

Supplementary Table 1. Metabolic profile of quantified 116 major metabolites

ID	Compound name	Pathway Label	H1975_AZD9291 vs H1975_DM1975		PKI-587 vs H1975_DMS		PC9_PKI-587 vs PC9_DMSO		HCC827_PKI-587 vs HCC827_DMSO					
			Ratio ¶	p-value ¶¶	Ratio ¶	p-value ¶¶	Ratio ¶	p-value ¶¶	Ratio ¶	p-value ¶¶				
A_0001	NAD <sup>+</sup>	NAD+	1.0	0.481	0.8	0.065	1.0	0.973	0.9	0.065				
A_0002	cAMP	cAMP	0.7	0.225	0.9	0.281	0.7	0.094	0.9	0.059				
A_0003	cGMP	cGMP	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.				
A_0004	NADH	NADH	0.5	0.015	*	0.4	0.003	**	0.7	0.028	*	0.8	0.116	
A_0005	Xanthine	Xanthine	0.8	0.335	0.7	0.017	*	0.9	0.771	0.9	0.589			
A_0006	ADP-ribose	ADP-Rib	0.7	0.127	0.7	0.014	*	0.9	0.489	1.0	0.879			
A_0007	Mevalonic acid	Mevalonic acid	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
A_0008	UDP-glucose	UDP-Glc	1.0	0.738	1.0	0.962	0.9	0.536	0.8	0.038	*			
A_0009	Uric acid	Uric acid	0.9	0.626	0.7	0.028	*	0.8	0.720	0.8	0.055			
A_0010	NADP <sup>+</sup>	NADP <sup>+</sup>	0.5	9.0E-04	***	0.6	0.020	*	0.8	0.217	0.8	0.015	*	
A_0011	IMP	IMP	1.6	0.009	**	0.8	0.138	0.9	0.269	1.2	0.058			
A_0012	Sedoheptulose 7-phosphate	S7P	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
A_0013	Glucose 6-phosphate	G6P	0.3	0.005	**	0.4	0.021	*	0.8	0.104	0.9	0.401		
A_0014	Fructose 6-phosphate	F6P	0.11	N.A.	4.0	0.068	0.7	0.075	0.7	0.077				
A_0015	Fructose 1-phosphate	D-F1P	N.A.	N.A.	<1	N.A.	0.5	9.3E-04	***	<1	N.A.			
A_0016	Galactose 1-phosphate	Gal1P	0.7	0.335	0.9	0.152	1.1	0.487	0.9	0.583				
A_0017	Glucose 1-phosphate	G1P	0.02	N.A.	0.3	0.030	*	1.2	0.585	0.6	0.385			
A_0018	Acetoacetyl CoA	AAcCoA	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.				
A_0019	Acetyl CoA	AcCoA	0.5	0.465	N.A.	N.A.	N.A.	N.A.	0.3	0.310				
A_0020	Folic acid	Folic acid	0.9	0.804	0.8	0.411	0.9	0.532	0.9	0.464				
A_0021	Ribose 5-phosphate	R5P	0.2	0.004	**	0.2	0.006	**	0.5	0.078	0.6	0.023	*	
A_0022	CoA	CoA	0.9	0.464	0.7	0.046	*	0.7	0.213	0.8	0.123			
A_0023	Ribose 1-phosphate	R1P	0.5	0.267	N.A.	N.A.	N.A.	N.A.	0.3	7.5E-05	***			
A_0024	Ribulose 5-phosphate	Ru5P	0.2	2.6E-04	***	0.4	0.064	0.7	0.149	0.6	0.020	*		
A_0025	Xylulose 5-phosphate	X5P	<1	N.A.	<1	N.A.	0.10	N.A.	0.6	0.137				
A_0026	Erythrose 4-phosphate	E4P	0.3	N.A.	N.A.	N.A.	N.A.	N.A.	0.6	0.045	*			
A_0027	HMG CoA	HMG-CoA	0.8	0.178	0.6	0.011	*	0.9	0.459	0.7	0.031	*		
A_0028	Glyceraldehyde 3-phosphate	Glyceraldehyde 3-p	0.09	0.013	*	0.2	0.009	**	1.2	0.769	0.6	0.133		
A_0029	NADPH	NADPH	1.7	0.023	*	0.7	0.054	0.9	0.615	1.0	0.916			
A_0030	Malonyl CoA	Malonyl-CoA	0.4	0.075	N.A.	N.A.	N.A.	N.A.	0.3	0.052				
A_0031	Phosphocreatine	Phosphocreatine	0.9	0.264	0.8	0.058	0.8	0.181	0.8	0.062				
A_0032	XMP	XMP	0.9	0.775	0.7	0.123	1.0	0.967	0.6	0.010	**			
A_0033	Dihydroxyacetone phosphate	DHAP	0.2	0.021	*	0.2	0.028	*	0.6	0.063	0.9	0.464		
A_0034	Adenylosuccinic acid	Succinyl AMP	1.2	0.030	*	0.7	0.044	*	1.0	0.548	1.2	0.555		
A_0035	Fructose 1,6-diphosphate	F1,6P	0.3	0.015	*	0.3	0.009	**	0.4	0.015	*	1.0	0.855	
A_0036	6-Phosphogluconic acid	6-PG	0.10	0.004	**	0.14	0.005	**	0.5	0.035	*	0.6	0.002	**
A_0037	N-Carbamoylaspartic acid	Carbamoyl-Asp	0.4	0.009	**	0.07	0.004	**	0.2	0.019	*	0.3	0.001	**
A_0038	PRPP	PRPP	0.6	0.037	*	0.2	0.007	**	0.7	0.254	0.5	0.066		
A_0039	2-Phosphoglyceric acid	2-PG	0.3	0.282	0.5	0.007	**	0.8	0.028	*	0.6	0.025	*	
A_0040	2,3-Diphosphoglyceric acid	Diphosphoglycerate	0.2	0.014	*	0.3	0.012	*	0.7	0.056	0.7	0.033	*	
A_0041	3-Phosphoglyceric acid	3-PG	1.2	0.523	0.5	0.016	*	0.8	0.117	0.6	0.036	*		
A_0042	Phosphoenolpyruvic acid	PEP	1.5	0.195	0.4	0.010	*	0.6	0.053	0.5	0.040	*		
A_0043	GMP	GMP	1.3	0.027	*	0.9	0.259	1.0	0.998	1.2	0.196			
A_0044	AMP	AMP	1.2	0.068	0.8	0.020	*	0.9	0.312	1.1	0.414			
A_0045	2-Oxoisovaleric acid	2-KIV	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1.0	0.741				
A_0046	GDP	GDP	1.8	0.004	**	0.9	0.064	1.0	0.868	1.2	0.233			
A_0047	Lactic acid	Lactic acid	0.3	0.002	**	0.4	1.1E-04	***	0.7	0.009	**	0.7	0.021	*
A_0048	ADP	ADP	1.9	1.2E-05	***	0.8	0.062	0.9	0.274	1.1	0.217			
A_0049	GTP	GTP	0.9	0.016	*	0.7	0.021	*	1.0	0.881	1.0	0.883		
A_0050	Glyoxylate	Glyoxylate	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
A_0051	ATP	ATP	0.8	0.013	*	0.7	0.028	*	1.0	0.994	1.0	0.356		
A_0052	Glycerol 3-phosphate	Glycerol 3-phosphate	0.7	0.009	**	0.7	0.043	*	0.6	0.004	**	0.9	0.077	
A_0053	Glycolic acid	Glycolic acid	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
A_0054	Pyruvic acid	Pyruvic acid	0.4	0.007	**	0.3	0.002	**	1.4	0.111	0.6	0.003	**	
A_0055	N-Acetylglutamic acid	N-AcGlu	0.9	0.260	1.1	0.697	0.2	0.122	1.0	0.599				
A_0056	2-Hydroxyglutaric acid	2-Hydroxyglutaric acid	0.5	9.3E-05	***	0.4	1.9E-04	***	0.5	0.020	*	0.5	9.6E-04	***
A_0057	Carbamoylphosphate	Carbamoyl-P	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
A_0058	Succinic acid	Succinic acid	0.8	0.004	**	0.6	0.028	*	0.8	0.241	0.7	0.003	**	
A_0059	Malic acid	Malic acid	0.5	8.0E-04	***	0.6	0.004	**	0.7	0.010	*	0.6	6.7E-04	***
A_0060	2-Oxoglutaric acid	2-OG	0.7	0.013	*	0.6	7.1E-04	***	0.6	0.025	*	0.6	0.007	**
A_0061	Fumaric acid	Fumaric acid	0.5	2.4E-05	***	0.6	0.008	**	0.7	0.007	**	0.6	3.3E-05	***
A_0062	Citric acid	Citric acid	0.8	0.003	**	0.7	0.009	**	1.0	0.938	0.7	0.035	*	
A_0063	cis-Aconitic acid	cis-Aconitic acid	0.8	0.043	*	0.7	0.018	*	1.0	0.890	0.7	0.033	*	
A_0064	Isocitric acid	Isocitric acid	0.9	0.365	0.8	0.068	1.1	0.665	0.8	0.463				
C_0001	Urea	Urea	0.8	0.018	*	0.8	0.034	*	0.8	0.053	0.9	0.285		
C_0002	Gly	Gly	1.2	0.047	*	1.4	0.007	**	1.6	0.002	**	1.8	8.5E-04	***
C_0003	Putrescine	Putrescine	0.6	0.001	**	0.5	0.001	**	0.9	0.211	0.8	0.033	*	
C_0004	Sarcosine	Sarcosine	0.8	0.272	1.1	0.119	2.2	1.2E-04	***	1.4	0.312			
C_0005	β-Ala	b-Ala	1.0	0.647	0.6	0.094	1.8	0.611	0.9	0.323				
C_0006	Ala	Ala	0.8	0.068	0.9	0.070	0.5	0.004	**	1.7	9.0E-04	***		
C_0007	N,N-Dimethylglycine	DMG	N.A.	N.A.	1.0	0.508	0.7	3.8E-04	***	N.A.	N.A.			
C_0008	γ-Aminobutyric acid	g-Aminobutyric acid	1.1	0.496	N.A.	N.A.	N.A.	N.A.	1.0	0.861				
C_0009	Choline	Choline	2.1	5.0E-04	***	11	2.1E-05	***	N.A.	N.A.	1.7	0.003	**	
C_0010	Ser	Ser	0.7	0.004	**	1.3	0.001	**	2.2	2.2E-04	***	2.1	0.002	**
C_0011	Carnosine	Carnosine	1.4	0.111	0.8	0.117	0.9	0.401	0.9	0.763				
C_0012	Creatinine	Creatinine	0.8	0.047	*	0.8	0.071	0.8	0.127	0.9	0.344			
C_0013	Pro	Pro	0.9	0.053	1.8	0.001	**	2.1	1.4E-04	***	1.3	0.027	*	
C_0014	Val	Val	1.1	0.413	1.7	4.4E-05	***	2.4	2.1E-04	***	2.2	3.0E-04	***	
C_0015	Betaine	Betaine	N.A.	N.A.	7.2	0.043	*	N.A.	N.A.	1.1	0.726			
C_0016	Thr	Thr	0.9	0.066	1.6	0.007	**	2.3	0.004	**	2.0	0.001	**	
C_0017	Homoserine	Homoserine	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
C_0018	Betaine aldehyde	BTL	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
C_0019	Cys	Cys	1.3	0.210	1.4	0.392	<1	N.A.	1.1	0.812				
C_0020	Hydroxyproline	Hydroxyproline	0.8	0.005	**	1.1	0.025	*	1.5	0.013	*	1.3	0.028	*
C_0021	Creatine	Creatine	1.1	0.196	0.9	0.378	0.5	0.002	**	1.0	0.613			
C_0022	Ile	Ile	1.0	0.556	1.4	8.3E-04	***	2.1	0.002	**	1.8	7.4E-04	***	
C_0023	Leu	Leu	1.0	0.997	1.5	0.001	**	2.1	3.7E-04	***	1.9	3.2E-04	***	
C_0024	Asn	Asn	0.8	0.001	**	1.2	0.022	*	2.1	6.5E-04	***	1.7	0.001	**
C_0025	Ornithine	Ornithine	1.1	0.483	1.2	0.068	1.4	0.146	2.1	0.029	*			
C_0026	Asp	Asp	1.3	9.0E-04	***	1.2	0.051	1.8	0.002	**	1.3	0.004	**	

C_0029	Hypoxanthine	Hypoxanthine	N.A.	N.A.	1<	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C_0030	Spermidine	Spermidine	0.9	0.239	0.9	0.130	0.9	0.077	1.0	0.771	0.771	0.771
C_0031	Gln	Gln	0.8	0.095	1.6	0.004	**	2.1	0.002	**	2.5	0.025
C_0032	Lys	Lys	1.1	0.521	2.0	0.001	**	1.8	0.017	*	2.3	0.021
C_0033	Glu	Glu	0.9	0.018	*	0.9	0.101	1.1	0.025	*	1.0	0.341
C_0034	Met	Met	1.0	0.862	1.4	0.008	**	2.3	0.007	**	2.0	3.6E-04
C_0035	Guanine	Guanine	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C_0036	His	His	1.0	0.807	1.5	0.025	*	2.2	0.002	**	1.9	0.005
C_0037	Carnitine	Carnitine	0.6	0.015	*	1.1	0.651	N.A.	N.A.	N.A.	1.0	0.706
C_0038	Phe	Phe	1.0	0.606	1.6	1.9E-04	***	2.2	1.1E-04	***	1.9	5.7E-04
C_0039	Arg	Arg	0.9	0.124	1.4	0.003	**	1.5	0.018	*	1.4	0.059
C_0040	Citrulline	Citrulline	0.8	0.070	1.2	0.047	*	1.6	0.033	*	1.6	0.049
C_0041	Tyr	Tyr	1.0	0.772	1.5	0.002	**	2.1	3.9E-06	***	1.9	2.0E-04
C_0042	S-Adenosylhomocysteine	SAH	0.8	N.A.	1.1	0.453	0.7	0.216	1.0	0.979	1.0	0.979
C_0043	Spermine	Spermine	1.2	0.255	1.2	0.564	0.7	0.229	1.0	0.742	1.0	0.742
C_0044	Trp	Trp	1.0	0.602	1.5	4.1E-04	***	2.1	2.0E-05	***	1.8	2.3E-04
C_0045	Cystathionine	Cystathionine	0.8	0.140	1.2	0.061	1.5	0.006	**	1.9	7.9E-04	***
C_0046	Adenosine	Adenosine	0.9	0.214	0.6	0.033	*	N.A.	N.A.	N.A.	0.9	0.044
C_0047	Inosine	Inosine	0.6	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C_0048	Guanosine	Guanosine	0.9	N.A.	1<	N.A.	N.A.	N.A.	N.A.	N.A.	1.4	N.A.
C_0049	Argininosuccinic acid	ArgSuccinate	0.6	0.006	**	1.3	7.6E-04	***	1.4	0.039	*	1.0
C_0050	Glutathione (GSSG)	GSSG	1.1	0.495	1.0	0.875	1.1	0.820	1.0	0.950	1.0	0.950
C_0051	Glutathione (GSH)	GSH	0.9	0.086	0.8	0.045	*	1.0	0.976	0.9	0.129	0.129
C_0052	S-Adenosylmethionine	SAM	0.9	0.046	*	1.1	0.010	*	1.1	0.465	1.0	0.648
-	Adenylate Energy Charge	No Label	1.0	3.5E-04	***	1.0	0.084	1.0	0.190	1.0	0.220	0.220
-	Total Adenylate	No Label	0.9	0.047	*	0.7	0.027	*	1.0	0.903	1.0	0.440
-	Guanylate Energy Charge	No Label	1.0	2.2E-04	***	1.0	0.023	*	1.0	0.708	1.0	0.280
-	Total Guanylate	No Label	0.9	0.051	0.7	0.022	*	1.0	0.895	1.0	0.720	0.720
-	GSH/GSSG	No Label	0.8	0.159	0.8	0.305	1.0	0.877	0.9	0.569	0.9	0.569
-	Total Glutathione	No Label	0.9	0.069	0.8	0.045	*	1.0	0.870	0.9	0.260	0.260
-	NADPH/NADP+	No Label	3.2	0.018	*	1.1	0.531	1.2	0.132	1.2	0.239	0.239
-	NADH/NAD+	No Label	0.5	0.007	**	0.5	6.4E-04	***	0.7	6.4E-04	***	0.9
-	Lactate/Pyruvate	No Label	0.7	0.096	1.4	0.005	**	0.5	0.019	*	1.1	0.105
-	Glycerol 3-phosphate/DHAP	No Label	3.7	0.003	**	4.6	0.002	**	1.0	0.966	1.0	0.957
-	Total Amino Acids	No Label	1.0	0.147	1.1	0.048	*	1.9	3.9E-04	***	1.4	0.003
-	Total Essential Amino Acids	No Label	1.0	0.830	1.5	6.7E-05	***	2.2	2.0E-04	***	1.9	5.8E-04
-	Total Non-essential Amino Acids	No Label	1.0	0.110	1.1	0.076	1.8	3.6E-04	***	1.3	0.004	**
-	Total Glucogenic Amino Acids	No Label	1.0	0.130	1.1	0.054	1.8	4.2E-04	***	1.3	0.003	**
-	Total Ketogenic Amino Acids	No Label	1.0	0.672	1.5	2.8E-04	***	2.1	0.001	**	1.9	5.9E-04
-	Total BCAA	No Label	1.0	0.998	1.5	2.9E-04	***	2.1	2.9E-05	***	1.9	4.3E-04
-	Total Aromatic Amino Acids	No Label	1.0	0.674	1.6	3.5E-04	***	2.1	1.2E-05	***	1.9	2.1E-04
-	Fischer's Ratio	No Label	1.0	0.430	1.0	0.288	1.0	0.486	1.0	0.403	1.0	0.403
-	Total Glu-related Amino Acids	No Label	0.9	0.011	*	1.0	0.521	1.7	2.6E-04	***	1.1	0.037
-	Total Pyr-related Amino Acids	No Label	1.0	0.863	1.3	0.014	*	2.0	7.1E-04	***	1.8	7.4E-04
-	Total Acetyl CoA-related Amino Acids	No Label	1.0	0.929	1.5	2.0E-04	***	2.1	5.9E-04	***	1.9	6.5E-04
-	Total Fumarate-related Amino Acids	No Label	1.0	0.687	1.6	3.1E-04	***	2.1	4.7E-05	***	1.9	2.3E-04
-	Total Succinyl CoA-related Amino Acids	No Label	1.0	0.977	1.5	2.0E-04	***	2.2	8.9E-06	***	1.9	3.2E-04
-	Total Oxaloacetate-related Amino Acids	No Label	1.1	0.008	**	1.2	0.038	*	2.0	0.002	**	1.4
-	Malate/Asp	No Label	0.4	0.001	**	0.5	0.004	**	0.4	0.005	**	0.5
-	Citrulline/Ornithine	No Label	0.8	0.013	*	1.0	0.657	1.1	0.372	0.8	0.014	*
-	Glu/2-Oxoglutarate	No Label	1.3	0.022	*	1.5	0.015	*	2.0	6.1E-05	***	1.9
-	G6P/R5P	No Label	1.6	0.068	2.0	0.033	*	1.6	0.035	*	1.5	0.047
-	SAM/SAH	No Label	1.0	N.A.	1.0	0.902	1.4	0.195	1.0	0.734	1.0	0.734
-	Putrescine/Spermidine	No Label	0.7	0.042	*	0.6	0.007	**	1.0	0.774	0.8	0.075

C: Cation mode, A: Anion mode

N.D.: Not Detected.

N.A.: Not Available.

Ration = Inhibitors/DMSO, n = 3.

<sup>||</sup> Welch *t*-test, *p*-value (\*<0.05, \*\*<0.01, \*\*\*<0.001)