.291	0.1101	0.2417	0.7977	0.3967	0.1101	0.8143	0.9339	0.5216	0.9016	1.0472	1.1748
coenzyme A	Cofactors and Vitamins	0.8328	1.2233	0.7298	1.5994	1.2228	0.6625	0.6625	0.6625	0.6625	0.6625	0.6625	0.8069	0.6625	0.6984	0.706	1.362	0.8234	0.7835
flavin adenine dinucleotide (FAD)	Cofactors and Vitamins	1.1536	1.0823	0.8192	1.2741	0.7382	0.7382	0.9492	1.169	0.9771	0.7382	1.4451	0.946	0.9489	1.0229	0.7535	0.8758	0.7382	0.8703
nicotinamide	Cofactors and Vitamins	1.4549	1.92	1.2453	1.9297	1.9433	1.3802	0.8573	0.8569	0.8307	1.725	0.9201	0.9018	0.7619	0.9633	0.7762	0.7809	0.8292	0.8419
pantothenic acid	Cofactors and Vitamins	0.9004	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	0.645	1.0115	1.038	0.8044	0.9449	1.3901	1.0289
citrate	Energy	1.9321	2.9109	1.5769	2.2534	2.3955	2.0212	0.9436	0.7268	0.824	1.9372	1.3193	1.3127	0.9383	0.9517	0.7231	1.2264	0.9286	1.2698
fumarate	Energy	0.7986	0.4943	0.3471	1.026	1	1.2974	0.8092	0.8491	1.2022	1.2897	1.1815	1.5231	0.9076	0.7184	0.7418	0.7708	0.7498	1.5443
malate	Energy	1.6287	2.1202	0.907	1.6645	1.0385	1.309	0.7812	0.4987	0.5921	1.9242	1.152	0.9586	0.8365	0.5571	0.6034	1	1.114	1.0212
phosphate	Energy	1.02	1.5914	0.9072	2.7089	2.1223	1.5094	1.6371	1.3566	2.6677	3.4687	1.5841	1	0.5871	0.7393	0.4595	0.4504	0.5274	0.3654
pyrophosphate (PPi)	Energy	1.7609	3.0732	0.4149	3.9451	0.9075	1.5793	0.0923	0.8172	0.0923	0.8881	0.0923	0.0923	0.7511	0.7817	0.0923	3.3893	1.5317	1.0604
12-HETE	Lipid	0.0586	0.0586	0.0586	0.0586	0.0586	1.0228	2.6872	2.0971	2.4638	0.0586	0.7394	0.6312	4.5223	3.8768	3.5264	0.2019	2.5379	0.2472
13-HODE + 9-HODE	Lipid	0.6161	0.1218	0.1218	0.1218	0.1218	0.1218	2.0381	1.7384	1.9785	0.1218	1.2462	1.2513	1.6838	1.0659	1.0324	0.2864	1.0925	0.2517

acetylcamitine	Lipid	2.5797	2.9903	2.0846	3.1834	2.9545	2.9204	1.1096	0.9892	1.1087	2.5614	1.1669	1.1228	0.5976	0.6398	0.4857	0.5983	0.4653	0.585
arachidonate (20:4n6)	Lipid	0.9848	0.4482	0.8231	2.0212	1.4	0.7078	0.727	0.7452	0.97	1.6105	1.2499	0.9703	0.8081	0.9258	0.5749	0.9207	0.7907	1.0944
butyrylcamitine	Lipid	1.909	1.7066	1.1274	2.0913	2.1804	2.3521	0.4018	1.5931	0.5799	7.787	1.1767	0.9622	1.4858	1.2792	0.807	0.8921	1.049	0.7075
camitine	Lipid	1.3301	2.3514	1.0259	0.8389	1.4169	1	0.8788	0.8605	0.4395	0.8349	0.8719	0.7715	0.6803	0.7852	0.8497	0.7873	1.1475	0.8304
cholesterol	Lipid	1.1555	0.9441	0.8445	1.2394	1.6875	1.2005	1.3523	1.439	1.4684	1.8473	1.3653	1.0821	0.9214	1	0.6628	0.7511	0.7518	0.6751
choline	Lipid	1.7872	1.7054	1.2183	1.136	1.9159	2.1529	0.7988	0.8883	0.5847	1.1308	0.7631	0.8884	0.5739	0.6476	0.5647	1.044	0.444	0.7375
choline phosphate	Lipid	3.111	3.0809	2.8626	1.985	4.0263	3.8915	1	1.094	0.8345	1.8484	1.0588	1.2188	0.823	0.813	0.75	1.0366	0.8985	0.7898
cis-vaccenate (18:1n7)	Lipid	0.5417	0.8953	0.6633	1.1576	0.6193	1.0063	0.9329	1.0017	1.7091	2.7206	1.1812	1.8868	0.6306	0.9682	0.8734	1	1.1834	0.6765
cytidine-5'-diphosphoethanolamine	Lipid	1.571	1.5821	1.1545	1.0383	0.5641	2.08	0.5641	0.5641	0.5641	0.5641	0.5641	0.7505	0.6547	0.9255	0.5641	0.9158	0.6558	1
deoxycamitine	Lipid	1.6348	1.9706	1.3582	1.4922	1.4008	1.3129	0.3918	1.6648	0.9436	1.7071	0.3918	0.3918	0.5169	0.4748	0.3918	0.4548	0.4529	0.3929
dihomo-linoleate (20:2n6)	Lipid	0.8951	0.3248	0.7817	1.8914	1.2778	0.6981	0.9148	0.7943	1.0482	1.5207	1.1182	0.7782	1	0.963	0.8109	0.7224	0.8401	0.9751
dihomo-linolenate (20:3n3 or n6)	Lipid	0.9069	0.3857	0.6802	1.7409	1.3162	0.5954	0.7076	0.5913	0.9764	1.8245	1.0308	0.7042	1	0.997	0.7195	0.7438	0.7432	1.2004
docosahexaenoate (DHA; 22:6n3)	Lipid	0.7195	0.337	0.5504	1.1689	0.7877	0.3205	0.4562	0.6292	0.8288	1.555	0.9967	0.7976	1.2972	1.7101	1	1.1816	1.3067	1.653
docosapentaenoate (n3 DPA; 22:5n3)	Lipid	0.7627	0.6554	0.7437	2.1352	0.9903	0.7863	0.7916	0.9694	1.0636	1.0304	0.6554	0.9234	1.0066	0.8803	0.8095	1.0137	0.8556	1.1151
eicosenoate (20:1n9 or 11)	Lipid	0.9523	0.2162	0.7344	1.6197	1.4471	0.5067	1	0.9715	0.9498	1.6646	0.8861	0.8923	1.495	0.8221	0.6498	1.0954	1.1396	1.3793
glycerol 3-phosphate (G3P)	Lipid	1.0153	1.3686	0.7526	1.5913	0.8393	0.7192	0.6232	0.5442	0.7985	1	0.6116	0.6446	0.6121	0.6071	0.4892	0.5129	0.4295	0.59
glycerophosphorylcholine (GPC)	Lipid	1.2159	1.2942	1.0129	1.4339	1.5014	1.1606	0.7053	0.6446	0.6596	1.1874	0.7016	0.6717	0.6421	0.6528	0.4739	0.5258	0.5097	0.4718
hydroxybutyrylcamitine*	Lipid	1.9581	1.8146	0.878	2.083	2.1271	0.602	0.602	0.602	0.602	0.602	0.602	1.3392	0.7867	0.7678	0.6334	0.6904	1.3772	1.0973
inositol 1-phosphate (I1P)	Lipid	0.7347	0.4088	0.6956	0.8007	0.3685	0.4877	0.6302	0.778	0.3292	0.4888	0.3292	0.9033	1.2934	1.2224	1.0402	1.0574	1.3133	1.5755
linoleate (18:2n6)	Lipid	0.4957	0.2168	0.3326	0.9084	0.5769	0.3955	1.2494	1.2663	1.8523	1.5838	1.3247	1.1213	0.9598	1	0.7213	0.641	0.6957	0.7774
myo-inositol	Lipid	3.7752	7.6154	4.0368	5.6334	5.6306	4.2803	1.0043	1	1.0889	1.7394	1.1098	1.0247	0.8427	0.8361	0.6901	1.026	1.7146	1.1388
octanoylcamitine	Lipid	1.2769	1.4261	1.7736	1.5114	3.3894	1.678	1.3097	1	1.5112	0.27	1.183	0.6562	0.27	0.27	0.27	0.27	0.27	0.27
oleate (18:1n9)	Lipid	0.7822	0.4925	0.365	0.8114	0.8447	1.5849	1.4845	0.9328	1.7948	1.8864	1.0991	1.1893	0.9844	1	0.5473	0.7057	0.9165	0.6784
palmitoyl sphingomyelin	Lipid	1.0705	0.8772	0.6834	1.3016	1.1571	0.388	0.9369	0.8264	0.7277	1	0.839	0.5394	1.0838	1.2551	1.0236	0.74	1.0092	1.1438
phosphoethanolamine	Lipid	2.954	2.9362	2.0818	1.67	2.8262	3.0013	0.9569	1.0857	0.484	2.209	1.1408	1.0691	0.8928	0.8468	0.7709	1.2276	0.7957	1
propionylcamitine	Lipid	0.9416	1.8137	1.0185	2.2661	1.7385	1.2266	1.7295	0.4229	0.4933	1.6733	1.6405	0.7696	0.4229	0.6799	0.5591	0.6287	0.4935	0.5421
stearamide	Lipid	0.4326	0.4326	0.4326	0.4326	0.4326	0.4326	0.4326	0.4326	0.4326	2.6688	1.0597	0.4326	0.4326	0.4326	0.4326	0.4326	0.4326	0.4326
2'-deoxyadenosine 3'-monophosphate	Nucleotide	0.2692	0.2692	0.2692	0.2692	0.2692	0.2692	2.1555	3.8818	0.2692	0.2692	1.3978	2.1771	0.2692	0.2692	0.2704	0.2692	0.2692	0.2692
2'-deoxyguanosine	Nucleotide	0.3425	0.3425	0.3425	0.3425	0.3425	0.3425	1.2194	2.1629	0.3425	0.3425	0.9963	1.0037	0.3425	0.3425	0.3425	0.3425	0.3425	0.3425
adenine	Nucleotide	0.2624	1.1748	0.6922	1.0797	0.2624	0.9644	0.5286	1	0.2624	1.0474	0.583	1.3409	0.8083	0.8085	0.563	1.4575	0.9115	1.044
adenosine	Nucleotide	1.903	0.8763	1.0617	1.3477	2.146	1	1.0898	1.0824	0.7439	2.1544	1.438	1.632	1.056	1.5511	0.7051	0.9284	0.885	0.8159
adenosine 2'-monophosphate (2'-AMP)	Nucleotide	0.5192	0.5192	0.5192	0.5192	0.5192	0.5192	1.2049	1.4705	0.5192	0.5192	1.3842	1.3272	1.0221	0.5192	0.5387	0.9365	0.8352	0.7801
adenosine 3'-monophosphate (3'-AMP)	Nucleotide	0.8425	1.1394	0.6854	1.729	0.805	0.797	4.5366	3.8059	6.4301	0.7769	3.8825	4.7272	2.2944	0.382	0.2781	0.1716	1.3464	0.2468
adenosine 5'-monophosphate (AMP)	Nucleotide	1.7062	2.4856	1.4838	2.3163	2.2082	2.0101	0.8488	0.7307	0.8001	2.3095	1	0.8456	0.9577	1.0571	0.8843	1.0072	0.9006	0.9247
beta-alanine	Nucleotide	0.3805	0.3805	0.3805	2.2926	1.8532	0.3805	1.9128	0.3805	0.3805	0.3805	0.3805	0.3805	0.6151	0.3805	0.8594	0.8306	0.3805	0.4666
cytidine	Nucleotide	1.1286	1.4008	0.675	0.8511	0.8876	0.7425	0.7844	0.7643	0.4418	1.7188	0.8358	0.9263	1.7301	1.3596	1.4139	1.2958	1.4731	1.902
cytidine 5'-monophosphate (5'-CMP)	Nucleotide	1.0793	1.62	1.0221	1.5586	1.5178	1.4668	0.7819	0.8803	0.6593	1.2174	0.9779	0.7532	0.7864	0.8756	0.6593	1.1152	0.7163	0.7832
cytidine-3'-monophosphate (3'-CMP)	Nucleotide	0.1118	0.5023	0.1118	0.1118	0.1118	0.1118	1.251	1	1.1771	0.1118	0.835	1.0788	1.9914	0.5744	0.2004	0.1118	2.5024	0.7709
cytosine-2',3'-cyclic monophosphate	Nucleotide	0.333	0.333	0.333	0.6227	0.333	0.333	0.8856	0.739	0.7934	0.333	1.495	1.9249	2.785	0.998	0.333	0.3827	2.4274	0.8976
guanosine	Nucleotide	0.9944	1	0.8814	1.6111	1.2068	1.1629	2.3251	2.1463	3.2574	1.7526	1.9305	1.3968	0.6716	0.4466	0.3106	0.5145	0.5148	0.4775
guanosine 3'-monophosphate (3'-GMP)	Nucleotide	0.9616	1.016	1.2469	1.9403	1.2275	0.976	4.2345	4.1553	7.5	0.2334	4.1176	3.2818	0.8809	0.2516	0.2334	0.5041	1.2547	0.2334
guanosine 5'-monophosphate (5'-GMP)	Nucleotide	1.2836	1.6837	1.1202	2.0089	1.5928	1	0.7066	0.6559	0.7909	1.6286	0.9169	0.6817	0.9328	1.0046	0.7918	0.8239	0.9369	0.9823
hypoxanthine	Nucleotide	1.989	2.3074	0.9801	1.1221	1.2788	0.8344	1.5744	1.6518	1.4353	1.6412	1.0134	0.9845	1.3413	1.3873	1.5706	0.7279	1.0037	0.76
inosine	Nucleotide	1.2436	0.7308	1.2836	3.3536	1.1952	0.2389	0.965	0.7483	0.3426	1.2733	1.0007	1.2949	1.2496	1.0201	0.7667	0.7508	1.1686	0.9733
thymidine	Nucleotide	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.6716	0.8016	1.0289	0.8275	1.0645
thymidine 3'-monophosphate	Nucleotide	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794
uracil	Nucleotide	0.4935	0.4935	0.4935	0.4935	0.4935	0.4935	0.4935	0.4935	0.4935	0.4935	0.4935	0.4935	0.9595	0.4935	0.7251	0.7118	1.0405	0.7882
urate	Nucleotide	0.2246	0.2246	0.2246	0.2246	0.2246	0.2246	1.0888	0.9112	0.2246	0.2246	0.2246	0.2246	0.2246	0.2246	0.5222	0.2246	0.2246	0.3549
uridine	Nucleotide	2.2117	3.6237	1.4881	1.3689	2.3416	2.7736	1.5258	1.7202	1.863	3.0028	1.5674	1.1241	0.7873	0.7582	0.4956	1.1772	0.4114	0.523
uridine monophosphate (5' or 3')	Nucleotide	1.2664	1.5475	0.9596	1.173	1.6685	1.4963	1.0702	0.8989	1.2316	1.8525	1.0148	0.8693	0.7091	0.615	0.5912	0.9367	0.6085	0.7776
uridine-2',3'-cyclic monophosphate	Nucleotide	0.5061	0.5539	0.3225	0.5262	0.2534	0.4414	2.2702	2.048	3.7819	2.1508	1.1506	2.4519	3.4894	0.5051	0.3645	1	0.8345	0.8228
xanthine	Nucleotide	1.2245	1.3501	0.6564	0.7709	0.5738	0.5575	1.8486	2.0262	2.0204	2.7049	0.9609	1.5309	0.9189	1	1.153	0.6489	0.8218	0.6681
alanyl-leucine	Peptide	0.1763	0.1763	0.1763	0.1763	1.1876	0.1763	1.5289	1.4942	1.4708	0.1763	1.1374	1.1237	0.9321	0.9791	0.5655	0.3634	1.1482	0.4183
alanylphenylalanine	Peptide	1.461	0.2801	0.7059	1.0861	0.2801	0.2801	2.3464	2.437	2.8298	3.8571	2.4985	3.1425	0.9752	1.0248	0.6798	0.67	0.6647	0.2801
alanylv-alanine	Peptide	0.9718	0.2471	0.2471	1.8339	0.2471	0.2471	2.2727	1.0123	1.0467	0.2471	0.2471	2.2405	0.6435	0.9612	1.1827	0.8328	0.6749	0.2815
alpha-glutamyltyrosine	Peptide	1.0455	0.2391	0.6514	0.2391	0.2391	0.2391	1.2412	1.2789	0.9464	0.2391	1.2068	1.4245	1.0851	1.0741	0.9131	0.9024	1.0589	0.9101

serylleucine	Peptide	0.8136	0.2114	0.2114	0.8086	0.493	0.5743	3.3014	2.6979	2.9374	1.7875	1.7766	2.0748	1.0078	1.0366	0.8519	0.572	1	0.5097
serylphenylalanine	Peptide	1.1624	0.6399	0.5896	0.4234	0.9923	0.4234	1.8899	1.9182	3.2641	3.3869	2.0889	1.9826	0.7109	0.6309	0.5316	0.4413	0.7892	0.473
threonylleucine	Peptide	0.2707	0.2707	0.2707	1.0499	0.2707	0.2707	1.2555	1.0708	2.6566	0.2707	1.8637	1.5347	0.6447	0.7779	0.863	0.5002	0.7364	0.2707
threonylphenylalanine	Peptide	0.9792	0.4101	0.3802	0.3802	0.3802	0.3802	2.7159	1.8876	2.2893	3.7539	2.3535	2.0945	1.0001	0.5131	0.4585	0.3802	0.5064	0.4219
ergothioneine	Xenobiotics	0.0792	0.3348	0.0792	0.0792	0.0792	0.0792	0.6633	0.8596	0.6368	0.0792	0.5989	0.0792	0.2096	0.0792	0.0792	0.0792	0.0792	0.0792
glycerol 2-phosphate	Xenobiotics	1.4774	1.8439	0.7731	2.0161	2.2529	0.4283	0.4283	1.1856	0.4283	0.4283	1.3989	0.4283	0.9147	0.5095	0.8744	0.8485	0.4283	0.6438
phenol red	Xenobiotics	1.5419	2.5507	1.4525	2.1236	2.0988	1.9131	0.3604	0.3604	0.3604	0.3604	0.3604	0.7344	0.6925	0.7058	0.6136	0.8416	0.6946	0.9483

Supplemental Table 2. Metabolomics of T cells for Figure, 2 and 3, and Supplemental Figure S, 1 and 2

Biochemical	Pathway	Syn_D7	Syn_D7	Syn_D7	Syn_D7	Syn_D7	Syn_D7	Syn_D7	Allo_D7	Allo_D7	Allo_D7	Allo_D7	Allo_D7
5-methylthioadenosine (MTA)	Amino Acid	0.9689	1.1886	0.8034	0.9558	1.1372	1.1412	0.8875	1.0206	1.217	1.968	1.7279	1.0593
arginine	Amino Acid	0.8191	0.6628	0.6426	0.6764	0.6658	0.7612	1.1373	0.9382	0.9729	1.107	1.0096	1.327
asparagine	Amino Acid	0.5414	0.2887	0.3105	0.2975	0.2737	0.4275	0.2526	0.9648	1.3796	1.5808	1.2306	1.6837
aspartate	Amino Acid	1.3215	0.8323	0.8717	0.8458	0.9115	1.0265	0.5981	0.9108	0.8191	1.2807	0.8952	1
creatine	Amino Acid	1.2967	0.9733	0.8591	0.9217	1.0494	1	0.9111	0.7018	0.6929	1.0227	1.1817	1.109
cysteine	Amino Acid	0.2267	0.2397	0.1537	0.1699	0.1537	0.1891	1.2988	2.6857	2.1995	1.7782	1.2985	2.1721
cysteine-glutathione disulfide	Amino Acid	0.2046	0.2046	0.2046	0.2046	0.3971	0.3166	1.2518	2.3289	1.9552	1.241	1.3659	1.8281
gamma-aminobutyrate (GABA)	Amino Acid	0.9115	0.9115	0.9115	0.9736	2.8012	0.9115	0.9115	1.4152	0.9115	0.9115	0.9115	0.9115
glutamate	Amino Acid	0.1679	0.4624	0.4902	0.544	0.1603	0.5528	1.1856	1.4034	1.2907	0.8772	0.4951	1.4451
glutamine	Amino Acid	0.499	0.8447	0.8579	0.8639	0.1543	0.6936	2.2905	4.241	1.9206	1.1125	1.103	3.7674
glutathione, oxidized (GSSG)	Amino Acid	2.17	1.275	1.2605	1.5625	1.8152	1.1927	0.0258	0.1545	0.3165	0.284	0.9549	0.6514
glutathione, reduced (GSH)	Amino Acid	3.0654	2.4405	2.3143	2.6362	2.7116	2.6852	0.2164	0.2818	0.4616	0.6775	1.0033	0.6347
glycine	Amino Acid	1.431	1	0.9166	0.881	0.876	1.0065	0.8766	1.3153	1.1421	1.4399	0.9339	1.7056
histidine	Amino Acid	0.4893	0.5456	0.2921	0.4835	0.3172	0.3787	1.1948	1.4405	1.3133	0.9613	0.9563	1.5468
hypotaurine	Amino Acid	0.7067	1.172	0.776	0.8521	1.3069	0.9882	0.5523	0.68	0.6888	1.0126	0.7891	0.4496
isoleucine	Amino Acid	0.7181	0.6202	0.5571	0.4774	0.4241	0.6648	1.0239	1.8208	1.1695	1.7792	1.1984	2.0127
leucine	Amino Acid	0.8813	0.7958	0.7526	0.7022	0.6242	0.8061	1.1835	2.1236	1.4753	1.7506	1.2209	2.3192
lysine	Amino Acid	1.0121	0.7554	0.5292	0.8214	0.6491	0.9039	1.1886	1.6962	1.2782	1.5108	1.2471	1.6003
methionine	Amino Acid	1.1943	1.0791	0.8589	0.6647	0.5898	1.1251	0.9312	1.974	1.4433	1.711	1.1206	2.4503
N-acetylmethionine	Amino Acid	1.3266	0.9341	0.9204	0.7366	1.0443	1.0554	0.6035	1.2684	1.3374	1.6414	1.0805	1.7057
ornithine	Amino Acid	1.1974	1.3286	1.2285	1.3479	1.4935	1.7739	1.3031	1.8167	1.6556	2.5383	1.7795	1.7344
phenylalanine	Amino Acid	1	0.8367	0.7673	0.6676	0.5882	0.9133	1.6233	2.3429	1.7775	2.122	1.1748	2.872
proline	Amino Acid	1.2956	1.072	1.0741	0.7853	1.2074	1.1254	1.2682	0.9241	0.818	1.4601	1.1631	1.1486
putrescine	Amino Acid	0.1934	0.2825	0.1934	0.4159	0.6446	0.3974	1.3037	2.1782	1.4649	3.9231	2.0871	1.8406
S-adenosylhomocysteine (SAH)	Amino Acid	1.1395	0.8545	0.9023	0.9587	1.0777	1.0748	0.6822	1.2499	1.0413	1.6669	1.4859	1.5642
serine	Amino Acid	1.1436	0.7871	0.6629	0.8119	0.492	0.7656	0.75	1.781	1.489	1.6621	1.0926	2.3887
spermidine	Amino Acid	1	1.7704	1.5177	2.0171	1.3429	1.6009	0.8339	1.4097	1.2484	1.3962	1.3033	0.8969
spermine	Amino Acid	0.7477	2.2145	1.791	2.9516	1.1866	2.1936	1.1408	1.6509	1.6956	1.6206	1.3476	0.7346
taurine	Amino Acid	1.8229	1.2868	1.2252	1.0515	1.2354	1.5584	0.8939	1.3967	0.828	1.6265	0.9546	1.4289
threonine	Amino Acid	0.3158	0.4488	0.4114	0.6864	0.5854	0.5361	1.0496	2.231	1.3303	0.8941	0.5493	2.2523
tryptophan	Amino Acid	0.8564	0.8103	0.7125	0.6994	0.487	0.766	1.266	1.8927	1.4193	1.4917	1.2401	2.0815
tyrosine	Amino Acid	1.2182	1.125	1	0.778	0.5411	1.2918	1.2874	2.1269	1.7053	1.7412	1.2245	2.5669
valine	Amino Acid	0.6882	0.5988	0.5532	0.5995	0.6562	0.7005	1.1755	1.7491	1.3934	1.7644	1.2772	1.8629
glucose	Carbohydrate	0.7154	0.3988	0.2792	0.261	0.4101	0.3796	1.9286	6.0805	2.017	2.9862	1.1325	2.9583
glucose-6-phosphate (G6P)	Carbohydrate	0.7913	0.9021	0.6483	0.6528	0.562	1.5885	1.4006	3.2186	1.6271	0.9296	0.9866	1.8253
Isobar: pentulose 5-phosphates	Carbohydrate	0.8945	0.2146	0.2146	0.259	0.4387	0.3269	1.191	1.0845	0.9856	1.5778	1.2525	1.535
N-acetylneuraminate	Carbohydrate	1.2112	1.6422	1.2346	1.1877	1.3337	2.3307	0.9185	0.9328	1.6325	1.685	1.8445	2.3271
ribose 5-phosphate	Carbohydrate	0.1911	0.3411	0.1911	0.1911	0.1911	0.1911	0.1911	0.3442	0.4635	0.1911	1.1705	2.021
sorbitol	Carbohydrate	0.695	0.165	0.2061	0.165	0.165	0.165	0.7749	0.6408	0.8779	1.4658	0.165	1.6202
3'-dephosphocoenzyme A	Cofactors and Vitamins	0.6838	0.9241	0.6838	0.7506	0.6838	0.7985	0.6838	0.9882	0.6838	0.6838	0.6838	0.6838
adenosine 5'diphosphoribose	Cofactors and Vitamins	0.2389	0.2389	0.2389	0.2389	0.4096	0.2389	0.635	0.549	0.5523	1	0.8114	0.7505
alpha-tocopherol	Cofactors and Vitamins	0.1789	0.6929	0.1789	0.7758	0.576	0.6386	0.9905	1.0095	0.8122	1.2662	1.2158	2.6522
ascorbate (Vitamin C)	Cofactors and Vitamins	1.2127	1.0943	0.8552	1.0091	1.0602	1.1361	0.6427	0.6036	0.7316	1.2301	0.9909	1.5314
coenzyme A	Cofactors and Vitamins	0.9226	1.659	0.9359	1.9794	1.7906	1.4512	1.1026	0.9015	1	1.4435	1.4382	0.8264
flavin adenine dinucleotide (FAD)	Cofactors and Vitamins	0.7961	0.9205	0.7676	0.8245	1.1125	0.8773	1.3449	1.1756	1.2432	1.5078	1.2527	1.3621
nicotinamide	Cofactors and Vitamins	1.1708	1	0.7509	0.9639	1.0004	1.1361	0.8158	1.1003	0.9084	1.4289	1.409	1.1363
pantothenate	Cofactors and Vitamins	1.0609	0.645	0.6739	0.8146	0.8578	0.9656	1.7769	0.978	1.2839	0.9885	1.4592	1.2451
citrate	Energy	0.334	0.3719	0.1869	0.4228	0.6862	0.7215	0.8638	1.0478	1	1.4821	0.8924	1.1442
fumarate	Energy	0.8678	1.2986	0.6743	0.7554	0.5767	1.1389	1.2468	1.4678	0.9047	1.4123	1.3732	1.7111
malate	Energy	1.2515	1.5041	0.9017	1.4463	0.5711	1.499	0.5263	0.7342	0.8139	1.3236	0.9086	0.8975
phosphate	Energy	1.0507	0.4067	0.3735	0.4187	0.752	0.6045	0.764	0.4776	0.6768	2.5103	1.5284	1.3642
pyrophosphate (PPi)	Energy	0.4387	0.8944	0.0923	0.8296	0.0923	0.9396	2.2311	1.9776	1.4395	2.1855	2.4995	0.2544
12-HETE	Lipid	0.0586	0.0767	0.0586	0.0586	0.0586	0.0586	0.8918	1.6055	0.3218	1	0.2095	1.7569

13-HODE + 9-HODE	Lipid	0.3083	0.1218	0.2286	0.1486	0.1218	0.4132	0.8606	2.2812	0.8276	1.3038	0.9676	2.1041
15-HETE	Lipid	0.1491	0.2761	0.1491	0.1491	0.1491	0.1491	1.2997	2.0538	0.6356	1.2473	0.6745	2.1884
1-arachidonoylglycerophosphoethanolamine*	Lipid	0.884	1.9598	1.0644	1.2676	0.6138	0.8065	0.7451	1.0174	0.9074	0.8353	0.5546	1.0992
1-arachidonoylglycerophosphoinositol*	Lipid	1.7693	3.1694	1.9061	2.3429	1.3426	1.9651	0.6195	1.2595	1.1623	1.2829	1	1.1961
1-oleoylglycerophosphoethanolamine	Lipid	2.2809	3.697	3.0245	2.7467	1.2181	2.461	0.9333	1.3127	1.3428	1.8707	0.8822	2.2713
1-palmitoylglycerophosphocholine (16:0)	Lipid	2.5856	2.7818	3.8875	1.3666	0.8481	2.5884	0.4092	0.8569	1.2257	1	0.633	2.7308
1-palmitoylglycerophosphoethanolamine	Lipid	1.985	2.3482	2.2328	1.8284	0.9581	1.3977	1	1.5647	1.2663	1.744	0.591	2.1211
1-palmitoylplasmenylethanolamine*	Lipid	0.9866	1.9687	1.5532	1.0688	0.3365	0.954	1.3708	1.9811	1.3255	1.3367	0.6369	1.9045
1-stearoylglycerophosphoethanolamine	Lipid	1.0894	1.1592	1.216	0.6496	0.5124	0.8569	1.0981	1.6958	1.4196	1.3386	1.1083	2.5895
1-stearoylglycerophosphoinositol	Lipid	1.6852	1.5793	1.5487	0.9837	1.0432	1.2305	0.8299	1.1381	1	1.8606	1.2816	2.3512
2-arachidonoylglycerophosphoethanolamine*	Lipid	0.9956	1.3384	0.7113	0.6839	0.4615	0.4511	1.0044	0.939	0.5807	1.0545	0.3899	1.8599
3-dehydrocamitine*	Lipid	1.8243	1.5791	1.2323	1.3951	1.5034	1.6491	0.3991	0.5777	0.9324	0.9418	0.3586	0.7029
acetylcamitine	Lipid	0.7793	0.7163	0.5846	0.7093	0.6051	1	0.9117	0.8305	0.9339	1.3043	1.338	1.0053
arachidonate (20:4n6)	Lipid	1.5699	1.9596	1.5412	1.2581	0.8981	1.3314	1	1.5162	1.2598	1.2739	0.9579	2.273
butyrylcamitine	Lipid	0.6098	0.674	0.5111	0.5558	0.4018	0.9335	1.8565	0.469	0.7692	0.7536	1.0378	0.5949
camitine	Lipid	4.3512	4.6836	4.8422	6.0702	4.1172	3.4185	1.2728	1.5934	0.9735	0.9026	0.4943	1.1572
cholesterol	Lipid	0.61	0.3919	0.3679	0.4217	0.5201	0.551	1.1924	0.9155	1.0233	1.545	0.9703	1.4231
choline	Lipid	0.8678	0.8716	0.9353	0.6956	1	0.7685	1.7963	1.4895	1.6097	1.6867	1.3495	1.7862
choline phosphate	Lipid	0.5773	0.6995	0.771	0.8767	0.6064	0.8389	1.7475	1.3895	0.8136	0.9593	0.8546	1.3938
cis-vaccenate (18:1n7)	Lipid	1.3261	0.7708	0.626	0.8344	0.5666	1.2236	1.1829	0.443	1.0053	1.9124	1.7377	2.0441
cytidine-5'-diphosphoethanolamine	Lipid	1.1122	1.4397	0.915	1.1995	1.0686	1.2343	1.4301	0.8988	0.9803	0.8602	0.9962	0.6487
deoxycamitine	Lipid	1.4817	1.167	1.0775	1.0258	1.414	0.7795	0.5886	0.6433	0.4625	0.6287	0.7501	0.9742
dihomo-linoleate (20:2n6)	Lipid	1.1981	1.595	1.1343	0.8726	0.6612	1.1161	0.8004	1.5924	1.4054	1.5239	1.1247	2.4295
dihomo-linolenate (20:3n3 or n6)	Lipid	3.4871	5.3451	3.7849	3.2231	2.0155	2.8429	0.7402	1.5433	1.3574	0.8979	0.7885	1.7788
docosahexaenoate (DHA; 22:6n3)	Lipid	0.8541	1.0083	0.7818	0.5693	0.3935	0.6951	1.0895	1.7009	1.4645	1.6521	1.2687	2.4752
docosapentaenoate (n3 DPA; 22:5n3)	Lipid	1.1814	2.3546	1.5012	1.3213	0.8854	1.1791	0.7767	1.8858	1.9077	0.9934	0.8382	1.6006
eicosenoate (20:1n9 or 11)	Lipid	0.9247	1.5777	0.8319	0.7932	0.8854	0.729	1.0428	1.4668	1.5696	1.9483	1.8931	2.387
glycerol 3-phosphate (G3P)	Lipid	1.8503	1.6377	1.2869	1.2792	1.2612	1.4735	0.9663	1.4095	1.2193	1.6469	1.3047	2.0834
glycerophosphorylcholine (GPC)	Lipid	1.1833	1.0434	0.9895	1.0521	0.8999	1.1704	1.0005	1	0.929	1.4812	0.9886	1.6303
hydroxybutyrylcamitine*	Lipid	1	0.8235	0.7215	0.602	0.8761	1.1178	0.8877	0.8493	0.7027	1.8562	1.1174	1.385
inositol 1-phosphate (I1P)	Lipid	0.6412	1.6177	0.4362	0.9181	0.9611	1.0389	1.0871	2.1543	1.8035	2.0559	1.1493	1.2457
linoleate (18:2n6)	Lipid	1.3975	1.6832	1.279	1.0543	0.7045	1.2239	0.7197	1.3907	1.2482	1.1653	0.9216	1.914
myo-inositol	Lipid	0.1689	0.1992	0.1239	0.1567	0.0995	0.2814	1.117	0.6227	0.2572	0.5968	0.4659	0.4663
octanoylcamitine	Lipid	0.6301	0.4202	0.27	0.5372	0.8607	0.836	0.27	0.27	0.27	0.27	0.27	0.9089
oleate (18:1n9)	Lipid	2.3584	1.1308	1.2343	0.7491	1.0933	1.2666	0.9376	0.9201	1.1203	1.968	1.2273	2.2316
palmitoyl sphingomyelin	Lipid	0.2831	0.2018	0.14	0.1659	0.2245	0.2476	1.0232	1.295	1.1297	1.5472	1.2332	1.7992
phosphoethanolamine	Lipid	0.5739	0.7016	0.5573	0.7445	0.5922	0.6981	1.4198	1.1521	1.0923	0.7468	0.6656	0.8128
propionylcamitine	Lipid	1.5174	1.0853	0.9815	1.2601	1.4268	1.093	0.4503	0.5575	0.6272	1.3625	0.7842	0.7904
stearamide	Lipid	0.4326	0.4326	0.4326	0.4326	0.4326	0.4326	0.6549	0.5276	0.4326	0.4326	1.3342	1
2'-deoxyadenosine 3'-monophosphate	Nucleotide	0.2692	0.4093	0.2904	0.2692	0.4733	0.3784	1.1861	1	1.0033	0.2692	0.2692	0.2692
2'-deoxyguanosine	Nucleotide	0.3425	0.3425	0.3425	0.3425	0.3425	0.3425	0.3425	0.4129	0.3425	0.3425	0.3425	0.3425
adenine	Nucleotide	1.2232	1.2394	0.7058	1.0253	0.8267	0.9301	1.3215	2.3245	0.7336	1.33	1.4109	0.9323
adenosine	Nucleotide	0.7509	0.5127	0.4512	0.4874	0.6445	0.6807	1.3777	0.6993	0.734	1.9292	0.946	1.0065
adenosine 2'-monophosphate (2'-AMP)	Nucleotide	0.7537	0.9984	0.8378	1.0121	0.8525	1	1.4946	1.9224	1.556	0.5192	0.5192	0.8799
adenosine 3'-monophosphate (3'-AMP)	Nucleotide	0.2332	0.2228	0.339	0.5453	0.4296	0.3802	2.0281	2.4857	1.5386	2.9877	1	3.0844
adenosine 5'-monophosphate (AMP)	Nucleotide	1.288	0.838	0.7641	0.916	0.9734	1.1257	0.9391	0.9141	0.9917	1.8217	1.2449	1.1679
beta-alanine	Nucleotide	0.3805	0.6898	0.8902	0.9088	1.2136	0.8449	1.7582	1.0912	0.7869	2.3591	1.648	2.1903
cytidine	Nucleotide	1.3917	0.7502	0.754	0.7883	0.4418	1.0298	0.9702	1.6346	0.9256	1.6502	0.834	1.6184
cytidine 5'-monophosphate (5'-CMP)	Nucleotide	1.3377	0.8424	0.8879	1.0945	1.1507	1.1162	1.2295	0.7545	0.8648	1.3233	0.9529	0.8882
cytidine-3'-monophosphate (3'-CMP)	Nucleotide	0.2728	0.5333	0.2628	1.0817	0.2864	0.5251	1.71	2.4329	1.3576	1.8186	0.608	1.6271
cytosine-2',3'-cyclic monophosphate	Nucleotide	0.4097	1.1267	0.8542	1.9366	0.684	1.1144	1.944	1.865	1.8854	1.184	0.8128	1.1972
guanosine	Nucleotide	0.1545	0.2221	0.2104	0.3142	0.3759	0.2764	1.5166	1.0137	0.8656	1.5644	1.0208	1.2717
guanosine 3'-monophosphate (3'-GMP)	Nucleotide	0.2334	0.3639	0.2974	0.6689	0.587	0.3271	0.984	1.7749	0.7743	3.0285	0.9669	1.9223
guanosine 5'- monophosphate (5'-GMP)	Nucleotide	1.396	1.0557	1.0085	1.1234	1.0307	1.1543	0.8017	0.7038	0.7054	1.4541	0.9333	0.9958
hypoxanthine	Nucleotide	0.5864	0.4843	0.4639	0.3919	0.4817	0.4871	1.2268	0.9963	0.7324	0.8465	0.3919	0.8333
inosine	Nucleotide	0.1688	0.3751	0.2782	0.3642	0.3241	0.4166	1.5377	1.6116	1	1.4749	1.0197	0.8851

thymidine	Nucleotide	1.4444	1.1928	1.1455	0.7668	0.6716	1.1796	0.6716	0.7806	0.6716	0.6716	0.6716	0.6716
thymidine 3'-monophosphate	Nucleotide	1.1531	0.8843	0.7794	1.1157	1.1839	0.877	0.7794	0.7794	0.7794	0.7794	0.7794	0.7794
uracil	Nucleotide	0.4935	0.4935	0.4935	0.4935	0.4935	0.6409	1.7635	1.3424	0.4935	2.4419	0.4935	1.9171
urate	Nucleotide	0.2246	0.3276	0.2246	0.2246	0.3626	0.2246	0.2246	3.8446	2.1208	2.9477	4.3758	7.0704
uridine	Nucleotide	1	0.3931	0.4693	0.311	0.5098	0.466	1.2783	0.4465	0.9352	0.9326	0.8481	0.774
uridine monophosphate (5' or 3')	Nucleotide	1.0711	1.0325	0.9309	1.3196	1.0359	1.0263	1.1148	0.6898	1	0.8275	0.8911	0.887
uridine-2,3'-cyclic monophosphate	Nucleotide	0.5685	0.427	0.4493	4.2674	0.8001	3.3819	9.9274	10.1217	11.1264	3.1044	0.9283	7.5108
xanthine	Nucleotide	0.5819	0.6549	0.4078	0.4785	0.5931	0.7645	1.7072	1.8297	2.1118	2.1404	1.8835	1.9337
alanylleucine	Peptide	0.1763	0.2214	0.2336	0.1763	0.5927	0.3609	1.494	0.8309	1.2115	2.8974	1.7838	1.0209
alanylphenylalanine	Peptide	0.6437	0.7279	0.389	0.6784	0.8823	0.4775	3.097	0.9014	1.1189	4.2392	2.4028	0.2801
alanylvaline	Peptide	0.2471	0.2471	1.101	0.3681	0.9877	0.7355	2.0291	0.838	1.5155	3.4755	3.2462	1.8157
alpha-glutamyltyrosine	Peptide	0.2842	0.3462	0.2391	0.3432	1.1624	0.3337	0.9545	1.3673	1.1044	0.9198	0.4586	1.0866
gamma-glutamylglutamate	Peptide	0.2311	0.4037	0.2619	0.2311	0.2311	0.5602	0.8509	1.2156	0.852	1.8482	1.2471	0.9779
glycylglycine	Peptide	0.5577	0.9316	0.4973	0.6993	0.5623	1.1568	0.7618	1.8304	1.2962	1.8241	1.8049	1.5481
histidylisoleucine	Peptide	0.3892	0.2783	0.4414	0.6542	0.9983	0.3574	3.0109	6.8891	4.6686	2.7983	2.8699	2.7144
isoleucylglycine	Peptide	1.7759	0.5164	0.6494	0.5164	0.5164	0.9287	0.5164	1.2508	2.0052	1.6976	0.5164	2.7668
isoleucylthreonine	Peptide	0.4003	0.449	0.4003	0.6665	0.851	0.4003	1	1.9855	1.2633	1.1808	0.4003	2.0447
leucylalanine	Peptide	0.2858	0.2858	0.5007	0.4757	1.1524	0.4651	0.2858	0.659	0.6484	1.4318	1.1423	1.4149
leucylglycine	Peptide	0.1927	0.2752	0.1927	0.1927	0.5957	0.2678	1.0335	0.7377	1.0424	1.8414	0.7333	1.0339
leucylphenylalanine	Peptide	0.1885	0.1885	0.1885	0.3721	0.7371	0.5099	0.9797	0.812	1.1052	1.5969	1.4563	1.0203
leucylserine	Peptide	0.1554	0.1946	0.1554	0.1554	0.4388	0.3071	1	0.9826	1.0631	1.8817	1.4082	1.3191
phenylalanylglutamate	Peptide	0.8318	0.4664	0.4664	0.4719	2.0615	0.7111	0.4664	1.1225	1.6743	0.4664	0.4664	1.8637
phenylalanylglycine	Peptide	0.7999	0.5876	0.2942	0.4607	0.6567	0.7286	2.018	1.7772	1.7354	1.5766	0.9423	1.7962
serylleucine	Peptide	0.4977	0.3491	0.2114	0.2596	0.5698	0.4976	1.7632	1.3582	1.5428	2.7664	2.3888	2.6686
serylphenylalanine	Peptide	0.4969	0.6293	0.4234	0.7571	1.0758	0.8349	2.5126	1.0903	1.5209	3.1575	2.5335	1.9584
threonylleucine	Peptide	0.2707	0.4063	0.454	0.428	0.5798	0.2707	1.158	1	1.3941	3.8709	1.4242	1.5857
threonylphenylalanine	Peptide	0.8575	0.3802	0.7384	0.6454	1.2851	0.6136	1.4333	0.9613	1.3416	1.911	2.2282	1.7464
ergothioneine	Xenobiotics	1.0281	1.2167	1.6393	1	1.7824	1.1506	0.5808	1.3192	1.3631	1.4678	2.0034	0.5978
glycerol 2-phosphate	Xenobiotics	1.2467	1.106	1	0.8292	0.7187	1.5072	1.364	0.8057	1.399	0.9832	0.4283	0.9996
phenol red	Xenobiotics	0.5686	0.4457	0.4223	0.3604	0.4415	0.453	1.2129	1.0517	1.1884	1.8229	1.0761	1.085

Supplemental Table 3. Metabolomics of T cells for Figure, 2 and 3, and Supplemental Figure S, 1 and 2

Biochemical	Pathway	Syn_D14	Syn_D14	Syn_D14	Syn_D14	Syn_D14	Syn_D14	Allo_D14	Allo_D14	Allo_D14	Allo_D14	Allo_D14	Allo_D14
5-methylthioadenosine (MTA)	Amino Acid	0.6592	1.2168	0.6383	0.4899	0.5019	0.9410	0.6980	0.5785	1.1413	0.5664	0.6169	0.5905
arginine	Amino Acid	0.4909	1.0454	0.4345	0.3723	0.3409	0.5784	0.4558	0.3653	0.6036	0.3321	0.4011	0.4627
asparagine	Amino Acid	1.0425	1.9279	1.0657	1.1345	0.6166	0.6166	1.5489	1.0292	1.0612	0.9208	1.1850	1.3502
aspartate	Amino Acid	0.8235	2.1240	0.7797	0.8107	0.6853	1.2943	1.3869	0.7819	1.4021	1.0707	1.2743	1.2307
creatine	Amino Acid	0.6039	1.4445	0.5107	0.4878	0.4988	0.7477	0.4763	0.3584	0.6606	0.3333	0.4474	0.4689
cysteine	Amino Acid	0.6335	0.8539	0.5942	0.4560	0.2124	0.3249	0.4909	0.3689	0.4916	0.3422	0.3929	0.3388
cysteine-glutathione disulfide	Amino Acid	0.3709	0.9260	0.4847	0.5132	0.3302	0.3110	0.6311	0.4037	0.6730	0.2394	0.2982	0.5059
gamma-aminobutyrate (GABA)	Amino Acid	0.9115	0.9115	1.3835	2.4938	0.9115	0.9115	2.7011	0.9115	0.9115	0.9115	2.2772	2.7101
glutamate	Amino Acid	0.7453	2.2177	0.7179	0.6713	0.6129	0.7794	0.5476	0.4212	0.9826	0.3548	0.5767	0.5819
glutamine	Amino Acid	1.1550	3.4694	1.4933	1.3601	0.9381	0.9545	1.6236	1.1835	1.9218	0.5714	1.0724	1.2837
glutathione, oxidized (GSSG)	Amino Acid	0.6166	1.3454	0.6336	0.4539	0.4858	1.0025	1.2251	0.5002	1.1355	0.7575	0.7778	0.7476
glutathione, reduced (GSH)	Amino Acid	0.7375	2.0990	0.7766	0.7300	0.7257	0.9141	1.0673	0.8465	1.3196	0.8865	0.9965	0.9399
glycine	Amino Acid	0.7720	1.8498	0.8166	0.8513	0.5351	0.7570	1.5056	0.8161	1.0651	0.8781	1.0443	1.1284
histidine	Amino Acid	0.7694	1.2833	0.6612	0.6287	0.4505	0.3252	0.9288	0.5505	1.1273	0.6216	0.6341	0.7277
hypotaurine	Amino Acid	0.7858	1.4635	0.9454	0.8217	0.5735	0.6936	2.0051	1.1633	1.9649	1.5061	1.4647	1.0971
isoleucine	Amino Acid	0.9163	1.6956	1.0397	1.0763	0.7407	0.5115	1.4561	1.0168	1.1245	0.9402	0.7916	0.9970
leucine	Amino Acid	0.6499	1.0383	0.7002	0.7523	0.4785	0.3365	1.1071	0.7316	0.8740	0.6883	0.5757	0.6746
lysine	Amino Acid	0.9510	1.8648	1.2000	1.0393	0.6124	0.6176	1.6844	0.8892	1.1483	1.0038	0.8383	0.9900
methionine	Amino Acid	0.9918	2.1384	1.0639	1.2427	0.7770	0.4871	2.0812	1.2463	1.3189	1.0286	1.0355	1.1922
N-acetylmethionine	Amino Acid	1.3370	2.4793	1.5425	1.6038	1.0670	0.8178	2.9445	2.0244	2.3847	2.0841	1.9475	1.9489
ornithine	Amino Acid	0.7105	1.6522	0.7362	0.5680	0.6205	0.9767	1.2193	0.6984	1.3952	0.9868	0.9990	0.7749
phenylalanine	Amino Acid	1.1346	1.8234	1.2585	1.2149	0.7916	0.4274	1.8029	1.2954	1.4241	1.0689	0.9416	1.1983
proline	Amino Acid	0.3893	1.2166	0.5120	0.4306	0.4422	0.5060	0.6194	0.5153	0.7944	0.4769	0.4556	0.5389
putrescine	Amino Acid	0.3519	0.6492	0.5481	0.3941	0.3780	0.4968	1.4091	0.8467	0.8682	0.7993	0.7825	0.4614
S-adenosylhomocysteine (SAH)	Amino Acid	1.2624	2.1933	1.1943	1.0186	0.6822	1.0234	2.2055	1.0278	1.4621	1.5304	1.2658	1.3159
serine	Amino Acid	1.2631	2.5784	1.5169	1.6359	0.8865	0.5369	2.8522	1.7038	1.8405	1.4610	1.5562	2.0226
spermidine	Amino Acid	0.1747	0.2397	0.1363	0.1300	0.1271	0.2653	0.2556	0.1581	0.2506	0.1485	0.1561	0.2049
spermine	Amino Acid	0.4075	0.5763	0.3267	0.2427	0.1943	0.3383	0.3525	0.2459	0.4686	0.1389	0.2571	0.2155
taurine	Amino Acid	0.9889	3.7231	0.9890	1.2003	0.8587	1.2687	1.6720	1.4258	1.7118	1.7679	1.0676	0.6442
threonine	Amino Acid	1.3952	2.1650	1.6379	1.4210	0.8050	0.6951	2.8081	1.4523	1.7903	1.4707	1.4863	1.6139
tryptophan	Amino Acid	0.9477	1.2800	1.1349	1.0463	0.6769	0.5168	1.4922	1.1738	1.2211	1.0857	0.7317	1.2452
tyrosine	Amino Acid	1.4960	2.3846	1.5683	1.4389	1.0391	0.5885	2.6093	1.7301	2.1763	1.6486	1.3891	1.6123
valine	Amino Acid	0.6007	1.3509	0.7168	0.7894	0.5260	0.3250	1.1262	0.6898	0.7714	0.7005	0.5460	0.6065
glucose	Carbohydrate	0.9400	0.6265	0.6741	0.7313	0.3066	0.4928	0.9895	0.5402	0.5432	0.6018	0.4327	0.8663
glucose-6-phosphate (G6P)	Carbohydrate	1.9450	5.1649	3.7434	2.8977	1.8666	1.3138	4.7229	2.7778	3.3155	3.4685	3.2701	3.9523
Isobar: pentulose 5-phosphates	Carbohydrate	0.7650	3.0384	1.4807	1.4814	0.7650	1.0183	1.1143	0.8415	1.0838	1.3886	1.2026	1.7353
N-acetylneuraminate	Carbohydrate	0.7002	1.1497	0.8449	0.4483	0.4328	0.6380	1.2543	1.1753	1.2123	1.1130	0.9224	1.3719
ribose 5-phosphate	Carbohydrate	0.6548	1.6757	0.6513	1.0783	0.8173	1.1102	0.5399	0.7738	0.5497	0.4092	0.6949	0.6491
sorbitol	Carbohydrate	0.3667	0.7738	1.0949	0.3777	0.3667	0.3667	0.8964	0.5077	0.8528	0.9466	0.8457	1.5903
3'-dephosphocoenzyme A	Cofactors and Vitamins	0.7755	1.4504	0.9068	0.7547	0.6776	0.6087	1.5337	1.0172	0.6655	1.0479	1.0703	1.0194
adenosine 5'diphosphoribose	Cofactors and Vitamins	0.6994	1.8718	0.8758	0.8619	0.7656	0.8588	0.7685	0.7310	0.7984	0.4648	0.5109	0.5563
alpha-tocopherol	Cofactors and Vitamins	0.5813	1.9182	0.7281	1.0065	0.8252	1.2234	1.6421	1.2454	1.3800	1.5979	1.3270	1.5402
ascorbate (Vitamin C)	Cofactors and Vitamins	2.3694	5.3858	2.3050	1.8788	1.5606	1.8574	3.3275	2.4598	3.9096	3.0325	4.3626	2.8041
coenzyme A	Cofactors and Vitamins	0.4569	0.7198	0.3710	0.3779	0.3338	0.6332	0.7892	0.4052	0.2741	0.5524	0.5919	0.6125
flavin adenine dinucleotide (FAD)	Cofactors and Vitamins	0.5404	1.1113	0.4491	0.4627	0.4467	0.5578	0.8185	0.4066	0.5543	0.5910	0.6338	0.7053
nicotinamide	Cofactors and Vitamins	0.7897	1.9222	0.7376	0.6817	0.6575	0.8226	0.9448	0.5958	0.8852	0.6139	0.6595	0.6326
pantothenate	Cofactors and Vitamins	0.3178	0.9619	0.3164	0.2941	0.3302	1.0002	0.9775	0.7020	1.2725	0.9198	1.0426	0.8517
citrate	Energy	0.9706	2.9024	1.1503	1.1087	0.9180	1.2027	1.0825	0.6097	0.9873	0.5770	0.9079	0.9753
fumarate	Energy	0.6472	0.5565	0.6360	0.3182	0.3172	0.5369	0.3438	0.3514	0.5953	0.3181	0.4310	0.4977
malate	Energy	0.6925	1.6074	0.6834	0.8201	0.5933	0.5434	1.0562	0.4419	0.6774	0.9896	0.7459	0.7506
phosphate	Energy	0.4626	0.7926	0.5133	0.4802	0.3813	0.7517	0.3983	0.3385	0.3470	0.3843	0.3651	0.4291
pyrophosphate (PPi)	Energy	1.2789	17.4057	1.2789	1.2789	2.4424	1.2789	14.2857	7.5672	3.1248	19.5444	6.1786	1.2789
12-HETE	Lipid	0.8547	0.4437	0.7522	0.9120	0.4495	0.1730	4.2001	1.3637	3.2013	2.2683	2.0600	1.9001
13-HODE + 9-HODE	Lipid	0.2187	0.2841	0.2179	0.2360	0.1497	0.0894	0.7565	0.3209	0.4961	0.3791	0.4588	0.3593

15-HETE	Lipid	1.2720	0.3055	1.1110	1.2938	0.3055	0.3055	4.3855	1.9423	3.7473	2.6409	2.5339	1.7291
1-arachidonoylglycerophosphoethanolamine*	Lipid	0.5107	0.9990	0.6410	0.4727	0.3865	0.6411	0.9394	0.6358	1.2069	0.8308	0.5659	0.8033
1-arachidonoylglycerophosphoinositol*	Lipid	0.4712	0.8595	0.4181	0.4707	0.3948	0.4971	1.1578	0.5633	1.5663	1.0965	0.5718	0.9609
1-oleoylglycerophosphoethanolamine	Lipid	0.9584	1.3857	1.0247	0.8362	0.8487	0.8963	3.9645	2.6904	5.0930	3.7744	2.0750	2.9523
1-palmitoylglycerophosphocholine (16:0)	Lipid	0.2320	0.5774	0.1395	0.1703	0.1465	0.1483	0.2102	0.1887	1.4408	0.2736	0.1920	0.2677
1-palmitoylglycerophosphoethanolamine	Lipid	0.8619	1.7575	1.4930	0.8458	0.5108	0.8851	5.0074	3.3072	6.4098	4.3567	2.1772	3.4730
1-palmitoylplasmalogenethanolamine*	Lipid	0.5871	0.7036	0.4825	0.4608	0.3726	0.3446	3.4822	2.5928	5.5450	3.8198	1.7027	2.3096
1-stearoylglycerophosphoethanolamine	Lipid	0.9459	1.2701	0.9137	1.0531	0.6202	0.4820	4.1068	2.6349	4.7796	3.4957	1.8746	2.5557
1-stearoylglycerophosphoinositol	Lipid	1.0402	1.7284	1.1109	1.0505	0.9511	0.6885	6.5854	4.3834	9.6665	5.0560	3.5172	3.9980
2-arachidonoylglycerophosphoethanolamine*	Lipid	0.4869	1.0568	0.6559	0.4935	0.6709	0.5335	0.8033	0.4729	0.7631	0.8793	0.4895	0.5403
3-dehydrocarnitine*	Lipid	0.5287	1.3333	0.4254	0.4259	0.3536	0.4829	0.1828	0.1595	0.2254	0.1284	0.1279	0.1632
acetylcarnitine	Lipid	1.0427	2.4989	0.9661	0.9777	0.8706	1.0557	0.8601	0.6710	0.9500	0.6443	0.7167	0.6931
arachidonate (20:4n6)	Lipid	0.8411	1.4294	0.7249	0.6865	0.7070	0.8077	5.4046	3.7539	8.2881	5.0770	2.3131	3.1698
butyrylcarnitine	Lipid	0.7866	1.4801	0.8761	0.9054	0.7104	1.1368	0.3071	0.1994	0.3779	0.2347	0.2860	0.3029
carnitine	Lipid	0.5727	1.6334	0.4689	0.3954	0.3617	0.7423	0.9778	0.5696	1.3873	0.7770	0.8090	0.6394
cholesterol	Lipid	0.6695	1.2968	0.8530	0.8892	0.5619	0.8774	0.8931	0.6904	0.7868	0.9459	0.6048	0.7778
choline	Lipid	0.8863	2.1082	0.7713	0.6394	0.7127	0.8462	1.0335	0.7688	1.5239	0.8029	1.0170	0.9815
choline phosphate	Lipid	0.6627	1.9359	0.6131	0.5560	0.5468	0.7211	0.4206	0.3503	0.6987	0.2461	0.4505	0.4947
cis-vaccenate (18:1n7)	Lipid	0.3807	0.7897	0.3824	0.5381	0.3017	0.5169	0.6263	0.6400	0.8797	0.6871	0.4392	0.7567
cytidine-5'-diphosphoethanolamine	Lipid	0.3857	1.3834	0.4197	0.4297	0.4198	0.6061	0.6399	0.4809	0.8275	0.4254	0.5265	0.4772
deoxycarnitine	Lipid	0.7947	1.3720	0.5229	0.4921	0.4890	0.9643	0.4327	0.4733	0.5737	0.4577	0.3786	0.4207
dihomo-linoleate (20:2n6)	Lipid	0.7008	1.0077	0.7384	0.7103	0.6231	0.6750	3.4203	2.0411	4.8318	3.0228	1.6723	1.8464
dihomo-linolenate (20:3n3 or n6)	Lipid	1.0055	1.5895	0.8065	0.9806	0.6976	1.0119	6.3386	3.3704	8.3159	5.5761	2.8312	3.1232
docosahexaenoate (DHA; 22:6n3)	Lipid	0.3066	0.4026	0.1861	0.2192	0.1928	0.3081	1.4606	1.0347	2.0924	1.2721	0.6819	0.7845
docosapentaenoate (n3 DPA; 22:5n3)	Lipid	0.7401	1.8187	0.6927	0.8555	0.7521	1.1044	8.1529	4.7662	11.7395	7.8109	3.4370	3.9195
eicosenoate (20:1n9 or 11)	Lipid	0.4849	0.6202	0.4469	0.4875	0.3875	0.5390	1.4031	0.9071	1.8404	1.1358	0.7012	0.7824
glycerol 3-phosphate (G3P)	Lipid	0.3137	0.8968	0.3867	0.3929	0.3516	0.4792	1.0037	0.9405	1.0362	0.8486	0.6576	0.7887
glycerophosphorylcholine (GPC)	Lipid	0.4555	1.1118	0.4136	0.3334	0.3885	0.5486	0.7370	0.6608	1.3153	0.5786	0.6016	0.7881
hydroxybutyrylcarnitine*	Lipid	1.0228	2.0896	0.7237	0.8268	0.5794	0.5902	0.9070	0.6090	1.1210	0.7964	0.7426	0.9471
inositol 1-phosphate (I1P)	Lipid	0.6144	1.2593	0.7066	0.8146	0.5900	0.7333	1.2921	0.9047	1.0957	0.8230	0.5370	0.6489
linoleate (18:2n6)	Lipid	0.2496	0.3938	0.2669	0.2560	0.2074	0.2963	0.9145	0.5532	1.2612	0.7747	0.4296	0.5049
myo-inositol	Lipid	0.8088	1.4152	0.7516	0.6114	0.4257	0.5766	0.2856	0.3438	0.3138	0.2882	0.3589	0.3883
octanoylcarnitine	Lipid	0.3027	0.5889	0.3791	0.6727	0.4720	0.8020	0.0892	0.1165	0.0892	0.0892	0.1033	0.0892
oleate (18:1n9)	Lipid	0.3747	0.9535	0.5012	0.4516	0.3489	0.4697	0.9311	0.7228	0.9472	0.8421	0.5718	0.7954
palmitoylsphingomyelin	Lipid	0.8042	1.6854	1.1700	1.3980	0.9249	0.9020	1.9227	1.2316	1.4277	1.9052	1.0874	1.3133
phosphoethanolamine	Lipid	0.7854	2.0968	0.6625	0.5584	0.6265	0.8458	0.7263	0.5076	0.9584	0.4516	0.6686	0.5907
propionylcarnitine	Lipid	0.5282	1.1307	0.5422	0.5093	0.5027	0.8925	0.5096	0.4509	0.6883	0.4081	0.4030	0.4771
stearamide	Lipid	0.2086	0.4388	0.3112	0.3509	0.1167	0.0684	0.2634	0.1157	0.2708	0.0684	0.3007	0.2711
2'-deoxyadenosine 3'-monophosphate	Nucleotide	2.6363	1.2208	3.6376	5.4339	2.7550	0.2692	3.3498	5.6561	2.5732	2.9200	1.4538	4.8693
2'-deoxyguanosine	Nucleotide	0.5202	0.3425	0.6244	0.7426	0.6931	0.3425	0.5686	0.6420	1.1073	0.7412	0.3425	0.7212
adenine	Nucleotide	0.3738	0.9531	0.3316	0.3373	0.2418	0.4628	0.4272	0.3349	0.4559	0.3507	0.4216	0.4490
adenosine	Nucleotide	0.6892	0.9371	0.4700	0.4624	0.3660	0.6028	0.4055	0.3565	0.5856	0.2908	0.4107	0.6388
adenosine 2'-monophosphate (2'-AMP)	Nucleotide	0.3769	0.4779	0.4077	0.4906	0.3931	0.2688	0.5230	0.3845	0.4319	0.3786	0.2458	0.4272
adenosine 3'-monophosphate (3'-AMP)	Nucleotide	0.7434	0.9142	1.0111	1.2936	0.7824	0.4661	1.2096	1.0897	1.0443	1.0377	0.7473	1.1901
adenosine 5'-monophosphate (AMP)	Nucleotide	0.7535	1.4442	0.6163	0.5772	0.5885	0.9765	0.8341	0.5912	0.9826	0.6436	0.7084	0.7200
beta-alanine	Nucleotide	1.0923	1.7665	1.1531	0.8788	0.8505	0.7904	1.2299	0.9185	0.7066	0.8420	0.6258	0.5264
cytidine	Nucleotide	1.3776	2.3845	1.4192	1.4562	1.1289	0.5906	2.5721	1.7794	2.3039	1.6256	1.6494	2.0791
cytidine 5'-monophosphate (5'-CMP)	Nucleotide	0.4404	1.7160	0.5598	0.5253	0.5543	0.7644	0.4398	0.4824	0.7021	0.2833	0.4528	0.3125
cytidine-3'-monophosphate (3'-CMP)	Nucleotide	0.4261	0.4706	0.5407	0.6826	0.3801	1.1499	0.9629	0.8669	1.0029	0.7924	0.7455	0.9690
cytosine-2',3'-cyclic monophosphate	Nucleotide	0.4348	0.4766	0.6959	0.7387	0.4702	0.2215	0.5569	0.8936	0.6468	0.5089	0.3801	0.6943
guanosine	Nucleotide	0.4513	0.8505	0.4490	0.4417	0.3224	0.3435	0.4271	0.2794	1.0592	0.3921	0.2390	0.4274
guanosine 3'-monophosphate (3'-GMP)	Nucleotide	1.6857	1.5238	2.2001	2.8582	1.4633	0.5665	2.3685	2.4415	2.0449	2.0467	1.5300	2.5688
guanosine 5'-monophosphate (5'-GMP)	Nucleotide	0.5846	1.1475	0.4961	0.4914	0.4196	0.6469	0.6563	0.4471	0.6902	0.4274	0.4906	0.5002
hypoxanthine	Nucleotide	1.5425	4.8275	1.3218	1.4563	1.0877	1.3650	3.2584	1.5067	1.7442	1.4644	2.1899	2.1795
inosine	Nucleotide	0.5305	1.2218	0.3920	0.5113	0.4489	0.4569	0.6408	0.3458	1.1286	0.4518	0.3723	0.4569
thymidine	Nucleotide	2.4262	3.1476	2.5532	3.1379	2.0552	1.0708	3.8677	3.0981	4.0615	3.5431	2.2648	3.9305

thymidine 3'-monophosphate	Nucleotide	1.3583	0.8580	2.3140	3.3673	1.8101	0.7794	1.3820	3.2300	1.8177	1.5012	0.7794	2.3261
uracil	Nucleotide	0.2048	0.4503	0.1605	0.1877	0.1313	0.2538	0.7128	0.2251	0.3160	0.2956	0.2233	0.2088
urate	Nucleotide	0.9757	2.1134	1.0245	0.9622	0.7142	0.1276	2.0121	1.3646	1.1246	1.3022	0.9597	1.8830
uridine	Nucleotide	0.4733	1.3608	0.6313	0.5588	0.5980	0.4273	0.4126	0.5279	0.8774	0.4085	0.3713	0.4645
uridine monophosphate (5' or 3')	Nucleotide	0.5924	1.4714	0.5290	0.4979	0.4994	0.9113	0.5894	0.4334	0.7735	0.3479	0.5437	0.4338
uridine-2',3'-cyclic monophosphate	Nucleotide	2.0353	0.4339	3.9503	3.4917	2.7961	1.1750	1.8758	3.3658	1.6117	1.5061	1.3688	2.2063
xanthine	Nucleotide	2.4746	2.3413	1.2955	1.3196	1.0114	1.4779	2.9810	1.1753	3.3216	2.1090	2.0349	2.5888
alanine	Peptide	0.4606	0.4397	0.2872	0.3536	0.4503	0.7215	0.5898	0.5317	0.6193	0.3513	0.4411	0.5138
alanine phenylalanine	Peptide	2.6632	5.6003	2.8116	2.8130	1.9847	3.4229	2.0749	2.4330	3.0763	2.0840	2.4483	3.0358
alanine valine	Peptide	0.6324	1.7051	1.4165	1.1827	0.9058	0.9363	1.0199	1.4797	1.0456	0.8995	0.7338	1.0400
alpha-glutamyl tyrosine	Peptide	0.2101	0.5063	0.2064	0.2275	0.1499	0.2770	0.2321	0.1552	0.2618	0.1450	0.1744	0.1765
gamma-glutamyl glutamate	Peptide	0.8657	2.5484	0.8149	0.7875	0.7520	0.5207	0.8370	0.5207	0.8505	0.9642	0.6400	0.9857
glycylglycine	Peptide	0.6166	1.3236	0.8997	0.8812	0.6081	0.5056	1.3574	0.9008	0.9777	0.7759	0.8563	0.7436
histidyl isoleucine	Peptide	0.4353	0.3721	0.3530	0.4718	0.2783	0.2783	0.7150	0.3625	0.2783	0.2783	0.3270	0.3677
isoleucylglycine	Peptide	2.7895	2.9998	2.1037	2.5612	1.6922	2.6475	3.0096	3.0097	2.1882	1.9262	1.6153	3.1642
isoleucyl threonine	Peptide	0.7188	1.8483	0.9593	1.1692	0.6464	0.3441	1.1302	1.2983	1.3821	0.6815	0.7748	0.6912
leucylalanine	Peptide	0.0969	0.0596	0.0853	0.1848	0.0596	0.0989	0.1499	0.1159	0.2020	0.0771	0.0732	0.2206
leucylglycine	Peptide	0.9408	1.4289	1.1329	1.2369	0.8905	0.8109	1.6440	1.2171	1.2058	0.8119	0.7697	1.1800
leucylphenylalanine	Peptide	0.3399	0.4735	0.2584	0.3123	0.2242	0.3170	0.2133	0.2571	0.2714	0.1885	0.1916	0.2414
leucylserine	Peptide	0.3163	0.3746	0.2824	0.3282	0.2245	0.1316	0.2830	0.3341	0.3240	0.1872	0.1875	0.2927
phenylalanyl glutamate	Peptide	1.2906	2.0256	1.1429	1.3798	0.9450	1.0899	2.2181	1.5503	2.4420	1.5360	1.5615	1.5030
phenylalanyl glycine	Peptide	0.4123	0.6450	0.5431	0.5426	0.4016	0.4016	0.9043	0.7704	0.6497	0.4725	0.4569	0.4911
serine	Peptide	1.3418	1.4994	1.3144	1.3738	1.0090	1.0105	1.2034	1.1265	1.1377	0.7839	0.8367	1.3650
serine phenylalanine	Peptide	0.6498	1.4635	0.8748	0.7987	0.6015	1.1182	0.7609	0.8104	0.8463	0.6690	0.5945	0.7442
threonine	Peptide	0.5215	0.6640	0.6669	0.7720	0.5993	0.9229	0.8295	0.9297	0.5864	0.5865	0.5766	0.6195
threonine phenylalanine	Peptide	0.6677	0.7636	0.5121	0.5401	0.4850	0.6594	0.9641	0.6173	1.0670	0.5245	0.5157	0.9645
ergothioneine	Xenobiotics	0.1866	0.5735	0.2980	0.2549	0.1862	0.1829	0.2958	0.2327	0.1586	0.1338	0.1589	0.1166
glycerol 2-phosphate	Xenobiotics	0.7415	2.7684	0.5258	0.7306	0.6174	1.2156	1.2429	1.0787	1.2059	1.7197	0.8451	1.7186
phenol red	Xenobiotics	0.7003	1.5467	0.5787	0.4971	0.5521	0.7933	1.0536	0.5598	0.7412	0.6162	0.6531	0.5450

Supplemental Table 4: Glucose and Fatty acid metabolism qPCR values for Figure, 2 and 3 and Supplemental Figure 3

Pathway	Genes	Group	CT1	CT2	Average	Average actin	dCT	ddCT	Fold Change
Glycolysis	Glut 1	Naïve	26.78	26.49	26.64	24.4	2.22	0.00	1.00
Glycolysis	Glut 1	Syngeneic	26.58	25.57	26.07	23.8	2.27	0.05	0.97
Glycolysis	Glut 1	Syngeneic	27.47	26.55	27.01	24.3	2.76	0.54	0.69
Glycolysis	Glut 1	Syngeneic	26.93	26.21	26.57	24.4	2.16	-0.06	1.04
Glycolysis	Glut 1	Allo_B6D2F1	28.31	27.48	27.89	25.7	2.24	0.02	0.99
Glycolysis	Glut 1	Allo_B6D2F1	27.36	26.51	26.94	25.0	1.89	-0.33	1.26
Glycolysis	Glut 1	Allo_B6D2F1	28.17	27.80	27.98	26.8	1.23	-0.99	1.99
Glycolysis	Glut 1	Allo_Balb/c	27.70	27.13	27.42	26.0	1.39	-0.83	1.78
Glycolysis	Glut 1	Allo_Balb/c	29.59	28.80	29.20	26.4	2.84	0.62	0.65
Glycolysis	Glut 1	Allo_Balb/c	27.01	26.57	26.79	24.8	1.95	-0.28	1.21
Glycolysis	Glut 3	Naïve	24.62	24.62	24.62	22.22	2.40	-0.51	1.43
Glycolysis	Glut 3	Naïve	25.15	25.15	25.15	22.24	2.91	0.00	1.00
Glycolysis	Glut 3	Syngeneic	23.91	23.91	23.91	20.50	3.41	0.50	0.71
Glycolysis	Glut 3	Syngeneic	23.51	23.51	23.51	20.48	3.03	0.12	0.92
Glycolysis	Glut 3	Syngeneic	24.47	24.47	24.47	21.20	3.27	0.36	0.78
Glycolysis	Glut 3	Allo_B6D2F1	22.79	22.79	22.79	20.92	1.87	-1.05	2.06
Glycolysis	Glut 3	Allo_B6D2F1	22.71	22.71	22.71	21.22	1.49	-1.42	2.67
Glycolysis	Glut 3	Allo_B6D2F1	22.78	22.78	22.78	21.35	1.42	-1.49	2.80
Glycolysis	Glut 3	Allo_Balb/c	23.57	23.57	23.57	21.90	1.67	-1.24	2.36
Glycolysis	Glut 3	Allo_Balb/c	23.66	23.66	23.66	21.35	2.31	-0.60	1.52
Glycolysis	Glut 3	Allo_Balb/c	22.65	22.65	22.65	21.11	1.54	-1.37	2.58
Glycolysis	HK1	Naïve	23.30	23.30	23.30	22.69	0.61	-0.20	1.15
Glycolysis	HK1	Naïve	23.21	23.21	23.21	22.53	0.67	-0.14	1.10
Glycolysis	HK1	Naïve	23.42	23.42	23.42	22.61	0.81	0.00	1.00
Glycolysis	HK1	Syngeneic	21.09	21.42	21.25	21.04	0.21	-0.60	1.51
Glycolysis	HK1	Syngeneic	22.33	22.78	22.56	21.39	1.16	0.35	0.78
Glycolysis	HK1	Syngeneic	24.24	23.87	24.05	21.96	2.10	1.29	0.41
Glycolysis	HK1	Allo_B6D2F1	20.08	21.09	20.59	21.30	-0.71	-1.52	2.87
Glycolysis	HK1	Allo_B6D2F1	21.37	20.80	21.08	21.05	0.03	-0.78	1.72
Glycolysis	HK1	Allo_B6D2F1	20.70	20.66	20.68	20.76	-0.08	-0.89	1.86
Glycolysis	HK1	Allo_Balb/c	20.79	20.70	20.75	22.29	-1.54	-2.35	5.10
Glycolysis	HK1	Allo_Balb/c	21.07	20.88	20.97	21.77	-0.80	-1.61	3.05
Glycolysis	HK1	Allo_Balb/c	20.02	19.86	19.94	21.59	-1.65	-2.46	5.49
Glycolysis	HK II	Naïve	28.95	28.95	28.95	24.4	4.54	0.00	1.00
Glycolysis	HK II	Syngeneic	26.21	26.18	26.20	23.8	2.40	-2.14	4.41
Glycolysis	HK II	Syngeneic	26.51	26.23	26.37	24.3	2.12	-2.41	5.33
Glycolysis	HK II	Syngeneic	26.32	26.19	26.25	24.4	1.85	-2.68	6.43
Glycolysis	HK II	Allo_B6D2F1	27.99	28.29	28.14	25.7	2.49	-2.05	4.13
Glycolysis	HK II	Allo_B6D2F1	26.99	27.43	27.21	25.0	2.17	-2.37	5.18
Glycolysis	HK II	Allo_B6D2F1	28.97	29.22	29.09	26.8	2.34	-2.20	4.58
Glycolysis	HK II	Allo_Balb/c	27.37	27.05	27.21	26.0	1.18	-3.36	10.25
Glycolysis	HK II	Allo_Balb/c	29.07	28.57	28.82	26.4	2.47	-2.07	4.19
Glycolysis	HK II	Allo_Balb/c	26.22	25.89	26.06	24.8	1.21	-3.32	10.00
Glycolysis	Gpi	Naïve	22.69	22.96	22.82	24.4	-1.59	0.00	1.00
Glycolysis	Gpi	Syngeneic	21.47	20.71	21.09	23.8	-2.71	-1.12	2.18
Glycolysis	Gpi	Syngeneic	22.79	22.15	22.47	24.3	-1.78	-0.19	1.14
Glycolysis	Gpi	Syngeneic	21.82	21.51	21.66	24.4	-2.74	-1.15	2.22
Glycolysis	Gpi	Allo_B6D2F1	22.41	22.40	22.40	25.7	-3.25	-1.66	3.16
Glycolysis	Gpi	Allo_B6D2F1	21.87	22.16	22.01	25.0	-3.04	-1.45	2.72
Glycolysis	Gpi	Allo_B6D2F1	23.28	23.33	23.31	26.8	-3.45	-1.86	3.62
Glycolysis	Gpi	Allo_Balb/c	23.29	22.16	22.72	26.0	-3.31	-1.72	3.29
Glycolysis	Gpi	Allo_Balb/c	23.05	22.96	23.00	26.4	-3.35	-1.76	3.39
Glycolysis	Gpi	Allo_Balb/c	22.22	22.26	22.24	24.8	-2.61	-1.02	2.02
Glycolysis	PFK	Naïve	23.37	23.35	23.36	24.4	-1.05	0.00	1.00
Glycolysis	PFK	Naïve	23.05	22.76	22.91	24.9	-1.97	-0.92	1.89
Glycolysis	PFK	Naïve	22.71	22.85	22.78	24.2	-1.45	-0.40	1.32
Glycolysis	PFK	Allo_Balb/c	22.26	22.01	22.13	25.6	-3.48	-2.43	5.40
Glycolysis	PFK	Allo_Balb/c	22.10	22.17	22.13	25.9	-3.78	-2.72	6.60
Glycolysis	PFK	Allo_Balb/c	22.68	22.40	22.54	26.7	-4.19	-3.14	8.80

Glycolysis	PFK	Syngeneic	23.74	23.29	23.51	23.07	0.44	0.00	6.35
Glycolysis	PFK	Syngeneic	24.39	23.96	24.18	23.31	0.87	0.42	4.74
Glycolysis	PFK	Syngeneic	25.36	25.21	25.28	23.81	1.47	1.03	3.12
Glycolysis	PFK	Allo_B6D2F1	22.64	22.35	22.49	23.40	-0.91	-1.35	16.23
Glycolysis	PFK	Allo_B6D2F1	22.82	22.64	22.73	23.96	-1.24	-1.68	20.32
Glycolysis	PFK	Allo_B6D2F1	22.95	22.54	22.74	23.76	-1.02	-1.46	17.49
Glycolysis	pfkfb	Naïve	27.44	27.47	27.45	24.4	3.04	0.00	1.00
Glycolysis	pfkfb	Syngeneic	27.48	27.30	27.39	23.8	3.59	0.55	0.68
Glycolysis	pfkfb	Syngeneic	27.74	27.26	27.50	24.3	3.25	0.21	0.87
Glycolysis	pfkfb	Syngeneic	27.07	26.75	26.91	24.4	2.51	-0.53	1.45
Glycolysis	pfkfb	Allo_B6D2F1	26.48	26.43	26.45	25.7	0.80	-2.24	4.71
Glycolysis	pfkfb	Allo_B6D2F1	26.17	26.32	26.24	25.0	1.20	-1.84	3.59
Glycolysis	pfkfb	Allo_B6D2F1	27.03	27.07	27.05	26.8	0.30	-2.74	6.69
Glycolysis	pfkfb	Allo_Balb/c	27.34	27.27	27.30	26.0	1.27	-1.77	3.40
Glycolysis	pfkfb	Allo_Balb/c	26.99	26.95	26.97	26.4	0.62	-2.42	5.35
Glycolysis	pfkfb	Allo_Balb/c	26.50	26.42	26.46	24.8	1.62	-1.42	2.68
Glycolysis	pfkb2	Naïve	27.28	27.13	27.21	24.4	2.79	0.00	1.00
Glycolysis	pfkb2	Syngeneic	27.28	27.20	27.24	23.8	3.44	0.65	0.64
Glycolysis	pfkb2	Syngeneic	28.16	28.11	28.14	24.3	3.88	1.09	0.47
Glycolysis	pfkb2	Syngeneic	27.42	27.13	27.28	24.4	2.87	0.08	0.95
Glycolysis	pfkb2	Allo_B6D2F1	26.61	26.68	26.64	25.7	0.99	-1.80	3.49
Glycolysis	pfkb2	Allo_B6D2F1	25.87	26.06	25.97	25.0	0.92	-1.88	3.67
Glycolysis	pfkb2	Allo_B6D2F1	27.64	27.47	27.55	26.8	0.80	-1.99	3.98
Glycolysis	pfkb2	Allo_Balb/c	28.03	28.05	28.04	26.0	2.01	-0.78	1.72
Glycolysis	pfkb2	Allo_Balb/c	28.02	27.74	27.88	26.4	1.53	-1.27	2.41
Glycolysis	pfkb2	Allo_Balb/c	26.66	26.79	26.73	24.8	1.88	-0.91	1.88
Glycolysis	Aldolase A	Naïve	22.59	22.35	22.47	24.42	-1.94	0.00	1.00
Glycolysis	Aldolase A	Naïve	22.28	22.37	22.33	24.88	-2.55	-0.61	1.53
Glycolysis	Aldolase A	Naïve	21.48	21.79	21.64	24.24	-2.60	-0.66	1.58
Glycolysis	Aldolase A	Syngeneic	22.53	22.96	22.74	26.27	-3.53	-1.59	3.00
Glycolysis	Aldolase A	Syngeneic	21.51	21.41	21.46	25.24	-3.78	-1.84	3.57
Glycolysis	Aldolase A	Syngeneic	21.98	21.73	21.85	25.23	-3.37	-1.43	2.69
Glycolysis	Aldolase A	Allo_B6D2F1	20.15	20.21	20.18	23.40	-3.22	-0.90	7.40
Glycolysis	Aldolase A	Allo_B6D2F1	20.17	20.56	20.36	23.96	-3.60	-1.28	9.62
Glycolysis	Aldolase A	Allo_B6D2F1	20.38	20.51	20.45	23.76	-3.32	-1.00	7.91
Glycolysis	Aldolase A	Allo_Balb/c	21.85	21.28	21.57	25.62	-4.05	-2.11	4.31
Glycolysis	Aldolase A	Allo_Balb/c	21.25	21.57	21.41	25.91	-4.50	-2.55	5.88
Glycolysis	Aldolase A	Allo_Balb/c	23.20	22.80	23.00	26.73	-3.73	-1.79	3.45
Glycolysis	Tpi	Naïve	22.60	22.63	22.61	24.4	-1.80	0.00	1.00
Glycolysis	Tpi	Syngeneic	21.13	21.03	21.08	23.8	-2.72	-0.92	1.89
Glycolysis	Tpi	Syngeneic	21.58	21.28	21.43	24.3	-2.82	-1.02	2.03
Glycolysis	Tpi	Syngeneic	20.63	20.29	20.46	24.4	-3.94	-2.14	4.41
Glycolysis	Tpi	Allo_B6D2F1	19.72	19.65	19.69	25.7	-5.96	-4.17	17.95
Glycolysis	Tpi	Allo_B6D2F1	19.41	19.58	19.50	25.0	-5.55	-3.75	13.48
Glycolysis	Tpi	Allo_B6D2F1	20.57	20.55	20.56	26.8	-6.20	-4.40	21.05
Glycolysis	Tpi	Allo_Balb/c	19.79	20.26	20.02	26.0	-6.01	-4.21	18.47
Glycolysis	Tpi	Allo_Balb/c	20.19	20.18	20.19	26.4	-6.17	-4.37	20.62
Glycolysis	Tpi	Allo_Balb/c	19.69	22.68	21.19	24.8	-3.66	-1.86	3.63
Glycolysis	Pfkl	Naïve	25.04	25.20	25.12	24.4	0.71	0.00	1.00
Glycolysis	Pfkl	Syngeneic	24.49	24.69	24.59	23.8	0.79	0.08	0.94
Glycolysis	Pfkl	Syngeneic	25.37	25.39	25.38	24.3	1.12	0.41	0.75
Glycolysis	Pfkl	Syngeneic	23.87	24.36	24.12	24.4	-0.28	-0.99	1.99
Glycolysis	Pfkl	Allo_B6D2F1	24.27	24.84	24.55	25.7	-1.10	-1.81	3.50
Glycolysis	Pfkl	Allo_B6D2F1	23.37	24.54	23.95	25.0	-1.09	-1.80	3.49
Glycolysis	Pfkl	Allo_B6D2F1	24.92	26.22	25.57	26.8	-1.19	-1.89	3.72
Glycolysis	Pfkl	Allo_Balb/c	25.89	25.16	25.53	26.0	-0.50	-1.21	2.32
Glycolysis	Pfkl	Allo_Balb/c	25.94	25.44	25.69	26.4	-0.66	-1.37	2.58
Glycolysis	Pfkl	Allo_Balb/c	24.17	24.62	24.40	24.8	-0.45	-1.16	2.23
Glycolysis	pgam1	Naïve	23.77	23.70	23.74	24.4	-0.68	0.00	1.00
Glycolysis	pgam1	Syngeneic	21.57	21.47	21.52	23.8	-2.28	-1.61	3.04
Glycolysis	pgam1	Syngeneic	22.33	22.10	22.21	24.3	-2.04	-1.36	2.57
Glycolysis	pgam1	Syngeneic	21.12	20.85	20.98	24.4	-3.42	-2.74	6.69

Glycolysis	pgam1	Allo_B6D2F1	22.52	22.37	22.45	25.7	-3.21	-2.53	5.77
Glycolysis	pgam1	Allo_B6D2F1	21.60	22.10	21.85	25.0	-3.20	-2.52	5.74
Glycolysis	pgam1	Allo_B6D2F1	22.93	23.61	23.27	26.8	-3.49	-2.81	7.02
Glycolysis	pgam1	Allo_Balb/c	22.48	22.08	22.28	26.0	-3.75	-3.07	8.42
Glycolysis	pgam1	Allo_Balb/c	22.10	21.82	21.96	26.4	-4.39	-3.71	13.12
Glycolysis	pgam1	Allo_Balb/c	22.08	22.02	22.05	24.8	-2.80	-2.12	4.35
Glycolysis	Pgm2	Naïve	25.63	24.84	25.24	24.4	0.82	0.00	1.00
Glycolysis	Pgm2	Syngeneic	24.76	25.00	24.88	23.8	1.08	0.26	0.84
Glycolysis	Pgm2	Syngeneic	25.30	25.70	25.50	24.3	1.25	0.43	0.74
Glycolysis	Pgm2	Syngeneic	24.50	25.42	24.96	24.4	0.55	-0.27	1.20
Glycolysis	Pgm2	Allo_B6D2F1	25.96	26.46	26.21	25.7	0.56	-0.26	1.20
Glycolysis	Pgm2	Allo_B6D2F1	25.24	26.84	26.04	25.0	1.00	0.17	0.89
Glycolysis	Pgm2	Allo_B6D2F1	26.73	28.06	27.39	26.8	0.64	-0.18	1.13
Glycolysis	Pgm2	Allo_Balb/c	26.38	26.00	26.19	26.0	0.16	-0.66	1.58
Glycolysis	Pgm2	Allo_Balb/c	26.16	26.87	26.51	26.4	0.16	-0.66	1.58
Glycolysis	Pgm2	Allo_Balb/c	25.89	25.57	25.73	24.8	0.88	0.06	0.96
Glycolysis	Enol	Naïve	20.87	20.72	20.80	24.4	-3.62	0.00	1.00
Glycolysis	Enol	Naïve	22.47	21.68	22.08	24.9	-2.80	0.82	0.57
Glycolysis	Enol	Naïve	21.37	21.60	21.48	24.2	-2.75	0.87	0.55
Glycolysis	Enol	Syngeneic	22.12	22.23	22.18	26.3	-4.10	-0.48	1.39
Glycolysis	Enol	Syngeneic	20.64	20.59	20.62	25.2	-4.62	-1.00	2.00
Glycolysis	Enol	Syngeneic	20.75	21.27	21.01	25.2	-4.21	-0.60	1.51
Glycolysis	Enol	Allo_Balb/c	20.98	21.04	21.01	25.6	-4.60	-0.99	1.98
Glycolysis	Enol	Allo_Balb/c	20.50	20.70	20.60	25.9	-5.31	-1.69	3.24
Glycolysis	Enol	Allo_Balb/c	22.50	22.42	22.46	26.7	-4.27	-0.65	1.57
Glycolysis	Enol	Allo_B6D2F1	19.46	19.26	19.36	23.40	-4.04	-1.02	3.87
Glycolysis	Enol	Allo_B6D2F1	19.05	19.14	19.10	23.96	-4.87	-1.85	6.85
Glycolysis	Enol	Allo_B6D2F1	19.15	18.99	19.07	23.76	-4.69	-1.67	6.07
Glycolysis	PKM2	Naïve	21.86	22.69	22.28	24.4	-2.14	0.00	1.00
Glycolysis	PKM2	Syngeneic	21.29	21.02	21.15	23.8	-2.65	-0.51	1.43
Glycolysis	PKM2	Syngeneic	22.13	21.72	21.93	24.3	-2.32	-0.19	1.14
Glycolysis	PKM2	Syngeneic	21.42	21.42	21.42	24.4	-2.99	-0.85	1.80
Glycolysis	PKM2	Allo_B6D2F1	23.21	23.30	23.26	25.7	-2.40	-0.26	1.20
Glycolysis	PKM2	Allo_B6D2F1	21.94	21.71	21.83	25.0	-3.22	-1.09	2.12
Glycolysis	PKM2	Allo_B6D2F1	23.42	23.13	23.27	26.8	-3.48	-1.35	2.54
Glycolysis	PKM2	Allo_Balb/c	21.89	22.31	22.10	26.0	-3.93	-1.79	3.46
Glycolysis	PKM2	Allo_Balb/c	23.17	23.76	23.47	26.4	-2.88	-0.75	1.68
Glycolysis	PKM2	Allo_Balb/c	20.88	21.37	21.12	24.8	-3.72	-1.59	3.00
Glycolysis	LDH	Naïve	20.71	20.84	20.78	24.4	-3.64	0.00	1.00
Glycolysis	LDH	Naïve	21.10	20.82	20.96	24.9	-3.92	-0.28	1.22
Glycolysis	LDH	Naïve	21.05	21.09	21.07	24.2	-3.17	0.47	0.72
Glycolysis	LDH	Syngeneic	19.07	18.71	18.89	23.1	-4.18	0.00	3.64
Glycolysis	LDH	Syngeneic	18.76	18.83	18.79	23.3	-4.52	-0.34	4.60
Glycolysis	LDH	Syngeneic	19.70	19.73	19.71	23.8	-4.10	0.08	3.45
Glycolysis	LDH	Allo_B6D2F1	17.33	17.31	17.32	23.40	-6.08	-1.90	13.64
Glycolysis	LDH	Allo_B6D2F1	17.30	17.15	17.23	23.96	-6.74	-2.56	21.43
Glycolysis	LDH	Allo_B6D2F1	17.31	17.36	17.34	23.76	-6.43	-2.25	17.30
Glycolysis	LDH	Allo_Balb/c	19.20	19.16	19.18	25.6	-6.44	-2.80	6.96
Glycolysis	LDH	Allo_Balb/c	19.05	19.05	19.05	25.9	-6.86	-3.22	9.33
Glycolysis	LDH	AlloBALB/c	20.58	20.46	20.52	26.7	-6.21	-2.58	5.97
Glycolysis	MCT4	Naïve	31.29	30.32	30.81	24.4	6.39	0.00	1.00
Glycolysis	MCT4	Syngeneic	28.70	28.31	28.50	23.8	4.70	-1.69	3.22
Glycolysis	MCT4	Syngeneic	31.16	29.14	30.15	24.3	5.90	-0.50	1.41
Glycolysis	MCT4	Syngeneic	28.41	28.34	28.37	24.4	3.97	-2.42	5.36
Glycolysis	MCT4	Allo_B6D2F1	28.95	29.27	29.11	25.7	3.46	-2.94	7.65
Glycolysis	MCT4	Allo_B6D2F1	26.37	28.09	27.23	25.0	2.18	-4.21	18.52
Glycolysis	MCT4	Allo_B6D2F1	28.36	29.59	28.97	26.8	2.22	-4.17	18.02
Glycolysis	MCT4	Allo_Balb/c	29.06	28.40	28.73	26.0	2.70	-3.69	12.92
Glycolysis	MCT4	Allo_Balb/c	31.37	30.80	31.09	26.4	4.73	-1.66	3.16
Glycolysis	MCT4	Allo_Balb/c	27.47	27.48	27.47	24.8	2.63	-3.76	13.57
FAO	Pgc1a	Naïve	34.12	33.89	34.00	24.41	9.59	0.00	1.00
FAO	Pgc1a	Syngeneic	35.03	34.44	34.74	23.80	10.94	1.35	0.39

FAO	Pgc1a	Syngeneic	33.48	32.20	32.84	24.25	8.59	-1.00	2.00
FAO	Pgc1a	Syngeneic	32.72	32.91	32.81	24.40	8.41	-1.18	2.26
FAO	Pgc1a	Allo_B6D2F1	34.25	33.69	33.97	25.65	8.32	-1.27	2.41
FAO	Pgc1a	Allo_B6D2F1	34.98	35.93	35.45	25.05	10.41	0.82	0.57
FAO	Pgc1a	Allo_B6D2F1	34.94	34.41	34.68	26.75	7.92	-1.67	3.17
FAO	Pgc1a	Allo_Balb/c	34.18	35.20	34.69	26.03	8.66	-0.92	1.90
FAO	Pgc1a	Allo_Balb/c	36.09	35.20	35.65	26.35	9.30	-0.29	1.22
FAO	Pgc1a	Allo_Balb/c	35.14	34.60	34.87	26.35	8.52	-1.07	2.10
FAO	Cpt1a	Naïve	30.83	31.37	31.10	24.41	6.68	0.00	1.00
FAO	Cpt1a	Syngeneic	31.39	30.69	31.04	23.80	7.24	0.55	0.68
FAO	Cpt1a	Syngeneic	31.31	31.18	31.25	24.25	6.99	0.31	0.81
FAO	Cpt1a	Syngeneic	30.41	30.15	30.28	24.40	5.88	-0.81	1.75
FAO	Cpt1a	Allo_B6D2F1	30.42	30.13	30.28	25.65	4.63	-2.06	4.16
FAO	Cpt1a	Allo_B6D2F1	29.64	29.84	29.74	25.05	4.69	-1.99	3.98
FAO	Cpt1a	Allo_B6D2F1	31.42	31.54	31.48	26.75	4.73	-1.96	3.89
FAO	Cpt1a	Allo_Balb/c	31.72	32.25	31.98	26.03	5.95	-0.73	1.66
FAO	Cpt1a	Allo_Balb/c	32.59	32.56	32.57	26.35	6.22	-0.46	1.38
FAO	Cpt1a	Allo_Balb/c	30.22	30.47	30.35	24.84	5.50	-1.18	2.27

Supplemental Table 5: qPCR values for Figure 4

Genes	Group	CT1	CT2	Average	β -actin	β -actin	Average	dCT	ddCT	Fold change
Glut1	Vehicle	27.70	27.38	27.54	26.64	26.39	26.52	1.02	-1.47	2.77
Glut1	Vehicle	28.15	28.16	28.15	27.09	26.75	26.92	1.24	-1.26	2.39
Glut1	Vehicle	27.08	27.49	27.28	25.93	25.75	25.84	1.44	-1.05	2.07
Glut1	Rapamycin	32.93	33.14	33.04	31.70	31.34	31.52	1.52	-0.98	1.97
Glut1	Rapamycin	32.80	32.43	32.62	30.54	30.61	30.58	2.04	-0.46	1.37
Glut1	Rapamycin	32.91	33.67	33.29	30.51	31.08	30.80	2.49	0.00	1.00
HK2	Vehicle	28.36	28.36	28.36	26.64	26.39	26.52	1.84	-1.46	2.75
HK2	Vehicle	29.13	28.75	28.94	27.09	26.75	26.92	2.02	-1.28	2.43
HK2	Vehicle	26.96	27.19	27.08	25.93	25.75	25.84	1.24	-2.06	4.18
HK2	Rapamycin	33.71	33.97	33.84	31.70	31.34	31.52	2.32	-0.98	1.97
HK2	Rapamycin	32.32	33.15	32.73	30.54	30.61	30.58	2.16	-1.14	2.21
HK2	Rapamycin	33.67	34.53	34.10	30.51	31.08	30.80	3.30	0.00	1.00
LDH	Vehicle	19.74	19.82	19.78	26.64	26.39	26.52	-6.74	-3.37	10.37
LDH	Vehicle	20.88	20.51	20.69	27.09	26.75	26.92	-6.22	-2.86	7.26
LDH	Vehicle	19.12	19.09	19.11	25.93	25.75	25.84	-6.73	-3.37	10.34
LDH	Rapamycin	28.02	27.64	27.83	31.70	31.34	31.52	-3.69	-0.33	1.25
LDH	Rapamycin	27.31	27.12	27.21	30.54	30.61	30.58	-3.36	0.00	1.00
LDH	Rapamycin	26.35	26.54	26.45	30.51	31.08	30.80	-4.35	-0.99	1.98
Pfkfb1	Vehicle	28.02	27.15	27.59	26.64	26.39	26.52	1.07	-0.34	1.27
Pfkfb1	Vehicle	27.10	27.90	27.50	27.09	26.75	26.92	0.58	-0.83	1.78
Pfkfb1	Vehicle	26.83	26.96	26.90	25.93	25.75	25.84	1.06	-0.35	1.28
Pfkfb1	Rapamycin	32.76	32.29	32.53	31.70	31.34	31.52	1.00	-0.41	1.33
Pfkfb1	Rapamycin	32.41	31.57	31.99	30.54	30.61	30.58	1.41	0.00	1.00
Pfkfb1	Rapamycin	32.25	32.30	32.27	30.51	31.08	30.80	1.47	0.06	0.96
Tpi	Vehicle	20.21	20.13	20.17	26.64	26.39	26.52	-6.35	-4.91	30.11
Tpi	Vehicle	20.81	21.05	20.93	27.09	26.75	26.92	-5.99	-4.56	23.54
Tpi	Vehicle	21.33	19.61	20.47	25.93	25.75	25.84	-5.37	-3.94	15.33
Tpi	Rapamycin	32.24	27.12	29.68	30.54	30.61	30.58	-0.90	0.54	0.69
Tpi	Rapamycin	27.39	27.26	27.32	30.51	31.08	30.80	-3.47	-2.04	4.11
Tpi	Rapamycin	25.10	25.07	25.08	26.64	26.39	26.52	-1.43	0.00	1.00
Pfk1	Vehicle	27.05	25.91	26.48	27.09	26.75	26.92	-0.44	-1.54	2.91
Pfk1	Vehicle	24.85	24.17	24.51	25.93	25.75	25.84	-1.33	-2.44	5.41
Pfk1	Rapamycin	32.69	33.05	32.87	31.70	31.34	31.52	1.35	0.24	0.84

Pfk1	Rapamycin	31.66	31.74	31.70	30.54	30.61	30.58	1.12	0.02	0.99
Pfk1	Rapamycin	31.50	32.31	31.90	30.51	31.08	30.80	1.10	0.00	1.00
MCT4	Vehicle	29.04	28.23	28.63	26.64	26.39	26.52	2.12	-2.33	5.03
MCT4	Vehicle	29.23	28.69	28.96	27.09	26.75	26.92	2.05	-2.40	5.30
MCT4	Vehicle	27.37	27.69	27.53	25.93	25.75	25.84	1.69	-2.76	6.78
MCT4	Rapamycin	34.51	36.15	35.33	31.70	31.34	31.52	3.81	-0.64	1.56
MCT4	Rapamycin	33.34	33.63	33.48	30.54	30.61	30.58	2.91	-1.54	2.91
MCT4	Rapamycin	35.34	35.16	35.25	30.51	31.08	30.80	4.45	0.00	1.00
Raptor	Naïve	25.06	25.07	25.07	24.42	24.42	24.42	0.65	0.00	1.00
Raptor	Naïve	23.86	23.87	23.86	24.88	24.88	24.88	-1.02	-1.67	3.17
Raptor	Naïve	23.59	23.91	23.75	24.24	24.24	24.24	-0.48	-1.14	2.20
Raptor	Syngeneic	26.19	26.29	26.24	26.27	26.27	26.27	-0.03	-0.68	1.61
Raptor	Syngeneic	26.04	26.89	26.47	25.24	25.24	25.24	1.23	0.58	0.67
Raptor	Syngeneic	24.17	24.96	24.57	25.23	25.23	25.23	-0.66	-1.31	2.48
Raptor	Allo_BALB/c	23.99	24.39	24.19	25.62	25.62	25.62	-1.43	-2.08	4.23
Raptor	Allo_BALB/c	25.09	25.89	25.49	25.91	25.91	25.91	-0.42	-1.07	2.10
Raptor	Allo_BALB/c	25.04	25.20	25.12	26.73	26.73	26.73	-1.61	-2.26	4.81
Rictor	Naïve	26.11	25.64	25.88	24.42	24.42	24.42	1.46	0.81	0.57
Rictor	Naïve	24.89	24.58	24.73	24.88	24.88	24.88	-0.15	-0.80	1.74
Rictor	Naïve	24.41	24.06	24.23	24.24	24.24	24.24	-0.00	-0.65	1.57
Rictor	Syngeneic	26.93	27.00	26.97	26.27	26.27	26.27	0.70	0.05	0.97
Rictor	Syngeneic	27.25	27.24	27.25	25.24	25.24	25.24	2.01	1.36	0.39
Rictor	Syngeneic	25.25	25.44	25.34	25.23	25.23	25.23	0.12	-0.53	1.45
Rictor	Allo_BALB/c	23.96	24.01	23.99	25.62	25.62	25.62	-1.63	-2.28	4.86
Rictor	Allo_BALB/c	24.53	25.41	24.97	25.91	25.91	25.91	-0.94	-1.59	3.01
Rictor	Allo_BALB/c	24.33	24.58	24.46	26.73	26.73	26.73	-2.28	-2.93	7.60

Supplemental Table 6: Glucose metabolism PCR values for Figure 8

Gene	Group	CT	Average	β -actin	Average	dCT	ddCT	Fold Change
PFKFB3	Vehicle	25.02	25.02	24.18	24.18	0.85	-5.40	42.24
PFKFB3	Vehicle	24.68	24.68	24.35	24.35	0.33	-5.91	60.17
PFKFB3	Vehicle	24.73	24.73	24.22	24.22	0.51	-5.74	53.31
PFKFB3	3-PO	31.05	31.05	24.00	24.00	7.05	0.81	0.57
PFKFB3	3-PO	30.45	30.45	24.20	24.20	6.25	0.00	1.00
PFKFB3	3-PO	31.34	31.34	24.62	24.62	6.72	0.47	0.72
Glut 1	Veh	26.31	26.31	24.18	24.18	2.14	-0.95	1.93
Glut 1	Veh	26.29	26.29	24.35	24.35	1.94	-1.14	2.21
Glut 1	Veh	26.14	26.14	24.22	24.22	1.92	-1.16	2.23
Glut 1	3-PO	27.31	27.31	24.00	24.00	3.31	0.23	0.85
Glut 1	3-PO	27.28	27.28	24.20	24.20	3.08	0.00	1.00
Glut 1	3-PO	27.59	27.59	24.62	24.62	2.97	-0.11	1.08
HK2	Vehicle	25.83	25.83	24.18	24.18	1.65	-1.54	2.90
HK2	Vehicle	25.55	25.55	24.35	24.35	1.20	-1.99	3.98
HK2	Vehicle	25.42	25.42	24.22	24.22	1.20	-1.99	3.96
HK2	3-PO	27.67	27.67	24.00	24.00	3.67	0.48	0.72
HK2	3-PO	27.39	27.39	24.20	24.20	3.19	0.00	1.00
HK2	3-PO	27.31	27.31	24.62	24.62	2.69	-0.50	1.42
LDH	Vehicle	18.61	18.61	24.18	24.18	-5.56	-2.41	5.30
LDH	Vehicle	18.54	18.54	24.35	24.35	-5.80	-2.65	6.27
LDH	Vehicle	18.50	18.50	24.22	24.22	-5.72	-2.56	5.89
LDH	3-PO	21.01	21.01	24.00	24.00	-3.00	0.16	0.89
LDH	3-PO	21.05	21.05	24.20	24.20	-3.16	0.00	1.00
LDH	3-PO	21.04	21.04	24.62	24.62	-3.58	-0.43	1.35
pfkfb1	Vehicle	26.88	26.88	24.18	24.18	2.70	-1.71	3.28
pfkfb1	Vehicle	26.52	26.52	24.35	24.35	2.17	-2.24	4.74
pfkfb1	Vehicle	26.71	26.71	24.22	24.22	2.50	-1.92	3.77
pfkfb1	3-PO	28.68	28.68	24.00	24.00	4.68	0.27	0.83
pfkfb1	3-PO	28.61	28.61	24.20	24.20	4.41	0.00	1.00
pfkfb1	3-PO	29.09	29.09	24.62	24.62	4.47	0.06	0.96
Tpi	Vehicle	19.16	19.16	24.18	24.18	-5.02	-8.40	338.92
Tpi	Vehicle	19.21	19.21	24.35	24.35	-5.14	-8.53	368.48
Tpi	3-PO	21.95	21.95	24.00	24.00	-2.05	-5.44	43.46
Tpi	3-PO	21.92	21.92	24.20	24.20	-2.28	-5.66	50.73
MTC4	Vehicle	27.56	27.56	24.18	24.18	3.39	-1.15	2.21
MTC4	Vehicle	27.35	27.35	24.35	24.35	3.00	-1.53	2.89
MTC4	3-PO	29.17	29.17	24.00	24.00	5.16	0.63	0.65
MTC4	3-PO	28.74	28.74	24.20	24.20	4.53	0.00	1.00

Supplemental Table 7: Glutamine metabolism qPCR values for Figure S1

Genes	Group	CT1	CT2	Average	Average actin	dCT	ddCT	Fold Change
Slc3a2	Naïve	22.80	22.91	22.85	24.42	-1.56	-0.19	1.14
Slc3a2	Naïve	23.04	22.70	22.87	24.88	-2.01	-0.64	1.55
Slc3a2	Naïve	23.14	22.59	22.87	24.24	-1.37	0.00	1.00
Slc3a2	Syngeneic	22.62	22.58	22.60	26.27	-3.67	-2.30	4.94
Slc3a2	Syngeneic	23.77	23.53	23.65	25.24	-1.59	-0.22	1.16
Slc3a2	Syngeneic	21.60	22.34	21.97	25.23	-3.26	-1.89	3.70
Slc3a2	Allo_Balb/c	21.83	21.33	21.58	25.62	-4.04	-2.67	6.36
Slc3a2	Allo_Balb/c	22.11	21.99	22.05	25.91	-3.86	-2.49	5.61
Slc3a2	Allo_Balb/c	22.12	21.94	22.03	26.73	-4.70	-3.33	10.06
Slc1a5	Naïve	24.37	23.57	23.97	24.42	-0.44	0.00	1.00
Slc1a5	Naïve	23.60	23.38	23.49	24.88	-1.39	-0.94	1.92
Slc1a5	Naïve	22.84	23.08	22.96	24.24	-1.28	-0.83	1.78
Slc1a5	Syngeneic	25.06	24.44	24.75	26.27	-1.52	-1.07	2.11
Slc1a5	Syngeneic	24.71	23.88	24.30	25.24	-0.94	-0.50	1.41
Slc1a5	Syngeneic	22.52	22.22	22.37	25.23	-2.85	-2.41	5.32
Slc1a5	Allo_Balb/c	21.87	22.51	22.19	25.62	-3.43	-2.98	7.90
Slc1a5	Allo_Balb/c	22.22	22.93	22.58	25.91	-3.33	-2.89	7.40
Slc1a5	Allo_Balb/c	22.75	22.52	22.63	26.73	-4.10	-3.65	12.58
Slc7a5	Naïve	26.32	26.14	26.23	24.42	1.82	0.00	1.00
Slc7a5	Naïve	25.21	24.95	25.08	24.88	0.20	-1.61	3.06
Slc7a5	Naïve	25.35	25.40	25.38	24.24	1.14	-0.68	1.60
Slc7a5	Syngeneic	23.26	23.47	23.37	26.27	-2.90	-4.72	26.33
Slc7a5	Syngeneic	22.84	22.40	22.62	25.24	-2.62	-4.43	21.63
Slc7a5	Syngeneic	21.22	20.79	21.00	25.23	-4.22	-6.04	65.75
Slc7a5	Allo_Balb/c	21.80	21.51	21.66	25.62	-3.96	-5.78	54.87
Slc7a5	Allo_Balb/c	22.05	22.01	22.03	25.91	-3.88	-5.70	51.83
Slc7a5	Allo_Balb/c	22.25	21.98	22.12	26.73	-4.61	-6.43	86.29
Gfpt1	Naïve	25.35	26.21	25.78	24.41	1.37	0.00	1.00
Gfpt1	Syngeneic	25.24	24.96	25.10	23.80	1.30	-0.07	1.05
Gfpt1	Syngeneic	25.59	25.60	25.59	24.25	1.34	-0.02	1.02
Gfpt1	Syngeneic	24.93	25.50	25.22	24.40	0.81	-0.55	1.47
Gfpt1	Allo_B6D2F1	24.13	24.91	24.52	25.65	-1.13	-2.50	5.66
Gfpt1	Allo_B6D2F1	23.46	24.58	24.02	25.05	-1.03	-2.39	5.25
Gfpt1	Allo_B6D2F1	25.00	25.73	25.36	26.75	-1.39	-2.75	6.75
Gfpt1	Allo_Balb/c	25.22	25.06	25.14	26.03	-0.89	-2.25	4.77
Gfpt1	Allo_Balb/c	26.64	26.54	26.59	26.35	0.24	-1.13	2.19
Gfpt1	Allo_Balb/c	23.27	23.86	23.56	24.84	-1.28	-2.65	6.27
Gfpt2	Naïve	33.55	33.35	33.45	24.41	9.04	0.00	1.00
Gfpt2	Syngeneic	33.01	32.69	32.85	23.80	9.05	0.01	0.99
Gfpt2	Syngeneic	34.10	31.96	33.03	24.25	8.78	-0.26	1.20
Gfpt2	Syngeneic	32.95	32.18	32.57	24.40	8.17	-0.87	1.83
Gfpt2	Allo_B6D2F1	34.81	34.85	34.83	25.65	9.18	0.14	0.91
Gfpt2	Allo_B6D2F1	33.79	34.30	34.05	25.05	9.00	-0.04	1.03
Gfpt2	Allo_B6D2F1	35.45	35.00	35.23	26.75	8.47	-0.57	1.48
Gfpt2	Allo_Balb/c	35.16	34.08	34.62	26.03	8.59	-0.45	1.36
Gfpt2	Allo_Balb/c	36.00	36.77	36.38	26.35	10.03	0.99	0.50
Gfpt2	Allo_Balb/c	33.45	33.22	33.34	24.84	8.49	-0.55	1.46
PPAT	Naïve	25.59	26.27	25.93	24.41	1.52	2.18	0.22
PPAT	Syngeneic	24.81	24.03	24.42	23.80	0.62	1.28	0.41
PPAT	Syngeneic	25.27	24.06	24.67	24.25	0.41	1.08	0.47
PPAT	Syngeneic	24.29	23.49	23.89	24.40	-0.51	0.15	0.90
PPAT	Allo_B6D2F1	24.05	23.60	23.82	25.65	-1.83	-1.17	2.24
PPAT	Allo_B6D2F1	23.53	23.52	23.52	25.05	-1.52	-0.86	1.82
PPAT	Allo_B6D2F1	25.39	24.91	25.15	26.75	-1.60	-0.94	1.92
PPAT	Allo_Balb/c	23.75	23.94	23.85	26.03	-2.18	-1.52	2.87
PPAT	Allo_Balb/c	25.50	25.44	25.47	26.35	-0.88	-0.22	1.17
PPAT	Allo_Balb/c	23.21	23.36	23.28	24.84	-1.56	-0.90	1.87
Gls	Naïve	22.52	22.66	22.59	24.41	-1.82	0.00	1.00
Gls	Syngeneic	23.32	23.40	23.36	23.80	-0.44	1.38	0.38
Gls	Syngeneic	23.58	23.34	23.46	24.25	-0.79	1.03	0.49
Gls	Syngeneic	23.09	22.84	22.96	24.40	-1.44	0.38	0.77
Gls	Allo_B6D2F1	22.66	22.47	22.56	25.65	-3.09	-1.27	2.40
Gls	Allo_B6D2F1	21.97	22.25	22.11	25.05	-2.94	-1.11	2.17
Gls	Allo_B6D2F1	22.53	22.18	22.35	26.75	-4.40	-2.58	5.97
Gls	Allo_Balb/c	22.43	22.02	22.23	26.03	-3.80	-1.98	3.94
Gls	Allo_Balb/c	23.68	23.31	23.49	26.35	-2.86	-1.04	2.05
Gls	Allo_Balb/c	22.02	21.43	21.72	24.84	-3.12	-1.30	2.46
Gls2	Naïve	31.21	31.84	31.53	24.41	7.11	0.00	1.00
Gls2	Syngeneic	31.41	31.76	31.58	23.80	7.78	0.67	0.63

Gls2	Syngeneic	31.65	31.61	31.63	24.25	7.37	0.26	0.83
Gls2	Syngeneic	30.24	30.80	30.52	24.40	6.12	-0.99	1.99
Gls2	Allo_B6D2F1	28.09	28.53	28.31	25.65	2.66	-4.45	21.92
Gls2	Allo_B6D2F1	26.77	27.84	27.31	25.05	2.26	-4.85	28.93
Gls2	Allo_B6D2F1	28.42	29.42	28.92	26.75	2.17	-4.95	30.84
Gls2	Allo_Balb/c	28.19	28.50	28.34	26.03	2.31	-4.80	27.82
Gls2	Allo_Balb/c	30.01	30.73	30.37	26.35	4.02	-3.09	8.54
Gls2	Allo_Balb/c	26.81	27.22	27.02	24.84	2.17	-4.94	30.74
Glud1	Syngeneic	20.36	20.49	20.43	23.80	-3.37	0.00	1.00
Glud1	Syngeneic	21.09	21.90	21.50	24.25	-2.76	0.62	0.65
Glud1	Syngeneic	19.07	19.09	19.08	24.40	-5.32	-1.94	3.85
Glud1	Allo_B6D2F1	20.36	19.99	20.17	25.65	-5.48	-2.10	4.30
Glud1	Allo_B6D2F1	20.19	20.59	20.39	25.05	-4.66	-1.29	2.44
Glud1	Allo_B6D2F1	21.60	22.03	21.81	26.75	-4.94	-1.57	2.96
Glud1	Allo_Balb/c	21.97	22.11	22.04	26.03	-3.99	-0.62	1.53
Glud1	Allo_Balb/c	22.51	22.17	22.34	26.35	-4.01	-0.64	1.56
Glud1	Allo_Balb/c	21.00	20.66	20.83	24.84	-4.02	-0.64	1.56
Glud1	Naïve	21.04	21.14	21.09	24.41	-3.33	0.05	0.97
OAT	Naïve	21.08	21.15	21.11	24.41	-3.30	-0.89	1.85
OAT	Syngeneic	21.38	21.39	21.38	23.80	-2.42	0.00	1.00
OAT	Syngeneic	21.67	21.80	21.73	24.25	-2.52	-0.10	1.07
OAT	Syngeneic	20.32	20.38	20.35	24.40	-4.05	-1.64	3.12
OAT	Allo_B6D2F1	19.18	18.81	19.00	25.65	-6.66	-4.24	18.89
OAT	Allo_B6D2F1	18.82	19.03	18.93	25.05	-6.12	-3.71	13.05
OAT	Allo_B6D2F1	19.72	20.01	19.87	26.75	-6.89	-4.47	22.20
OAT	Allo_Balb/c	19.82	19.17	19.50	26.03	-6.53	-4.12	17.33
OAT	Allo_Balb/c	20.36	20.42	20.39	26.35	-5.96	-3.55	11.68
OAT	Allo_Balb/c	18.71	18.55	18.63	24.84	-6.22	-3.80	13.95
GOT1	Naïve	25.64	25.61	25.63	24.41	1.21	0.00	1.00
GOT1	Syngeneic	25.56	25.40	25.48	23.80	1.68	0.47	0.72
GOT1	Syngeneic	26.11	26.22	26.16	24.25	1.91	0.70	0.62
GOT1	Syngeneic	25.78	26.21	25.99	24.40	1.59	0.38	0.77
GOT1	Allo_B6D2F1	24.89	25.39	25.14	25.65	-0.51	-1.73	3.32
GOT1	Allo_B6D2F1	24.04	24.73	24.39	25.05	-0.66	-1.88	3.67
GOT1	Allo_B6D2F1	25.37	26.29	25.83	26.75	-0.92	-2.14	4.40
GOT1	Allo_Balb/c	25.03	25.00	25.01	26.03	-1.01	-2.23	4.69
GOT1	Allo_Balb/c	26.17	26.13	26.15	26.35	-0.20	-1.42	2.67
GOT1	Allo_Balb/c	23.55	23.70	23.62	24.84	-1.22	-2.44	5.42
GOT2	Naïve	23.92	23.95	23.93	24.41	-0.48	0.00	1.00
GOT2	Syngeneic	22.86	22.51	22.68	23.80	-1.12	-0.64	1.55
GOT2	Syngeneic	22.82	22.54	22.68	24.25	-1.57	-1.09	2.13
GOT2	Syngeneic	22.35	22.10	22.23	24.40	-2.18	-1.70	3.24
GOT2	Allo_B6D2F1	22.51	22.65	22.58	25.65	-3.07	-2.59	6.03
GOT2	Allo_B6D2F1	21.79	21.28	21.54	25.05	-3.51	-3.03	8.18
GOT2	Allo_B6D2F1	23.91	23.46	23.69	26.75	-3.07	-2.59	6.02
GOT2	Allo_Balb/c	22.56	23.06	22.81	26.03	-3.22	-2.74	6.67
GOT2	Allo_Balb/c	24.15	25.13	24.64	26.35	-1.71	-1.23	2.35
GOT2	Allo_Balb/c	21.50	21.72	21.61	24.84	-3.24	-2.76	6.75
ODC	Naïve	22.12	22.12	22.12	22.22	-0.10	0.00	1.00
ODC	Naïve	22.12	22.30	22.21	22.24	-0.03	0.07	0.95
ODC	Syngeneic	21.24	21.24	21.24	20.50	0.74	0.84	0.56
ODC	Syngeneic	20.53	20.53	20.53	20.48	0.04	0.15	0.90
ODC	Syngeneic	20.30	20.30	20.30	21.20	-0.89	-0.79	1.73
ODC	Allo_B6D2F1	18.18	18.18	18.18	20.92	-2.75	-2.65	6.26
ODC	Allo_B6D2F1	17.34	17.34	17.34	21.22	-3.88	-3.78	13.75
ODC	Allo_B6D2F1	18.15	18.15	18.15	21.35	-3.20	-3.10	8.57
ODC	Allo_Balb/c	19.61	19.61	19.61	21.90	-2.30	-2.19	4.58
ODC	Allo_Balb/c	19.49	19.49	19.49	21.35	-1.86	-1.76	3.39
ODC	Allo_Balb/c	18.51	18.51	18.51	21.11	-2.60	-2.49	5.63

Supplemental Table 8: PPP metabolic gene qPCR values for Figure S2

Gene #	Genes	Group	CT1	CT2	Average	Average actin	dCT	ddCT	Fold Change
1	G6dp	Naïve	25.16	25.15	25.15	24.42	0.74	0.00	1.00
1	G6dp	Naïve	24.01	24.02	24.02	24.88	-0.86	-1.60	3.03
1	G6dp	Naïve	24.13	24.14	24.13	24.24	-0.10	-0.84	1.79
1	G6dp	Syngeneic	23.48	23.63	23.56	26.27	-2.71	-3.45	10.95
1	G6dp	Syngeneic	23.10	22.97	23.03	25.24	-2.20	-2.94	7.68
1	G6dp	Syngeneic	21.75	21.82	21.79	25.23	-3.44	-4.18	18.07
1	G6dp	Allo_BALB/c	21.66	21.47	21.57	25.62	-4.05	-4.79	27.62
1	G6dp	Allo_BALB/c	22.06	22.09	22.08	25.91	-3.83	-4.57	23.74
1	G6dp	Allo_BALB/c	22.16	21.78	21.97	26.73	-4.76	-5.50	45.24
2	Pgd	Naïve	24.44	24.38	24.41	24.42	-0.01	0.00	1.00
2	Pgd	Naïve	24.04	23.91	23.98	24.88	-0.90	-0.89	1.86
2	Pgd	Naïve	24.11	24.01	24.06	24.24	-0.18	-0.17	1.12
2	Pgd	Syngeneic	23.26	23.47	23.37	26.27	-2.90	-2.90	7.44
2	Pgd	Syngeneic	22.84	22.40	22.62	25.24	-2.62	-2.61	6.11
2	Pgd	Syngeneic	21.22	20.79	21.00	25.23	-4.22	-4.22	18.59
2	Pgd	Allo_BALB/c	21.80	21.51	21.66	25.62	-3.96	-3.96	15.51
2	Pgd	Allo_BALB/c	22.05	22.01	22.03	25.91	-3.88	-3.87	14.65
2	Pgd	Allo_BALB/c	22.25	21.98	22.12	26.73	-4.61	-4.61	24.40
3	Rpe	Naïve	24.38	24.51	24.45	24.42	0.03	0.00	1.00
3	Rpe	Naïve	23.46	23.30	23.38	24.88	-1.50	-1.53	2.89
3	Rpe	Naïve	23.91	23.84	23.88	24.24	-0.36	-0.39	1.31
3	Rpe	Syngeneic	22.14	22.02	22.08	26.27	-4.19	-4.23	18.70
3	Rpe	Syngeneic	22.34	22.33	22.34	25.24	-2.90	-2.93	7.64
3	Rpe	Syngeneic	21.50	21.87	21.69	25.23	-3.54	-3.57	11.88
3	Rpe	Allo_BALB/c	21.92	21.91	21.92	25.62	-3.70	-3.74	13.32
3	Rpe	Allo_BALB/c	22.15	22.33	22.24	25.91	-3.67	-3.70	13.02
3	Rpe	Allo_BALB/c	21.93	21.55	21.74	26.73	-5.00	-5.03	32.64
4	Rpia	Naïve	25.60	25.39	25.50	24.42	1.08	0.00	1.00
4	Rpia	Naïve	23.76	23.33	23.55	24.88	-1.33	-2.41	5.33
4	Rpia	Naïve	24.54	24.34	24.44	24.24	0.21	-0.87	1.83
4	Rpia	Syngeneic	24.32	24.40	24.36	26.27	-1.91	-2.99	7.95
4	Rpia	Syngeneic	25.22	25.04	25.13	25.24	-0.11	-1.19	2.28
4	Rpia	Syngeneic	23.08	23.31	23.19	25.23	-2.03	-3.11	8.65
4	Rpia	Allo_BALB/c	22.65	22.85	22.75	25.62	-2.87	-3.95	15.43
4	Rpia	Allo_BALB/c	23.92	23.83	23.87	25.91	-2.04	-3.12	8.68
4	Rpia	Allo_BALB/c	22.96	22.67	22.82	26.73	-3.92	-5.00	31.93

Supplemental Table 9: List of primer sequences

Pathway	Genebank Accession Code	GeneName	Primer-Forward	Primer-Reverse
Actin		β actin	ACGTAGCCATCCAGGCTGGTG	TGGCGTGAGGGAGAGCAT
Glutaminoly sis	NM_023525	CAD	TTTGTGCTATGCCTAATACCCG	TGTACTCCTCGTATTCACCAAGG
Glutaminoly sis	NM_013528	Gfp1	GCCAAACGCCTGCAAAATCC	GCCCAACGGGTATGAGCTAT
Glutaminoly sis	NM_013529	Gfp2	TGATGGGAATAACCACGAAGTCA	CGAAGTGTGTCTCAAATCCAC
Glutaminoly sis	NM_001081081	Gls	GCTGTGCTCTATTGAAGTGACA	TTGGGCAGAAACCAACCATTAG
Glutaminoly sis	NM_001033264	Gls2	TGCATATAGTGGAGATGTCTCG	GCTCCATATCCATGGCCGACAA
Glutaminoly sis	NM_008133	Glud1	CCCAACTTCTTCAAGATGGTGG	AGAGGCTCAACACATGGTTGC
Glutaminoly sis	NM_010324	GOT1	ACCGCACAGATGAATCTCAGC	ATGGGCAGGTACTCGTGGT
Glutaminoly sis	NM_010325	GOT2	TGGGCGAGAACATGAAGTGT	CCCAGGATGGTTTGGGCAG
Glutaminoly sis	NM_016978	OAT	TGCCACCAAGATCATAGATGC	TGTACTCCTCGTATTCACCAAGG
Glutaminoly sis	NM_172146.2	PPAT	GGGAGTGCAGTGCCTAAATTC	GTACCTCGTATGTCGGATTCCA
Glutaminoly sis	NM_009201	Slc1a5	GGACGTCTTCTATCTCCACAA	ACTCCTCAATGATGCCACC
Glutaminoly sis	NM_001161413	Slc3a2	TGCAACCAAGAAGCTCAGAGC	TCATTTTGGACCTCACTCCC
Glutaminoly sis	NM_011405	Slc7a5	ACAGCTGTGAGGAGCAGCAC	TCTTCGCCACCTACTTGCTC
Glycoly sis	NM_001177307	AldoA	TCAGTGTCTGGGTATGGGTG	GCTCCTTAGTCCCTTCGCCT
Glycoly sis	NM_023119	Enol	AAAGATCTCTCTGGCGTGGA	CTTAACGCTCTCTCGGTGT
Glycoly sis	NM_011400	Glut1	CAGTTCGGCTATAACACTGGTG	GCCCCGACAGAAAGATG
Glycoly sis	NM_011401	Glut3	TCATCAATGCACCTGAGACAATC	AAGAGCCAATCATGCCACCAA
Glycoly sis	NM_008155	Gpi1	TCAAGCTGCGCAACTTTTTG	GGTTCCTGGAGTAGTCCACCAG
Glycoly sis	NM_001146100	HKI	CGGAATGGGGAGCCTTTGG	GCCTTCCTATCCGTTCAATGG
Glycoly sis	NM_013820	HKII	GGAACCGCTAGAAATCT CC	GGAGCTCAACCAAAACCAAG
Glycoly sis	NM_001136069	LDHa	TGTCTCCAGCAAAGACTACTGT	GA CTGTACTTGACAATGTTGGGA
Glycoly sis	NM_001038653	MCT4	TCACGGGTTTCTCTACGC	GCCAAAGCGGTTCACACAC
Glycoly sis	NM_019703	Pfkf	GAAACATGAGGCGTTCTGTGT	CCCGGCACATTGTTGGAGA
Glycoly sis	NM_008824	Pfkfb1	ATGAGCTGCCATCTCAAGT	GTCCCGGTGTGTGTTACAG
Glycoly sis	NM_008825	Pfkfb2	GACAAGCCAACCTCAACTTCC	AACTGTAAATTTCTTGGACGCC
Glycoly sis	NM_001177752	Pfkfb3	CCCAGAGCCGGGTACAGAA	GGGGAGTTGGTCAGCTTCG
Glycoly sis	NM_008826	Pfkf	TGCAGCTACAATCTGCTCC	GTCAAGTGTGCGTAGTTCTGA
Glycoly sis	NM_023418	Pgam1	TCTGTGCAGAAGAGAGCAATCC	CTGTCAGACCCCATAGTGT
Glycoly sis	NM_008828	Pgk1	ATGTCGCTTCCAACAAGCTG	GCTCCATTGTCCAAGCAGAAT
Glycoly sis	NM_025700	PGM1	CAGAACCCCTTAACCTCTGAGTC	CGAGAAATCCCTGCTCCATAG
Glycoly sis	NM_028132	PGM2	AGTGAAGACGCAGGCATATCC	GGCTCCACGGTAGAGACGA
Glycoly sis	NM_011400	Slc2a1(Glut1)	CAGTTCGGCTATAACACTGGTG	GCCCCGACAGAGAAGATG
Glycoly sis	NM_009415	Tpi	CTTACATCGACTTTGCCAGACA	CTAGGGCGTGGCTCACTTT
Lipid	NM_013495	Cpt1a	TCTATGAGGGCTCGCG	CGTCAGGGTTGTAGCA
Lipid	NM_19017	PGC-1 α	TTGGTTGACCAGGAATCCAT	GTCCAACCATCCTGTTTGCT
mTOR	NM_028898	Raptor	CAGTCGCCTCTATGGGACTC	GGAGCCTTCGATTTTCTACA
mTOR	NM_030168	Rictor	ACAGTTGGAAAAGTGGCACAA	GCGACGAACGTAGTTATACCA
Poly amines	NM_013614	ODC	GACGAGTTTGA CTGCCACATC	CGCAACATAGAACGCATCCTT
PPP	NM_019468	G6PD	CCTACCATCTGG TGGCTGTT	TGGCTTTAAAGAAGGGCTCA
PPP	NM_025801	Pgd	AGACAGGCAGCCACTGAGTT	AAGTTCTGG GTTTCGCTCAA
PPP	NM_025683	Rpe	GGGCAGAAATTCATGGAAGA	CTGGGGTCATCACTCTCA
PPP	NM_009075	Rpia	AGTGCTGGGAATTGG AAGTG	CTCTGGGTGTTGATCCAGGT

Supplemental Table 10. List of chemicals

Reagent Name	Vendor /Cat. Number	Dose (In Vivo)	Composition
Etomoxir sodium salt hydrate (Eto)	Cayman/11969	35 mg/kgx2/day	In PBS
2-Deoxy-D-glucose (2-DG)	Cayman/14325	1.0 g/kg x2/day	In PBS
Difluoromethylornithine (DFMO)	Sigma/D193	50 mg/kg x2/day	In PBS
Dehydroisoandrosterone 3-sulfate sodium salt hydrate (DHEA)	Cayman/15873	100 mg/kg x2/day	In DMSO and dispered in PBS
Rapamycin	Calibiochem/CAS53123-88-9	1.5 mg/kg/day	In 0.5% Methylcellulose
1-(4-Pyridinyl)-3-(2-quinolinyl)-2-propen-1-one (PFK15)	Sellekchem.com/S7289	12.5 mg/kg/day	In DMSO and dispered in PBS
3-(3-pyridinyl)-1-(4-pyridinyl)-2-propen-1-one (3-PO)	Tocris/5121	35 mg/kg/day	In DMSO and dispered in PBS