

Table S2: Relative quantification (RQ) of gene expression in rat brown adipose tissue

Function	Gene	RQ (Ctrl)	RQ (Olan)	RQ (Olan+Ber)	RQ (Olan+Met)	
Energy expenditure	Uncoupling protein 1(UCP1)	1	0.8203	0.9344	1.2592	
	Uncoupling protein 3(UCP3)	1	0.6258	1.0927	0.866	
	AMP-activated protein kinase-(AMPK)	1	0.2984	0.7719	1.0536	
	PPARy coactivator-1alpha (PGC-1α)	1	1.1581	1.1025	1.1912	
	Uncoupling protein 2(UCP2)	1	0.5695	0.8397	0.6633	
Energy intake	Neuropeptide Y (NPY)	1	2.395	2.4346	2.8334	
Glucose metabolism	Glucose transporters 4(GLUT4/Slc2a4)	1	0.2601	0.5662	0.7345	
	Glycogen phosphorylase (Pygl)	1	0.3439	0.5908	0.5154	
	Pyruvate kinase (Pkm2)	1	0.3443	0.8652	0.6787	
	Phosphoenolpyruvate carboxykinase 1 (Pck1)	1	0.9306	0.8284	0.906	
	Phosphoenolpyruvate carboxykinase 2(Pck2)	1	0.5604	0.9723	1.1389	
Lipid metabolism	Peroxisome proliferator activated receptor gamma(PPARγ)	1	0.4375	0.6371	0.6995	
	GATA binding protein 3 (GATA3)	1	1.6323	0.9087	1.13	
	CCAAT/enhancer binding protein alpha (C/EBPα)	1	0.4098	0.6171	0.7292	
	Leptin (Lep)	1	0.3359	0.3252	0.4196	
	Resistin (Retn)	1	0.2574	0.3521	0.5312	
	Adiponectin (Adipoq)	1	0.8291	0.8006	0.9466	
	HMG-CoA reductase (Hmgcr)	1	0.8969	1.5273	1.2317	
	Glycerol-3P acyltransferase (GPAM)	1	0.4017	0.7997	0.8525	
	Fatty acid synthase (FAS)	1	0.4751	0.8386	0.8412	
	Acetyl-co-A carboxylase alpha (Acaca)	1	0.264	0.6341	0.0962	
	Acetyl-co-A carboxylase beta (Acacb)	1	0.8683	1.1859	1.1465	
	Stearoyl-CoA desaturase (SCD1)	1	0.8177	1.6264	2.0457	
	Low-density lipoprotein receptor (LDLR)	1	0.4447	0.9503	0.4462	
	Insulin-induced gene 2 (INSIG2)	1	0.5394	1.2907	1.0692	
	Sterol regulatory element binding protein-1 (SREBP-1)	1	0.2831	0.5465	0.4502	
	Acyl-CoA dehydrogenase (Acadvl)	1	0.5748	0.8586	1.1054	
	Peroxisome proliferator activated receptor alpha(PPARα)	1	0.9472	0.9398	1.342	
	Liver X receptor alpha (LXRα/Nr1h3)	1	0.5285	0.867	1.1585	
	Apolipoprotein E (ApoE)	1	1.1833	1.5608	0.6811	
	Acyl-CoA oxidase (Acox1)	1	0.75	1.3394	1.3902	
	Insulin Receptor (IssR)	1	0.4399	0.6096	0.4864	
	Others	Mitogen-activated protein kinase 14 (MAPK14)	1	0.5219	0.7842	0.7379
		Mitogen-activated protein kinase 1 (MAPK1)	1	0.3312	0.6639	0.4108
MAPK8 (c-jun N-terminal)		1	0.835	0.9767	1.1969	
Estrogen sulfotransferase (EST/ste2)		1	0.2364	0.5898	0.2316	

Bold numbers are significant at P<0.05 when compared between Olan vs. Ctrl group, or Olan+Ber vs. Olan group, or Olan+Met vs. Olan group