

**Table S3. Dependence of primary brown adipocyte gene expression on Them1 expression and chronic NE treatment**

NE pretreatment :		-		+		-		+	
		<i>Them1</i> <sup>+/+</sup>	<i>Them1</i> <sup>-/-</sup>	<i>Them1</i> <sup>+/+</sup>	<i>Them1</i> <sup>-/-</sup>	<i>Ad-GFP</i>	<i>Ad-Them1</i>	<i>Ad-GFP</i>	<i>Ad-Them1</i>
Differentiation	<i>Ap2</i>	1.00 ± 0.04	0.89 ± 0.04	1.14 ± 0.03	1.23 ± 0.05 <sup>†</sup>	1.00 ± 0.02	1.19 ± 0.03*	1.12 ± 0.04	1.28 ± 0.03*
	<i>Prdm16</i>	1.00 ± 0.03	0.82 ± 0.06	1.01 ± 0.09	0.91 ± 0.08	1.00 ± 0.06	0.98 ± 0.15	1.06 ± 0.08	0.92 ± 0.06
	<i>C/ebpβ</i>	1.00 ± 0.03	0.91 ± 0.03	1.11 ± 0.03	1.05 ± 0.04	1.00 ± 0.03	0.92 ± 0.10	0.93 ± 0.06	0.84 ± 0.01
	<i>Cidea</i>	1.00 ± 0.01	0.58 ± 0.02*	1.15 ± 0.11	0.72 ± 0.03*	1.00 ± 0.03	1.25 ± 0.08	1.67 ± 0.05 <sup>†</sup>	1.57 ± 0.05 <sup>†</sup>
	<i>mtTfa</i>	1.00 ± 0.07	0.82 ± 0.01	1.16 ± 0.07	1.01 ± 0.04	1.00 ± 0.02	1.29 ± 0.04 <sup>†</sup>	1.43 ± 0.04 <sup>†</sup>	1.37 ± 0.04
Thermogenesis	<i>Ucp1</i>	1.00 ± 0.03	1.22 ± 0.06	6.17 ± 0.93 <sup>†</sup>	5.36 ± 0.22 <sup>†</sup>	1.00 ± 0.04	1.34 ± 0.04	5.96 ± 0.38 <sup>†</sup>	4.72 ± 0.18 <sup>†</sup>
	<i>Pgc1α</i>	1.00 ± 0.06	0.62 ± 0.03 <sup>†</sup>	1.00 ± 0.07	0.74 ± 0.06 <sup>†</sup>	1.00 ± 0.08	0.95 ± 0.10	1.10 ± 0.06	1.04 ± 0.06
	<i>Pparγ</i>	1.00 ± 0.06	0.83 ± 0.05	1.31 ± 0.11 <sup>†</sup>	1.43 ± 0.05 <sup>†</sup>	1.00 ± 0.02	1.22 ± 0.05*	1.27 ± 0.06 <sup>†</sup>	1.60 ± 0.08 <sup>†*</sup>
Fatty acid oxidation	<i>Pparaα</i>	1.00 ± 0.05	0.63 ± 0.04*	1.13 ± 0.06	0.83 ± 0.05*	1.00 ± 0.09	0.97 ± 0.09	1.00 ± 0.09	0.78 ± 0.07
	<i>m-Cpt1</i>	1.00 ± 0.03	0.81 ± 0.02*	1.04 ± 0.04	0.92 ± 0.04	1.00 ± 0.06	1.16 ± 0.13	1.09 ± 0.07	1.23 ± 0.07
	<i>Mcad</i>	1.00 ± 0.05	0.86 ± 0.03	1.37 ± 0.04 <sup>†</sup>	1.30 ± 0.07 <sup>†</sup>	1.00 ± 0.03	1.13 ± 0.02	1.21 ± 0.04 <sup>†</sup>	1.28 ± 0.04 <sup>†</sup>
	<i>Acox</i>	1.00 ± 0.05	0.84 ± 0.05	1.10 ± 0.07	1.33 ± 0.07 <sup>†</sup>	1.00 ± 0.03	1.03 ± 0.03	1.05 ± 0.02	1.15 ± 0.04
	<i>Acs1</i>	1.00 ± 0.04	0.84 ± 0.03	1.38 ± 0.03 <sup>†</sup>	1.38 ± 0.05 <sup>†</sup>	1.00 ± 0.02	1.11 ± 0.05	1.22 ± 0.02 <sup>†</sup>	1.30 ± 0.06 <sup>†</sup>
	<i>Fabp3</i>	1.00 ± 0.04	0.72 ± 0.02*	0.67 ± 0.03 <sup>†</sup>	0.48 ± 0.03 <sup>†*</sup>	1.00 ± 0.04	1.09 ± 0.02	0.90 ± 0.05	0.51 ± 0.01 <sup>†*</sup>
Lipogenesis	<i>Lpl</i>	1.00 ± 0.07	0.83 ± 0.03	0.94 ± 0.02	0.91 ± 0.05	1.00 ± 0.03	1.05 ± 0.05	1.11 ± 0.03	1.18 ± 0.02
	<i>Vldl-r</i>	1.00 ± 0.05	0.99 ± 0.03	1.16 ± 0.03	1.38 ± 0.05 <sup>†*</sup>	1.00 ± 0.05	1.07 ± 0.05	1.25 ± 0.03 <sup>†</sup>	1.21 ± 0.05
	<i>Gpat1</i>	1.00 ± 0.04	0.76 ± 0.04 <sup>†</sup>	1.35 ± 0.07 <sup>†</sup>	1.27 ± 0.07 <sup>†</sup>	1.00 ± 0.05	1.01 ± 0.10	1.36 ± 0.05 <sup>†</sup>	1.43 ± 0.04 <sup>†</sup>
	<i>Gpat4</i>	1.00 ± 0.03	0.87 ± 0.02	1.20 ± 0.03 <sup>†</sup>	1.12 ± 0.05 <sup>†</sup>	1.00 ± 0.02	1.00 ± 0.04	1.22 ± 0.03 <sup>†</sup>	1.12 ± 0.04
Acots	<i>Them1</i>	1.00 ± 0.09	0.01 ± 0.00*	1.11 ± 0.20	0.01 ± 0.00*	0.00 ± 0.00	1.00 ± 0.02*	0.00 ± 0.00	0.96 ± 0.02*
	<i>Acot1</i>	1.00 ± 0.14	0.87 ± 0.03	0.96 ± 0.03	0.86 ± 0.03	1.00 ± 0.03	0.99 ± 0.03	1.11 ± 0.06	1.04 ± 0.02
	<i>Acot2</i>	1.00 ± 0.06	0.86 ± 0.14	0.79 ± 0.08	0.54 ± 0.11	1.00 ± 0.09	0.80 ± 0.12	1.22 ± 0.21	1.14 ± 0.15
	<i>Acot3</i>	1.00 ± 0.05	0.89 ± 0.05	1.10 ± 0.06	1.17 ± 0.05	1.00 ± 0.04	0.93 ± 0.15	1.09 ± 0.07	1.00 ± 0.05
	<i>Acot4</i>	1.00 ± 0.05	0.98 ± 0.03	1.36 ± 0.07 <sup>†</sup>	1.41 ± 0.07 <sup>†</sup>	1.00 ± 0.02	1.10 ± 0.06	1.13 ± 0.05	1.04 ± 0.02
	<i>Acot5</i>	1.00 ± 0.09	1.31 ± 0.21	2.30 ± 0.20 <sup>†</sup>	1.95 ± 0.13 <sup>†</sup>	1.00 ± 0.21	0.98 ± 0.06	2.17 ± 0.09 <sup>†</sup>	1.87 ± 0.04 <sup>†</sup>
	<i>Acot6</i>	1.00 ± 0.03	1.02 ± 0.03	1.24 ± 0.03	1.16 ± 0.04	1.00 ± 0.03	1.07 ± 0.02	1.06 ± 0.01	1.12 ± 0.02
	<i>Acot7</i>	1.00 ± 0.01	1.00 ± 0.02	0.98 ± 0.02	0.93 ± 0.03	1.00 ± 0.02	1.02 ± 0.02	0.97 ± 0.02	0.95 ± 0.01
	<i>Acot8</i>	1.00 ± 0.02	1.01 ± 0.02	1.26 ± 0.02	1.12 ± 0.04	1.00 ± 0.01	1.00 ± 0.06	1.10 ± 0.02	1.13 ± 0.02
	<i>Acot9/10</i>	1.00 ± 0.02	1.09 ± 0.03	1.32 ± 0.03 <sup>†</sup>	1.29 ± 0.05 <sup>†</sup>	1.00 ± 0.02	1.04 ± 0.02	1.19 ± 0.02	1.16 ± 0.03
	<i>Acot12</i>	1.00 ± 0.09	0.87 ± 0.10	1.33 ± 0.10	0.82 ± 0.09*	1.00 ± 0.07	0.98 ± 0.06	1.98 ± 0.14 <sup>†</sup>	1.70 ± 0.08 <sup>†</sup>
	<i>Them2</i>	1.00 ± 0.04	0.85 ± 0.03	1.00 ± 0.01	0.95 ± 0.03	1.00 ± 0.02	1.03 ± 0.02	0.87 ± 0.02 <sup>†</sup>	0.83 ± 0.02 <sup>†</sup>

mRNA expression levels were normalized to values in primary brown adipocytes of *Them1*<sup>+/+</sup> or *Ad-GFP* cells without NE pretreatment (1μM) except *Them1* infected adenovirus groups, which were normalized to values of *Ad-Them1* without NE pretreatment. \**P* < 0.05 *Them1*<sup>-/-</sup> vs *Them1*<sup>+/+</sup> or *Ad-GFP* vs *Ad-Them1*; <sup>†</sup>*P* < 0.05, NE pretreatment vs no pretreatment.