

Appendix 1: Comparison of transcript abundance changes obtained by two methods of analysis*

Gene Symbol	Gene Name	Fold Change Method I	Gene Symbol	Gene Name	Fold Change Method II
Crybb2	Crystallin, Beta B2	19.8	Rnu73a	U73B small nuclear RNA	93.3
Cryba1	Crystallin, Beta A1	19.4	Lim2	Lens intrinsic membrane protein 2	75.7
Cryba4	Crystallin, Beta A4	18.3	Wnt7a	Wingless-related MMTV integration site 7A	47.9
Crygs	Crystallin, Gamma S	18.2	Pitx3	Paired-like homeodomain transcription factor 3	40.1
Cryaa	Crystallin, Alpha A	17.9	Tmem40	Transmembrane protein 40	38
Lim2	Lens intrinsic membrane protein 2	17.6	Mip	Major intrinsic protein of eye lens fiber	36
Mip	Major intrinsic protein of lens fiber	16.7	Wnt7b	Wingless-related MMTV integration site 7B	26.1
Cryba2	Crystallin, Beta A2	16.4	Gja3	Gap junction protein, alpha 3	23.8
Crybb1	Crystallin, Beta B1	15.1	Grifin	Galectin-related inter-fiber protein	23.7
Bfsp2	Beaded filament structural protein 2	10.7	Cryba4	Crystallin, beta A4	23.1
Lgsn	Lengsin, lens protein with gln. Synth. domain	10.1	Bfsp2	Beaded filament structural protein 2, phakinin	21
Grifin	Galectin-related inter-fiber protein	9.8	Crybb2	Crystallin, beta B2	20.3
Crybb3 iso1	Crystallin, Beta B3	9.2	Crybb1	Crystallin, beta B1	20.2
Crybb3 iso2	Crystallin, Beta B3	8.9	Crygs	Crystallin, gamma S	20
Dct	Dopachrome tautomerase	7.2	Cryba1	Crystallin, beta A1	19.8
Cd24a	CD24a antigen	6.7	Cryaa	Crystallin, alpha A	18.9
Bfsp1	Beaded filament structural protein 1	6.6	Cryba2	Crystallin, beta A2	18.5
LctI	Lactase-like	6.6	Tyr	Tyrosinase	18.5
Cryab	Crystallin, alpha B	6.6	Crybb3	Crystallin, beta B3	16.3
S100a4	S100 calcium binding protein A4	4.9	LctI	Lactase-like	14.5
Ttr	Transthyretin	4.8	Cd24a	CD24a antigen	10.7
Mlana	Melan-A	4.8	Mlana	Melan-A	10.7
Gja3	Gap junction protein, alpha 3	4.6	Dct	Similar to Dopachrome tautomerase	9.8
Crygb	Crystallin, gamma B	4.5	Krt5	Keratin 5	9.2
Rgr	Retinal G protein coupled receptor	4.2	Sfrp1	Secreted frizzled-related protein 1	7.8
Crygd	Crystallin, gamma D	3.9	Lrat	Lecithin-retinol acyltransferase	6.8
Pmel	Premelanosome protein	3.9	S100a4	S100 calcium binding protein A4	6.4
Sfrp1	Secreted frizzled-related protein 1	3.9	Ttr	Transthyretin	6.4
Egr1	Early growth response 1	3.6	Mlph	Melanophilin	6.3
Tyrp1	Tyrosinase-related protein 1	3.3	Rgr	Retinal G protein coupled receptor	5.7
Aldh3a1	Aldehyde dehydrogenase family 3, A1	3.3	Tgm1	Transglutaminase 1, K polypeptide	5.6
Fabp5	Fatty acid binding protein 5, epidermal	3.2	Rpe65	Retinal pigment epithelium 65	5.5
Lenep	Lens epithelial protein	3.2	Emp1	Epithelial membrane protein 1	5.3
Gpnmb	Glycoprotein (transmembrane) nmb	3.2	Srd5a2	Steroid 5 alpha-reductase 2	5.2
Gja8	Gap junction protein, alpha 8	3.2	Slc6a20a	Solute carrier family 6, transporter 20A	5.2
Serpina3n	Serine peptidase inhibitor, clade A, 3N	3.1	Fam46c	Family with sequence similarity 46, member C	5
Wnt7b	Wingless-related MMTV integration site 7B	2.9	D21Rik	Uncharacterized RIKEN cDNA	4.8
Nid1	Nidogen 1	2.8	Tyrp1	Tyrosinase-related protein 1	4.8
Gpx3 iso1	Glutathione peroxidase 3	2.8	Tmem27	Transmembrane protein 27	4.7
Gpx3 iso2	Glutathione peroxidase 3	2.7	Islr	Immunoglobulin superfamily, leucine-rich repeat	4.7
S100a6	S100 calcium binding protein A6 (calcyclin)	2.6	Col8a2	Collagen, type VIII, alpha 2	4.6
Gja1	Gap junction protein, alpha 1	2.6	Serpina3n	Serine peptidase inhibitor, clade A, 3N	4.3
Cox6b2	Cytochrome c oxidase subunit VIb2	2.6	Oca2	Oculocutaneous albinism II	4.1
Tmem40	Transmembrane protein 40	2.6	Egr1	Early growth response 1	4
Rpe65	Retinal pigment epithelium 65	2.6	Slc16a8	Solute carrier family 16 member 8	3.9
Ptgds	Prostaglandin D2 synthase (brain)	2.6	Mfrp	Membrane-type frizzled-related protein	3.9
Dapl1	Death associated protein-like 1	2.6	C1qtnf5	C1q and tumor necrosis factor related protein 5	3.9
Aqp5	Aquaporin 5	2.6	Rdh5	Retinol dehydrogenase 5	3.9
Tmem40	Transmembrane protein 40	2.4	Pdlim1	PDZ and LIM domain 1 (elfin)	3.7
Crygc	Crystallin, Gamma C	2.4	Trim16	Tripartite motif-containing 16	3.7

Table 2 Cont.					
Gene Symbol	Gene Name	Fold Change Method I	Gene Symbol	Gene Name	Fold Change Method II
Acta2	Actin, alpha 2	2.3	Lenep	Lens epithelial protein	3.6
Igfbp7	Insulin-like growth factor binding protein 7	2.3	S100a6	S100 calcium binding protein A6 (calcylin)	3.6
Lyz2	Lysozyme 2	2.3	Cd44	CD44 antigen	3.6
Vit	Vitrin	2.3	Gpd1	Glycerol-3-phosphate dehydrogenase 1 (soluble)	3.5
Tmem27	Transmembrane protein 27	2.2	Cbr2	Carbonyl reductase 2	3.4
Gsn	Gelsolin	2.2	Nanos2	Nanos homolog 2	3.4
C1qtnf5	C1q and TNF related protein 5	2.2	Gpnmb	Glycoprotein (transmembrane) nmb	3.4
Mfrp	Membrane-type frizzled-related protein	2.2	Gsta3	Glutathione S-transferase, alpha 3	3.4
Igfbp7	Insulin-like growth factor binding protein 7	2.1	Ugt1a5	UDP glucuronosyltransferase 1 family A5	3.3
Ucp2	Uncoupling protein 2 (mitochondrial)	2.1	Ugt1a10	UDP glucuronosyltransferase 1 family, A10	3.3
Rspo1	R-spondin homolog	2.1	Ugt1a1	UDP glucuronosyltransferase 1 family, A1	3.3
Crygc	Crystallin, gamma C	2.1	Ugt1a9	UDP glucuronosyltransferase 1 family, A9	3.3
Wnt7a	Wingless-related MMTV integration site 7A	2.1	Ugt1a2	UDP glucuronosyltransferase 1 family, A2	3.3
Trpm1	Transient receptor potential channel, M1	2.1	Bmper	BMP-binding endothelial regulator	3.3
Npff	Neuropeptide FF-amide peptide precursor	2.1	Ugt1a7c	UDP glucuronosyltransferase 1 family, A7C	3.3
Krt15	Keratin 15	2.1	Ugt1a6a	UDP glucuronosyltransferase 1 family, A6A	3.2
Selenbp1	Selenium binding protein 1	2.1	1700093K21Rik	RIKEN cDNA 1700093K21 gene	3.2
Tspan10	Tetraspanin 10	2	1110017D15Rik	RIKEN cDNA 1110017D15 gene	3.1
Mgst1	Microsomal glutathione S-transferase 1	2	Ugt1a6b	UDP glucuronosyltransferase 1 family, A6B	3.1
Tmem176a	Transmembrane protein 176A	2	Cox8b	Cytochrome c oxidase, subunit VIIIb	3.1
Papss2	Phosphoadenosine 5'-phosphosulfate synth 2	2	Acta2	Actin, alpha 2, smooth muscle, aorta	3.1
Mlph	Melanophilin	2	Pla2g2f	Phospholipase A2, group IIF	3
Gsta3	Glutathione S-transferase, alpha 3	2	Ahnak	AHNAK nucleoprotein (desmoyokin)	3
Gsto1	Glutathione S-transferase omega 1	2	Lix1	limb expression 1 homolog	2.9
Perp	PERP, TP53 apoptosis effector	2	Adams4	A disintegrin-like and metallopeptidase	2.8
Srd5a2	Steroid 5 alpha-reductase 2	2	Ela1	Elastase 1, pancreatic	2.7
Psc	Prostate stem cell antigen	2	Angptl4	Angiopoietin-like 4	2.7
C1qtnf5	C1q and TNF related protein 5	2	Galr2	Galanin receptor 2	2.6
Mfrp	membrane-type frizzled-related protein	2	Dock5	Dedicator of cytokinesis 5	2.6
Lgals1	Lectin, galactose binding, soluble 1	1.9	Scel	Sciellin	2.6
Islr	Immunoglobulin superfamily, leucine-rich	1.9	Ppfbp2	Protein phosphatase F interacting prot, bindi-prot 2	2.6
Penk	Preproenkephalin	1.9	Pld5	Phospholipase D family, member 5	2.6
Oca2	Oculocutaneous albinism II	1.9	Thbs1	Thrombospondin 1; similar to thrombospondin 1	2.5
Aldh3a1	Aldehyde dehydrogenase family 3, A1	1.9	Selenbp1	Selenium binding protein 1; hypothetical prot	2.5
Ak1	Adenylate kinase 1	1.9	Ucp2	Uncoupling protein 2 (mitochondrial, proton carrier)	2.5
Cox8b	Cytochrome c oxidase, subunit VIIIb	1.9	Spsb1	splA/ryanodine receptor domain containing 1	2.3
Fam46c	Family with sequence similarity 46, member C	1.9	Anxa3	Annexin A3	2.3
Asprv1	Aspartic peptidase, retroviral-like 1	1.9	Itga6	Integrin alpha 6	2.3
Ogn	Osteoglycin	1.9	Dact1	Dapper homolog 1, antagonist of beta-catenin (xenopus)	2.3
Lgals3	Lectin, galactose binding, soluble 3	1.9	Pmp2	Peripheral myelin protein 2	2.3
Mboat1	Membrane bound O-acyltransferase domain 1	1.9	Arc	Activity regulated cytoskeletal-associated protein	2.3
Tmem40	Transmembrane protein 40	1.9	Papss2	3'-phosphoadenosine 5'-phosphosulfate synthase 2	2.3
Mt2	Metallothionein 2	1.9	Igfbp3	Insulin-like growth factor binding protein 3	2.3
Eef1d	eukaryotic trans elongation factor 1 delta	1.8	Stra6	Stimulated by retinoic acid gene 6 homolog	2.2
Wls	G protein-coupled receptor 177	1.8	EG432987	Gm5478 predicted pseudogene 5478	2.2
Lix1	Limb expression 1 homolog	1.8	Fblim1	Filamin binding LIM protein 1	2.2

*Method I (BWA-ANOVA) and method II (ELAND-SAM) have been described in the methods' section. Fold changes are calculated as a ratio of transcripts in diabetic animals and nondiabetic controls.