

**Table S1.** ANOVA P-values for each measurement carried out in this study

FIGURE	Gene-Protein-Compound	ANOVA P value
<b>Figure 1 A</b>	BHB	<0.0001
	Leu	<0.0001
	Ile	<0.0001
	Val	<0.0001
<b>Figure 1 B</b>	mBDNF/ACTIN	0.0092
	P-TRKB/TRKB	0.0031
	P-CREB/CREB	0.0210
	P-AKT/AKT	0.0094
	P-4EBP1/4EBP1	0.0104
	P-P70S6K/ACTIN	0.0401
	P-FOXO1/FOXO1	0.0459
	CASPASE3/ACTIN	0.0274
<b>Figure 2 A</b>	T3 (serum)	0.0015
	T4 (serum)	<0.0001
	T3 (Gastrocnemius muscle)	<0.0001
	T4 (Gastrocnemius muscle)	0.1824
<b>Figure 2 B</b>	DIO2	0.0026
	DIO3	<0.0001
	MCT2	0.0246
	LAT1	0.0055
	LAT2	<0.0001
<b>Figure 3 B</b>	BDNF rel. mRNA levels	<0.0001
<b>Figure 3 C</b>	mBDNF/ACTIN	0.0008
<b>Figure 4 A</b>	BHB	0.3538
	Leu	<0.0001
	Ile	0.2078
	Val	0.0550
<b>Figure 4 B</b>	P-CREB/CREB	0.0281
	mBDNF/ACTIN	0.9829
	P-TRKB/TRKB	0.0121

	P-TRKAB/TRKB	0.0016
	P-AKT/AKT	0.0012
	P-4EBP1/4EBP1	0.0111
	P-P70S6K/ P70S6K	0.0140
	P-FOXO1/FOXO1	0.5699
<b>Figure 5 A</b>		
	T3 (Prefrontal cortex)	<0.0001
<b>Figure 5 B</b>		
	DIO2	0.4829
	DIO3	<0.0001
	MCT2	0.2300
	LAT1	0.0102
	LAT2	0.6216
<b>Figure 6 A</b>		
	MCT8	0.9866
	MCT10	0.0003
	OATP1C	0.2352
	OXCT1	0.0012
	BDH1	0.1050
	BDNF	0.3550
	TRKB	0.2187
	PGC1- $\alpha$	0.9661
<b>Figure 6 B</b>		
	KLF9	0.0361
	CALB1	0.0340
	HR	0.0044
	RASD2	0.0324
	SEMA3C	0.0079
	SHH	0.0266