

Table S1. P-values obtained after two-way ANOVA analysis of parameters assessed in rainbow trout hypothalamus after incubation with 600 μ l of culture media alone (control) or containing 8 mM glucose or 500 μ M oleate, in the absence or presence of 1 μ M insulin for 3 h. Nutrient (none, glucose, oleate) and insulin (absence, presence) treatments were the main factors, whereas nutrient x insulin was the first order interaction.

		Factor 1	Factor 2	Interaction
	Parameter	Nutrient	Insulin	Nutrient x Insulin
<u>Enzyme activities</u>	Glucosensing			
	Gck	0.023	0.427	<0.001
	Gsase	0.006	<0.001	0.002
	Pepck	<0.001	0.694	0.003
	Pk	0.451	0.081	0.538
	Fatty acid sensing			
	Acly	0.001	0.025	0.079
	Cpt-1	0.290	0.890	0.533
	Fas	<0.001	0.101	0.033
	Hoad	0.009	0.029	0.002
<u>mRNA abundance</u>	Glucosensing			
	<i>fbpase</i>	0.185	0.902	0.358
	<i>g6pcb</i>	0.022	0.619	0.003
	<i>gck</i>	0.001	0.007	0.043
	<i>gnat3</i>	0.430	0.099	0.002
	<i>gys1</i>	0.159	0.249	0.442
	<i>nr1h3</i>	0.035	0.090	<0.001
	<i>pck1</i>	0.002	0.303	0.213
	<i>pklr</i>	0.003	<0.001	<0.001
	<i>slc2a2</i>	<0.001	0.487	<0.001
	<i>slc5a1</i>	0.111	0.301	0.022
	<i>tas1r3</i>	0.190	0.071	0.010
	Fatty acid sensing			

	<i>acly</i>	<0.001	0.080	<0.001
	<i>cd36</i>	<0.001	0.701	0.287
	<i>cpt1c</i>	0.312	0.063	0.797
	<i>fasn</i>	0.888	0.016	0.135
	<i>lpl</i>	0.870	0.654	0.256
	K_{ATP}			
	<i>abcc8</i>	0.054	0.398	<0.001
	<i>kcnj11</i>	0.066	0.358	0.805
	Mitochondrial activity			
	<i>ucp2a</i>	0.459	0.311	0.303
	Cell signaling			
	<i>mtor</i>	<0.001	0.488	<0.001
	Transcription factors			
	<i>bsx</i>	<0.001	<0.001	<0.001
	<i>creb1</i>	<0.001	0.002	0.104
	<i>foxo1</i>	0.004	0.598	0.052
	<i>ppara</i>	0.008	0.382	0.013
	<i>pparg</i>	0.144	0.010	0.005
	<i>srebf</i>	0.284	0.629	0.142
	Neuropeptides			
	<i>agrp1</i>	0.006	0.200	<0.001
	<i>cartpt</i>	0.685	0.118	0.432
	<i>npy</i>	0.003	<0.001	<0.001
	<i>pomcal</i>	0.005	0.563	0.001
<u>Protein levels</u>	Cell signaling			
	P-Akt/vinculin	0.153	0.907	0.334
	Akt/vinculin	0.094	0.024	0.058
	P-Akt/Akt	0.023	0.040	<0.001
	P-Ampk α /vinculin	0.304	0.099	0.439
	Ampk α /vinculin	0.856	0.792	0.121
	P-Ampk α /Ampk α	0.020	<0.001	0.316
	Mtor/vinculin	0.141	0.003	0.004
	Transcription factors			
	P-Creb/vinculin	0.997	0.566	0.907

	Creb/vinculin	0.611	0.893	0.774
	P-Creb/Creb	0.674	0.325	0.029
	P-Foxo1/vinculin	0.124	0.246	0.804
	Foxo1/vinculin	0.874	0.490	0.491
	P-Foxo1/Foxo1	0.798	0.553	0.353

Table S2. P-values obtained after two-way ANOVA analysis of parameters assessed in rainbow trout hindbrain after incubation with 600 μ l of culture media alone (control) or containing 8 mM glucose or 500 μ M oleate, in the absence or presence of 1 μ M insulin for 3 h. Nutrient (none, glucose, oleate) and insulin (absence, presence) treatments were the main factors, whereas nutrient x insulin was the first order interaction.

	Parameter	Factor 1	Factor 2	Interaction
		Nutrient	Insulin	Nutrient x Insulin
<u>Enzyme activities</u>	Glucosensing			
	Gck	0.950	<0.001	0.039
	Gsase	<0.001	<0.001	0.007
	Pepck	<0.001	0.117	0.018
	Pk	0.559	0.257	0.048
	Fatty acid sensing			
	Acly	0.025	0.021	0.004
	Cpt-1	<0.001	0.008	0.003
	Fas	0.038	0.228	0.025
	Hoad	0.075	<0.001	0.157
<u>mRNA abundance</u>	Glucosensing			
	<i>fbpase</i>	0.589	0.313	0.020
	<i>g6pcb</i>	0.009	0.027	0.005
	<i>gck</i>	0.043	<0.001	<0.001
	<i>gnat3</i>	0.009	0.974	0.054
	<i>gys1</i>	0.014	0.415	0.006
	<i>nr1h3</i>	0.018	0.037	0.146
	<i>pck1</i>	0.023	0.634	0.004
	<i>pklr</i>	0.042	0.518	<0.001
	<i>slc2a2</i>	0.037	0.033	<0.001
	<i>slc5a1</i>	0.075	0.849	0.039
	<i>tas1r3</i>	0.023	0.670	0.046
	Fatty acid sensing			
	<i>acyl</i>	0.914	0.011	0.009

	<i>cd36</i>	0.036	0.128	0.110
	<i>cpt1c</i>	0.247	0.181	0.884
	<i>fasn</i>	0.013	0.429	0.037
	<i>lpl</i>	0.959	0.001	0.533
	K_{ATP}			
	<i>abcc8</i>	0.684	0.013	0.061
	<i>kcnj11</i>	0.004	0.003	<0.001
	Mitochondrial activity			
	<i>ucp2a</i>	0.002	0.657	0.669
	Cell signaling			
	<i>mtor</i>	<0.001	0.185	0.017
	Transcription factors			
	<i>bsx</i>	0.117	0.935	<0.001
	<i>creb1</i>	0.061	0.243	<0.001
	<i>foxo1</i>	0.079	0.914	0.029
	<i>ppara</i>	0.314	0.161	0.003
	<i>pparg</i>	0.012	0.280	0.095
	<i>srebf</i>	0.019	0.257	0.007
	Neuropeptides			
	<i>agrp1</i>	0.037	0.020	0.087
	<i>cartpt</i>	0.087	0.176	0.027
	<i>npy</i>	0.001	0.233	<0.001
	<i>pomcal</i>	0.003	0.014	0.016
<u>Protein levels</u>	Cell signaling			
	P-Akt/vinculin	0.731	0.215	0.569
	Akt/vinculin	0.819	0.894	0.390
	P-Akt/Akt	0.750	0.015	0.129
	P-Ampk α /vinculin	0.173	0.772	0.606
	Ampk α /vinculin	0.825	0.159	0.790
	P-Ampk α /Ampk α	0.209	0.844	0.369
	Mtor/vinculin	0.820	0.917	0.873
	Transcription factors			
	P-Creb/vinculin	0.620	0.523	0.819
	Creb/vinculin	0.991	0.572	0.979

	P-Creb/Creb	0.994	0.281	0.557
	P-Foxo1/vinculin	0.028	0.371	<0.001
	Foxo1/vinculin	0.213	0.572	0.949
	P-Foxo1/Foxo1	0.565	0.002	0.047