

**S2 Table. Plasma metabolite levels measured via  $^1\text{H}$  NMR spectroscopy**

Metabolite	Integrated Peak (multiplicity)	Average Integral in Controls ( $\pm$ SEM) in A.U.	Average Integral in HAT ( $\pm$ SEM) in A.U.	% Difference (HAT - Control)	P-value
3-Hydroxybutyrate	2.32(m)	29.66 ( $\pm$ 0.89)	32.09 ( $\pm$ 1.31)	8.2%	NS
Acetate	1.94(s)	6.60 ( $\pm$ 0.38)	6.71 ( $\pm$ 0.46)	1.7%	NS
Acetoacetate	2.25(s)	8.93 ( $\pm$ 0.72)	10.85 ( $\pm$ 0.85)	21.5%	NS
Alanine	1.49(d)	57.65 ( $\pm$ 2.18)	46.84 ( $\pm$ 1.97)	-18.7%	1.60E-03
Citrate	2.68(d)	24.97 ( $\pm$ 0.64)	22.87 ( $\pm$ 0.43)	-8.4%	2.01E-02
Creatine	3.94(s)	8.17 ( $\pm$ 0.38)	10.24 ( $\pm$ 0.85)	25.4%	NS
Creatinine	4.07(s)	7.26 ( $\pm$ 0.35)	8.61 ( $\pm$ 0.30)	18.7%	1.30E-02
Formate	8.47(s)	1.00 ( $\pm$ 0.13)	1.40 ( $\pm$ 0.08)	41.0%	2.13E-02
Glucose	5.25(s)	76.87 ( $\pm$ 4.92)	79.49 ( $\pm$ 3.71)	3.4%	NS
Glutamine	2.14(m)	67.08 ( $\pm$ 2.09)	67.64 ( $\pm$ 1.58)	0.8%	NS
Glycerophosphocholine	4.32(m)	19.97 ( $\pm$ 1.06)	18.27 ( $\pm$ 0.33)	-8.5%	NS
Glycine	3.58(s)	21.79 ( $\pm$ 1.34)	19.20 ( $\pm$ 0.68)	-11.9%	NS
Histidine	7.08(s)	3.12 ( $\pm$ 0.16)	2.58 ( $\pm$ 0.10)	-17.4%	1.79E-02
Lactate	1.34(d)	531.15 ( $\pm$ 97.44)	503.81 ( $\pm$ 55.89)	-5.1%	NS
Lipid C=CCH <sub>2</sub> C=C	2.78(m)	53.59 ( $\pm$ 2.71)	36.07 ( $\pm$ 1.08)	-32.7%	1.35E-05
Lipid CH <sub>3</sub>	0.88(m)	718.89 ( $\pm$ 33.00)	495.75 ( $\pm$ 13.50)	-31.0%	8.46E-06
Lipid CH <sub>2</sub> -C=C	2.02(m)	161.76 ( $\pm$ 7.13)	147.48 ( $\pm$ 3.07)	-8.8%	NS
Lipid CH <sub>2</sub> CH <sub>2</sub> CO	1.51(m)	14.21 ( $\pm$ 0.39)	10.63 ( $\pm$ 0.20)	-25.2%	5.28E-08
Lipid CH <sub>2</sub> CH <sub>2</sub> -C=C	1.58(m)	59.26 ( $\pm$ 7.19)	74.80 ( $\pm$ 2.74)	26.2%	NS
Lipid CH <sub>2</sub> CO	2.23(m)	36.29 ( $\pm$ 4.35)	54.84 ( $\pm$ 1.89)	51.1%	1.60E-03
Lipid CH <sub>2</sub>	1.28(m)	992.66 ( $\pm$ 79.79)	981.73 ( $\pm$ 33.16)	-1.1%	NS
Lipid Cholesterol (HDL)	0.68(m)	6.50 ( $\pm$ 0.21)	4.52 ( $\pm$ 0.15)	-30.4%	5.28E-08
Lipid Glyceryl CH	5.20(m)	4.53 ( $\pm$ 0.39)	6.28 ( $\pm$ 0.22)	38.8%	1.48E-03
Lipid $\epsilon$ -CH <sub>2</sub> lysyl (albumin)	2.93(m)	23.85 ( $\pm$ 0.81)	18.82 ( $\pm$ 0.49)	-21.1%	2.53E-05
Lipid, unsaturated CH=CH	5.30(m)	154.75 ( $\pm$ 8.53)	101.50 ( $\pm$ 3.89)	-34.4%	2.10E-05
myo-Inositol	4.087(t)	6.98 ( $\pm$ 0.32)	8.21 ( $\pm$ 0.29)	17.6%	1.58E-02
N-acetyls of glycoproteins	2.06(m) & 2.09(m)	233.03 ( $\pm$ 4.68)	270.13 ( $\pm$ 4.67)	15.9%	7.02E-06
Phenylalanine	7.45(t)	4.92 ( $\pm$ 0.25)	7.44 ( $\pm$ 0.46)	51.2%	4.18E-05
Pyruvate	2.38(s)	17.64 ( $\pm$ 2.05)	26.99 ( $\pm$ 4.27)	53.0%	NS
Tyrosine	6.92(d)	6.19 ( $\pm$ 0.38)	6.87 ( $\pm$ 0.31)	11.0%	NS
Valine	1.05(d)	21.90 ( $\pm$ 1.37)	22.10 ( $\pm$ 0.79)	0.9%	NS

Table lists metabolites that were identified in plasma  $^1\text{H}$  NMR spectra and spectral regions used for integral calculation and Welch T-test analyses. \* % Difference calculated relative to control group average. Peaks from isoleucine, leucine and lysine were omitted as predominant peaks were superimposed by larger lipids signals. Abbreviations: A.U., arbitrary units; (d), doublet; (m), multiplet; NS, not significant; (s), singlet; SEM, standard error of the mean; (t), triplet.