Supplemental Table 1. Choline metabolites in *Bhmt*$^{+/-}$ tissues

	Betaine	Choline	GPCho	PCho	PtdCho	SM
Liver	1,923 ± 364	154 ± 36	1,730 ± 554	294 ± 67	15,897 ± 1,200	1,018 ± 131
Kidney	1,296 ± 192	834 ± 28	15,786 ± 748	885 ± 31	14,035 ± 420	2,768 ± 60
Heart	95 ± 29	102 ± 7	212 ± 65	193 ± 13	9,877 ± 471	738 ± 48
Muscle	49 ± 4	67 ± 15	84 ± 10	41 ± 8	6,388 ± 174*	397 ± 11
Brain	18 ± 2	197 ± 36	1,322 ± 58	588 ± 35	20,441 ± 402	1,869 ± 84
Lung	239 ± 26	224 ± 26	3,432 ± 203	588 ± 20	14,777 ± 343	2,415 ± 63
Testis	2,334 ± 239	439 ± 30	859 ± 157	4,495 ± 193	6,581 ± 490	1,039 ± 61

Tissues were harvested from 5 week old *Bhmt*$^{+/-}$ mice. Data are presented as mean ± SEM, n=6 animals. *p<0.05, different from *Bhmt*$^{+/+}$ by Students' *t* test. Concentrations are expressed as nmol/g. PCho, phosphocholine; PtdCho, phosphatidylcholine; GPho, glycerophosphocholine; SM,sphingomyelin; ND, not detected. Choline metabolites in adipose and plasma were not measured in *Bhmt*$^{+/-}$ mice.

Supplemental Table 2. Metabolites in *Bhmt*$^{+/-}$ mice

Organ	Metabolites	*Bhmt*$^{+/-}$
Liver	AdoMet [nmol/g tissue]	86.3 ± 22.8
	AdoHcy [nmol/g tissue]	35.4 ± 12.1
	AdoMet:AdoHcy	2.9 ± 0.4
Plasma	tHomocysteine [μM]	6.3 ± 0.3
	Cysteine [μM]	102.6 ± 8.4*$^{\#}$
	Total folate [ng/ml]	81.3 ± 17.7
	ALT [U/I]	31.0 ± 1.6
	BUN [mg/dL]	13.55 ± 0.3
	Creatinine [mg/dL]	<0.1
	LDH [U/I]	917.3 ± 165.5
	CK [U/I]	793.3 ± 51.3
	Triacylglycerol [mg/dL]	71.2 ± 5.8
	Cholesterol [mg/dL]	48.7 ± 20.1
	HDL-Cholesterol [mg/dL]	37.9 ± 14.9
	Glucose [mg/dL]	259.1 ± 13.1
	NEFA [mM]	0.29 ± 0.04
	Hydroxybutyrate [mM]	0.39 ± 0.02

Tissues were harvested from 5 week old *Bhmt*$^{+/-}$ mice. Data are presented as mean± SEM, n=3-6 per group. *p<0.05, different from *Bhmt*$^{+/+}$ by Students' *t* test. $^{\#}$p<0.05, different from *Bhmt*$^{-/-}$ by Students' *t* test. AdoMet, S-adenosylmethionine; AdoHcy, S-adenosylhomocysteine. ALT, alanine transaminase; BUN, plasma urea nitrogen; LDH, lactate dehydrogenase; CK, creatinine kinase; HDL-C, high density lipoprotein cholesterol; NEFA, non-esterified fatty acids.