

**Supplementary Table 6:** Differential mRNA expression ( $q < 0.05$ ) of candidate genes for type 2 diabetes (T2D) in human pancreatic islets exposed to palmitate versus control. DNA methylation data is displayed if the absolute difference in DNA methylation  $\geq 3\%$  and  $P < 0.05$ .

T2D candidate genes	mRNA expression							DNA methylation (%)					
	Probe ID	Chr	Control mean $\pm$ sd	Palmitate mean $\pm$ sd	Diff. palmitate-control	P-value	q-value	Probe ID	Region	Control mean $\pm$ sd	Palmitate mean $\pm$ sd	Diff. palmitate-control	P-value
<i>CDKN2A</i>	8160441	9	81.2 $\pm$ 12.7	99.6 $\pm$ 16.4	18.34	0.0024	0.041						
<i>GLIS3</i>	8159900	9	441.4 $\pm$ 66.2	394.9 $\pm$ 47.8	-46.51	0.0012	0.027	cg14641122	Body; Open sea	33.4 $\pm$ 8.2	36.7 $\pm$ 9.3	3.2	0.010
								cg14269813	Body; Open sea	58.2 $\pm$ 11.1	61.6 $\pm$ 11.3	3.4	0.016
<i>GRB14</i>	8056327	2	97.5 $\pm$ 15.5	81.5 $\pm$ 24.1	-15.99	0.0024	0.041						
<i>HHEX</i>	7929282	10	427.6 $\pm$ 78.2	340.5 $\pm$ 77.3	-87.03	0.0002	0.013						
<i>HNF1B</i>	8014591	17	193.1 $\pm$ 53.2	154.7 $\pm$ 48.4	-38.38	0.0005	0.017						
<i>ITGB6</i>	8056184	2	790.1 $\pm$ 379.4	623.3 $\pm$ 250.2	-166.88	0.0012	0.027						
<i>KIF11</i>	7929258	10	27.4 $\pm$ 7.0	17.8 $\pm$ 4.3	-9.60	0.0005	0.017						
<i>MAEA</i>	8093462	4	541.4 $\pm$ 29.9	512.1 $\pm$ 32.2	-29.38	0.0012	0.027						
<i>NOTCH2</i>	7919095	1	381.1 $\pm$ 126.7	281.3 $\pm$ 105.9	-99.81	0.0002	0.013						
<i>PTPRD</i>	8160040	9	64.9 $\pm$ 17.7	57.1 $\pm$ 16.7	-7.85	0.0024	0.041						
<i>SLC30A8</i>	8148003	8	5,399.1 $\pm$ 1,886.6	4,762.5 $\pm$ 1,777.0	-636.61	0.0034	0.049						
<i>SLC44A3</i>	7903144	1	316.4 $\pm$ 76.9	260.8 $\pm$ 68.5	-55.59	0.0034	0.049						
<i>TCF7L2</i>	7930537	10	215.1 $\pm$ 30.9	180.2 $\pm$ 28.9	-34.89	0.0002	0.013	cg26775558	Body; Open sea	56.5 $\pm$ 10.0	60.4 $\pm$ 9.2	3.9	0.006
<i>TP53INP1</i>	8151890	8	426.4 $\pm$ 122.2	371.3 $\pm$ 94.1	-55.04	0.0024	0.041						
<i>TSPAN8</i>	7964927	12	1,740.4 $\pm$ 604.9	870.6 $\pm$ 550.3	-869.75	0.0002	0.013						
<i>VPS26A</i>	7927972	10	950.4 $\pm$ 120.1	858.1 $\pm$ 145.6	-92.31	0.0012	0.027						