

Electronic Supplementary Information

Table S1. Identified significantly changed plasma metabolites of LDH patients compared to healthy control.

No.	Compounds	RT(min)	VIP	Status ^a	Main metabolic pathway
1	2-aminobutyric acid*	7.235	1.3625	↑*	No match
2	2-hydroxybutyric acid	9.919	1.3398	↑*	Propanoate metabolism
3	2-pyrrolidone-5-carboxylic acid*	19.902	1.8257	↑**	Glutathione metabolism
4	acetophenone*	8.384	1.6969	↓*	No match
5	d-mannitol	29.347	1.3429	↑**	Fructose and mannose metabolism
6	dodecanoic acid	23.623	1.2558	↓**	Fatty acid biosynthesis
7	ethanedioic acid	10.326	1.3764	↓*	Glyoxylate and dicarboxylate metabolism
8	ethanolamine	13.833	1.1478	↑**	Glycerophospholipid metabolism
9	glucose,1*	28.736	1.2721	↓**	Galactose metabolism
10	glucose,2	29.082	1.19	↓**	No match
11	glycerol	14.118	1.4057	↓**	Glycerolipid metabolism
12	glycine	14.911	1.2036	↑*	Glycine, serine and threonine metabolism
13	hypotaurine	22.261	1.8571	↑**	Taurine and hypotaurine metabolism
14	lactic acid*	8.049	2.2939	↑**	Propanoate metabolism
15	l-alanine	9.248	1.5644	↑**	Taurine and hypotaurine metabolism
16	l-aspartic acid,1*	18.082	1.9723	↑**	Alanine, aspartate and glutamate metabolism
17	l-aspartic acid,2*	20.492	1.6302	↑**	Alanine, aspartate and glutamate metabolism
18	leucine	10.783	1.5493	↑**	Valine, leucine and isoleucine degradation
19	l-glutamic acid,1*	20.797	2.19	↑**	D-Glutamine and D-glutamate metabolism
20	l-glutamic acid,2	22.871	2.2178	↑**	No match
21	l-isoleucine	11.373	1.3503	↑*	Valine, leucine and isoleucine degradation
22	l-lysine	29.270	1.1433	↑*	Lysine biosynthesis
23	l-methionine	17.706	1.5318	↑**	Cysteine and methionine metabolism
24	l-proline,1*	11.281	1.261	↑*	Arginine and proline metabolism
25	l-proline,2*	21.925	1.0129	↑*	Arginine and proline metabolism
26	l-threonine	14.616	1.4477	↑*	Glycine, serine and threonine metabolism
27	methyl linoleate	32.589	2.1644	↓**	No match
28	methyl palmitate	29.417	2.6478	↓**	No match
29	methyl stearate	33.220	2.3807	↓**	No match
30	methylpyrrolidone*	7.479	1.3074	↓*	Nicotinate and nicotinamide metabolism
31	methylvaleric acid*	7.540	3.1875	↓*	No match
32	myoinositol	32.376	1.6328	↑**	Inositol phosphate metabolism
33	ornithine,1*	27.110	2.8641	↑**	D-Arginine and D-ornithine metabolism
34	ornithine,2*	25.687	2.5481	↑**	D-Arginine and D-ornithine metabolism
35	phenylalanine,1*	21.051	1.9194	↑**	Phenylalanine metabolism
36	phenylalanine,2*	22.901	1.7502	↑**	Phenylalanine metabolism
37	phosphate*	14.026	1.0607	↑*	Starch and sucrose metabolism
38	pyroglutamic acid	20.421	2.2182	↑**	Glutathione metabolism
39	ribofuranose/xylofuranose	26.368	1.7417	↓**	No match
40	ribose	24.131	1.7329	↓**	Pentose phosphate pathway

41	sugar	29.934	1.2695	↓**	Starch and sucrose metabolism
42	taurine	23.785	1.1031	↑**	Nitrogen metabolism
43	uric acid	32.676	1.4819	↓*	Purine metabolism
44	valine	8.862	1.1321	↑**	Propanoate metabolism

^aRelative levels compared to healthy controls: ↑ = up-regulated; ↓ = down-regulated. (* $P < 0.05$; ** $P < 0.01$)

*Compounds with approximate matches for name