

Electronic supplementary material

ESM Table 1 The 100 most abundant transcripts in islets and islet-enrichment score

Ensemble gene	Gene		Relative fluorescence		
	Symbol	Description	Islets	Pancreas	Ratio (islets:pancreas)
ENSMUSG00000041681	<i>Iapp</i>	Islet amyloid polypeptide gene	908.72	335.66	2.71
ENSMUSG00000064367	<i>mt-Nd5</i>	Mitochondrially encoded NADH dehydrogenase 6 gene	719.11	372.76	1.93
ENSMUSG00000000394	<i>Gcg</i>	Glucagon gene	621.75	108.27	5.74
ENSMUSG00000000215	<i>Ins2</i>	Insulin II gene	528.64	415.27	1.27
ENSMUSG00000037852	<i>Cpe</i>	Carboxypeptidase E gene	432.12	23.07	18.73
ENSMUSG00000029390	<i>Tmed2</i>	Transmembrane emp24 domain trafficking protein 2 gene	412.64	298.59	1.38
ENSMUSG00000022982	<i>Sod1</i>	Superoxide dismutase 1, soluble gene	374.77	92.08	4.07
ENSMUSG00000035804	<i>Ins1</i>	Insulin I gene	362.02	265.54	1.36
ENSMUSG00000003814	<i>Calr</i>	Calreticulin gene	341.15	12.81	26.64
ENSMUSG00000031007	<i>Atp6ap2</i>	ATPase, H ⁺ transporting, lysosomal accessory protein 2 gene	305.98	69.98	4.37
ENSMUSG00000020402	<i>Vdac1</i>	Voltage-dependent anion channel 1 gene	295.13	27.01	10.92
ENSMUSG00000061808	<i>Ttr</i>	Transthyretin gene	281.41	42.78	6.58
ENSMUSG00000021194	<i>Chga</i>	Chromogranin A gene	258.99	24.73	10.47
ENSMUSG00000027350	<i>Chgb</i>	Chromogranin B gene	255.84	2.95	86.76
ENSMUSG00000050711	<i>Scg2</i>	Secretogranin II gene	244.79	30.03	8.15
ENSMUSG00000022095	<i>Rai16</i>	Family with sequence similarity 160, member B2 gene	237.73	2.35	101.16
ENSMUSG00000022198	<i>Pabpn1</i>	Poly(A) binding protein, nuclear 1 gene	205.29	29.63	6.93
ENSMUSG00000014294	<i>Ndufa2</i>	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 2 gene	198.89	54.08	3.68
ENSMUSG00000020917	<i>Acly</i>	ATP citrate lyase gene	198.54	30.06	6.61
ENSMUSG00000023150	<i>Ivns1abp</i>	Influenza virus NS1A binding protein gene	193.17	77.30	2.50
ENSMUSG00000027984	<i>Hadh</i>	Hydroxyacyl-Coenzyme A dehydrogenase gene	182.53	116.09	1.57
ENSMUSG00000024038	<i>1500032D16Rik</i>	NADH dehydrogenase	181.64	160.22	1.13
ENSMUSG00000058569	<i>Tmed9</i>	Transmembrane emp24 protein transport domain containing 9 gene	172.88	7.05	24.53
ENSMUSG00000008348	<i>EG216818</i>	Ubiquitin A-52 residue ribosomal protein fusion product 1 gene	159.08	54.31	2.93
ENSMUSG00000007564	<i>Ppp2r1a</i>	Protein phosphatase 2 (formerly 2A), regulatory subunit A (PR 65), alpha isoform gene	154.87	22.89	6.77
ENSMUSG00000002455	<i>Prpf6</i>	PRP6 pre-mRNA splicing factor 6 homologue (yeast) gene	144.00	2.96	48.71

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ENSMUSG00000039218	<i>Srrm2</i>	Serine/arginine repetitive matrix 2 gene	139.45	52.88	2.64
ENSMUSG00000037822	<i>1110003E01Rik</i>	RIKEN cDNA 1110003E01 gene gene	138.34	145.18	0.95
ENSMUSG00000030062	<i>Rpn1</i>	Ribophorin I gene	136.94	58.03	2.36
ENSMUSG00000020048	<i>Hsp90b1</i>	Heat shock protein 90, beta (Grp94), member 1 gene	136.51	9.52	14.34
ENSMUSG00000005232	<i>G6pc2</i>	Glucose 6-phosphatase, catalytic, 2 gene	127.71	6.70	19.06
ENSMUSG00000023089	<i>Ndufa5</i>	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5 gene	126.40	46.54	2.72
ENSMUSG00000020076	<i>Ddx50</i>	DEAD (Asp-Glu-Ala-Asp) box polypeptide 50 gene	125.97	22.29	5.65
ENSMUSG00000028691	<i>Prdx1</i>	Peroxiredoxin 1 gene	125.76	32.33	3.89
ENSMUSG00000060938	<i>Rpl26</i>	Ribosomal protein L26 gene	122.95	381.35	0.32
ENSMUSG00000032181	<i>Scg3</i>	Secretogranin III gene	120.72	2.55	47.40
ENSMUSG00000024225	<i>Clps</i>	Colipase, pancreatic gene	120.02	1208.83	0.10
ENSMUSG00000036256	<i>Igfbp7</i>	Insulin-like growth factor binding protein 7 gene	104.88	59.91	1.75
ENSMUSG00000032353	<i>Tmed3</i>	Transmembrane emp24 domain containing 3 gene	104.03	188.05	0.55
ENSMUSG00000028820	<i>Sfpq</i>	Splicing factor proline/glutamine rich (polypyrimidine tract binding protein associated) gene	103.85	3.95	26.27
ENSMUSG00000015401	<i>Tmem27</i>	Transmembrane protein 27 gene	101.37	3.86	26.23
ENSMUSG00000041571	<i>Sepw1</i>	Selenoprotein W, muscle 1 gene	101.32	17.97	5.64
ENSMUSG00000022315	<i>Slc30a8</i>	Solute carrier family 30 (zinc transporter), member 8 gene	101.26	1.40	72.43
ENSMUSG00000006476	<i>Nelf</i>	Nasal embryonic LHRH factor gene	98.68	35.18	2.80
ENSMUSG00000028798	<i>Eif3i</i>	Eukaryotic translation initiation factor 3, subunit I gene	97.79	124.32	0.79
ENSMUSG00000054428	<i>Atpif1</i>	ATPase inhibitory factor 1 gene	97.70	10.33	9.45
ENSMUSG00000021876	<i>Rnase4</i>	ribonuclease, RNase A family 4 gene	96.75	175.98	0.55
ENSMUSG00000024425	<i>Ndfip1</i>	Nedd4 family interacting protein 1 gene	94.86	109.11	0.87
ENSMUSG00000026864	<i>Hspa5</i>	Heat shock protein 5 gene	94.35	76.12	1.24
ENSMUSG00000020849	<i>Ywhae</i>	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide gene	93.84	48.07	1.95
ENSMUSG00000035268	<i>Pkig</i>	Protein kinase inhibitor, gamma gene	92.94	10.22	9.09
ENSMUSG00000035530	<i>Eif1</i>	Eukaryotic translation initiation factor 1 gene	91.53	96.57	0.95
ENSMUSG00000022635	<i>Zcrb1</i>	Zinc finger CCHC-type and RNA binding motif 1 gene	87.95	10.98	8.01
ENSMUSG00000024516	<i>Sec11c</i>	SEC11 homologue C (<i>S. cerevisiae</i>) gene	85.22	104.20	0.82
ENSMUSG00000036199	<i>Ndufa13</i>	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 13 gene	85.12	129.72	0.66
ENSMUSG00000027828	<i>Ssr3</i>	Signal sequence receptor, gamma gene	84.61	105.71	0.80

Ensemble gene	Gene		Relative fluorescence		
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ENSMUSG00000050071	<i>Bex1</i>	Brain expressed X-linked 2 gene	81.97	2.24	36.61
ENSMUSG00000052825	<i>AC140437.3</i>		79.65	48.58	1.64
ENSMUSG00000058672	<i>Tubb2a</i>	Tubulin, beta 2a gene	78.30	3.63	21.54
ENSMUSG00000031957	<i>Ctrb1</i>	Chymotrypsinogen B1 gene	78.06	834.65	0.09
ENSMUSG00000057069	<i>Ero11b</i>	ERO1-like beta (<i>S. cerevisiae</i>) gene	77.66	68.36	1.14
ENSMUSG00000027273	<i>Snap25</i>	Synaptosomal-associated protein 25 gene	76.73	0.33	232.96
ENSMUSG00000025428	<i>Atp5a1</i>	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, alpha subunit, isoform 1 gene	76.11	77.76	0.98
ENSMUSG00000042747	<i>Krtcap2</i>	Keratinocyte associated protein 2 gene	75.93	106.12	0.72
ENSMUSG00000020321	<i>Mdh1</i>	Malate dehydrogenase 1, NAD (soluble) gene	74.80	33.33	2.24
ENSMUSG00000058351	<i>Snhg8</i>	Small nucleolar RNA host gene (non-protein coding) 8 gene	72.88	15.64	4.66
ENSMUSG00000041697	<i>Cox6a1</i>	Cytochrome c oxidase, subunit VI a, polypeptide 1 gene	72.70	287.59	0.25
ENSMUSG00000020863	<i>3300001P08Rik</i>	RIKEN cDNA 3300001P08 gene gene	72.09	5.23	13.77
ENSMUSG00000057163	<i>Prss2</i>	Protease, serine, 2 gene	72.00	847.61	0.08
ENSMUSG00000032182	<i>Yipf2</i>	Yip1 domain family, member 2 gene	71.96	9.60	7.50
ENSMUSG00000004980	<i>Hnrmpa2b1</i>	Heterogeneous nuclear ribonucleoprotein A2/B1 gene	70.98	19.71	3.60
ENSMUSG00000023236	<i>Scg5</i>	Secretogranin V gene	70.46	5.66	12.45
ENSMUSG00000020719	<i>Ddx5</i>	DEAD (Asp-Glu-Ala-Asp) box polypeptide 5 gene	69.55	28.08	2.48
ENSMUSG00000023048	<i>Prr13</i>	Proline rich 13 gene	69.42	14.40	4.82
ENSMUSG00000031896	<i>Ctrl</i>	Chymotrypsin-like gene	68.44	1080.64	0.06
ENSMUSG00000027889	<i>Ampd2</i>	Adenosine monophosphate deaminase 2 (isoform L) gene	68.43	17.64	3.88
ENSMUSG00000066357	<i>Wdr6</i>	WD repeat domain 6 gene	66.98	7.06	9.48
ENSMUSG00000032349	<i>Elovl5</i>	ELOVL family member 5, elongation of long chain fatty acids (yeast) gene	66.42	20.06	3.31
ENSMUSG00000035048	<i>Anapc13</i>	Anaphase promoting complex subunit 13 gene	66.08	45.92	1.44
ENSMUSG00000028675	<i>Pnrc2</i>	Proline-rich nuclear receptor coactivator 2 gene	65.54	25.41	2.58
ENSMUSG00000034951	<i>Cog7</i>	Component of oligomeric golgi complex 7 gene	65.13	6.12	10.63
ENSMUSG00000024975	<i>Pdcd4</i>	Programmed cell death 4 gene	64.67	87.64	0.74
ENSMUSG00000024735	<i>Prpf19</i>	PRP19/PSO4 pre-mRNA processing factor 19 homologue (<i>S. cerevisiae</i>) gene	64.51	13.05	4.94
ENSMUSG00000030717	<i>Nupr1</i>	Nuclear protein 1 gene	64.43	326.83	0.20
ENSMUSG00000029227	<i>Fip111</i>	FIP1 like 1 (<i>S. cerevisiae</i>) gene	64.13	1.97	32.57

Ensemble gene	Gene		Relative fluorescence		
	Symbol	Description	Islets	Pancreas	Ratio (islets:pancreas)
ENSMUSG00000013593	<i>Ndufs2</i>	NADH dehydrogenase (ubiquinone) Fe-S protein 2 gene	62.27	47.18	1.32
ENSMUSG00000002265	<i>Peg3</i>	Paternally expressed 3 gene	61.90	0.38	162.01
ENSMUSG000000053332	<i>Gas5</i>	Growth arrest specific 5 gene	61.63	12.04	5.12
ENSMUSG000000021807	<i>2700060E02Rik</i>	RIKEN cDNA 2700060E02 gene gene	60.96	1.81	33.68
ENSMUSG000000000184	<i>Ccnd2</i>	Cyclin D2 gene	59.99	3.44	17.43
ENSMUSG000000031532	<i>Tmem66</i>	Transmembrane protein 66 gene	59.97	129.92	0.46
ENSMUSG000000027690	<i>Slc2a2</i>	Solute carrier family 2 (facilitated glucose transporter), member 2 gene	58.42	1.39	42.01
ENSMUSG000000029146	<i>Snx17</i>	Sorting nexin 17 gene	58.24	107.91	0.54
ENSMUSG000000028419	<i>Chmp5</i>	Chromatin modifying protein 5 gene	57.99	51.94	1.12
ENSMUSG000000004460	<i>Dnajb11</i>	DnaJ (Hsp40) homologue, subfamily B, member 11 gene	57.90	20.08	2.88
ENSMUSG000000016252	<i>Atp5e</i>	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, epsilon subunit gene	57.00	167.72	0.34
ENSMUSG000000014905	<i>Dnajb9</i>	DnaJ (Hsp40) homologue, subfamily B, member 9 gene	56.98	34.32	1.66
ENSMUSG000000068823	<i>Csde1</i>	Cold shock domain containing E1, RNA binding gene	56.60	66.14	0.86
ENSMUSG000000076432	<i>Ywhaq</i>	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, theta polypeptide gene	55.09	34.85	1.58

The fluorescence intensities from islet and pancreas samples for each of the ~10,000 transcripts expressed were normalised to the median fluorescence intensity of the respective tissue sample and used for calculation of the ratio of relative intensities (islets:pancreas) as a measure of islet-enrichment