

Online Supporting Material

Supplemental Table 3: Genes significantly up-regulated in PrEC cells treated with ZnDF versus ZnAD media for 7 d.

Ratio ¹	Gene Identifier	Gene Name	LocusLink	Gene ID
2	BC002327	KIAA0699 protein	-	-
2	NM_000937	Polymerase (RNA) II (DNA directed) polypeptide A, 220kDa	5430	POLR2A
2.01	NM_002610	Pyruvate dehydrogenase kinase, isozyme 1	5163	PDK1
2.01	U18945	Cyclic nucleotide gated channel beta 1	1258	CNGB1
2.01	U63542	SCC-112 protein	23244	SCC-112
2.03	NM_000962	Prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)	5742	PTGS1
2.03	AI813758	Collagen, type III, alpha 1 (Ehlers-Danlos syndrome type IV, autosomal dominant)	1281	COL3A1
2.04	NM_000774	Cytochrome P450, family 2, subfamily F, polypeptide 1	1572	CYP2F1
2.05	NM_013445	Glutamate decarboxylase 1 (brain, 67kDa)	2571	GAD1
2.07	NM_012198	Grancalcin, EF-hand calcium binding protein	25801	GCA
2.07	NM_002991	Chemokine (C-C motif) ligand 24	6369	CCL24
2.09	AA988241	RAB3A, member RAS oncogene family	5864	RAB3A
2.09	BF983406	Heterogeneous nuclear ribonucleoprotein H1 (H)	3187	HNRPH1
2.1	AK024677	N-acylsphingosine amidohydrolase (acid ceramidase)-like	27163	ASAHL
2.11	AF073745	Phosphodiesterase 4A, cAMP-specific (phosphodiesterase E2 dunce homolog, Drosophila)	5141	PDE4A
2.15	X72475	Immunoglobulin kappa constant	3514	IGKC
2.15	AA215854	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)	3688	ITGB1
2.17	X16866	Cytochrome P450, family 2, subfamily D, polypeptide 6	1565	CYP2D6
2.18	U85978	Human chloride channel protein (p64) pseudogene, partial cds.	-	-
2.18	AF031137	Natural cytotoxicity triggering receptor 3	259197	NCR3
2.18	AF231056	AT rich interactive domain 1A (SWI-like)	8289	ARID1A
2.18	NM_017707	Development and differentiation enhancing factor-like 1	55616	DDEFL1
2.2	BE890314	601431767F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3916816 5, mRNA sequence.	-	-
2.21	AW237172	Jumonji domain containing 2B	23030	JMJD2B
2.21	NM_012182	Forkhead box B1	27023	FOXB1
2.23	AJ275374	in-frame rearrangement, stop codon in junction; Homo sapiens partial IGVH3 gene for immunoglobulin heavy chain V region, case 1, clone 19.	-	-
2.23	NM_025102	Hypothetical protein FLJ21497	-	-
2.24	AF047338	Solute carrier family 12 (potassium/chloride transporters), member 4	6560	SLC12A4
2.24	AA126789	Centrosomal protein 170kDa	9859	CEP170
2.24	NM_002290	Laminin, alpha 4	3910	LAMA4

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2.25	AF038194	Cell division cycle 73, Paf1/RNA polymerase II complex component, homolog (<i>S. cerevisiae</i>)	79577	CDC73
2.26	AF043244	Nucleolar protein 3 (apoptosis repressor with CARD domain)	8996	NOL3
2.26	U80737	Nuclear receptor coactivator 3	-	-
2.3	NM_003541	Histone cluster 1, H4i	8294	HIST1H4I
2.32	NM_003441	Zinc finger protein 141	7700	ZNF141
2.32	NM_019093	UDP glucuronosyltransferase 1 family, polypeptide A1	54658	UGT1A1
2.33	NM_000782	Cytochrome P450, family 24, subfamily A, polypeptide 1	1591	CYP24A1
2.34	U00956	SEE ALSO	-	-
2.34	NM_017414	Ubiquitin specific peptidase 18	11274	USP18
2.37	NM_002135	Nuclear receptor subfamily 4, group A, member 1	3164	NR4A1
2.4	NM_018644	Beta-1,3-glucuronyltransferase 1 (glucuronosyltransferase P)	27087	B3GAT1
2.42	J03208	Dihydrolipoamide branched chain transacylase E2	1629	DBT
2.43	AU158818	Transcribed locus	-	-
2.48	AI343459	Cell division cycle 25 homolog A (<i>S. cerevisiae</i>)	993	CDC25A
2.48	U28936	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide	7531	YWHAE
2.48	AK024258	HBS1-like (<i>S. cerevisiae</i>)	10767	HBS1L
2.5	NM_000466	Peroxisome biogenesis factor 1	5189	PEX1
2.51	M76477	GM2 ganglioside activator	2760	GM2A
2.52	U94364	Glycogenin 2	8908	GYG2
2.59	NM_004951	Epstein-Barr virus induced gene 2 (lymphocyte-specific G protein-coupled receptor)	1880	EBI2
2.61	NM_024687	Hypothetical protein FLJ23049	79740	FLJ23049
2.63	NM_018586	Hypothetical protein PRO1584	-	-
2.63	BE675435	Kruppel-like factor 6	1316	KLF6
2.64	NM_000672	Alcohol dehydrogenase 6 (class V)	130	ADH6
2.67	NM_003335	Ubiquitin-activating enzyme E1-like	7318	UBE1L
2.7	AF034102	Solute carrier family 29 (nucleoside transporters), member 2	3177	SLC29A2
2.7	NM_002919	Regulatory factor X, 3 (influences HLA class II expression)	5991	RFX3
2.74	NM_001609	Acyl-Coenzyme A dehydrogenase, short/branched chain	36	ACADSB
2.74	AF072814	Metal response element binding transcription factor 2	22823	MTF2
2.76	AF226990	HLA-G histocompatibility antigen, class I, G	3135	HLA-G
2.81	AB007923	Phosphodiesterase 4D interacting protein (myomegalin)	9659	PDE4DIP
2.83	AL049987	Small EDRK-rich factor 1A (telomeric)	8293	SERF1A
2.83	AL078636	MRNA full length insert cDNA clone EUROIMAGE 117929	-	-
2.85	NM_021651	PRO0457 protein	-	-
2.85	NM_018510	Hypothetical protein PRO1866	-	-
2.85	NM_001990	Eyes absent homolog 3 (<i>Drosophila</i>)	2140	EYA3
2.87	AA707199	Neurotrophic tyrosine kinase, receptor, type 2	4915	NTRK2
2.91	NM_022578	chorionic somatomammotropin hormone-like 1	1444	-

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2.93	U84569	Chromosome 21 open reading frame 2	755	C21orf2
2.95	AL096842	Mitochondrial tumor suppressor 1	57509	MTUS1
2.96	AI923972	Tetratricopeptide repeat domain 22	55001	TTC22
2.96	AV686235	Mannan-binding lectin serine peptidase 1 (C4/C2 activating component of Ra-reactive factor)	5648	MASP1
2.97	NM_001407	Cadherin, EGF LAG seven-pass G-type receptor 3 (flamingo homolog, Drosophila)	1951	CELSR3
3.02	NM_002149	Hippocalcin-like 1	3241	HPCAL1
3.07	NM_017975	Zwilch, kinetochore associated, homolog (Drosophila)	55055	ZWILCH
3.09	NM_003153	Signal transducer and activator of transcription 6, interleukin-4 induced	6778	STAT6
3.1	NM_017986	G protein-coupled receptor 172B	55065	GPR172B
3.18	AA845710	Breakpoint cluster region	613	BCR
3.25	NM_000872	5-hydroxytryptamine (serotonin) receptor 7 (adenylate cyclase-coupled)	3363	HTR7
3.27	AB002361	KIAA0363 protein	23148	KIAA0363
3.39	AI193899	SMAD family member 6	4091	SMAD6
3.4	AW170602	Regulator of G-protein signalling 12	6002	RGS12
3.41	AB033088	Spectrin repeat containing, nuclear envelope 1	23345	SYNE1
3.44	NM_002725	Proline/arginine-rich end leucine-rich repeat protein	5549	PRELP
3.46	L08599	Cadherin 1, type 1, E-cadherin (epithelial)	999	CDH1
3.46	NM_017643	Mbt domain containing 1	54799	MBTD1
3.49	NM_014289	Calpain 6	827	CAPN6
3.5	NM_007198	Proline synthetase co-transcribed homolog (bacterial)	11212	PROSC
3.51	L37033	FK506 binding protein 8, 38kDa	23770	-
3.52	NM_005417	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)	6714	SRC
3.52	H49382	Hypothetical gene supported by BC041875; BX648984	400642	LOC400642
3.62	AA457021	BCL2-associated athanogene 5	9529	BAG5
3.65	NM_024803	Tubulin, alpha-like 3	79861	TUBAL3
3.65	BE901081	601674431F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3957319 5, mRNA sequence.	-	-
3.67	AA731709	Olfactory receptor, family 2, subfamily A, member 9 pseudogene	441295	OR2A9P
3.68	U02569	Adrenergic, alpha-1A-, receptor	148	ADRA1A
3.69	AF090895	CDK5 regulatory subunit associated protein 1-like 1	54901	CDKAL1
3.72	X55503	metallothionein (MT)-like gene; H.sapiens pseudogene for metallothionein and AG/CT repetitive element.	-	-
3.72	AA218868	zr01g01.s1 Stratagene NT2 neuronal precursor 937230 Homo sapiens cDNA clone IMAGE:650256 3, mRNA sequence.	-	-
3.74	NM_000618	Insulin-like growth factor 1 (somatomedin C)	3479	IGF1
3.8	U58331	Sarcoglycan, delta (35kDa dystrophin-associated glycoprotein)	6444	SGCD
3.81	NM_018048	Mago-nashi homolog 2	55110	FLJ10292
3.83	AB028239	Homo sapiens pseudogene for necdin.	-	-
3.84	NM_001240	Cyclin T1	904	CCNT1

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3.84	NM_000850	Glutathione S-transferase M4	2948	GSTM4
3.84	U97145	GDNF family receptor alpha 2	2675	GFRA2
3.86	NM_003669	inactivation escape 1	8552	-
3.86	AF130071	SEE ALSO	-	-
3.94	AK001118	Ubiquitin protein ligase E3 component n-recognin 2	23304	UBR2
4.1	NM_024884	L-2-hydroxyglutarate dehydrogenase	79944	L2HGDH
4.18	AF070670	Protein phosphatase 1A (formerly 2C), magnesium-dependent, alpha isoform	5494	PPM1A
4.27	AA243659	Family with sequence similarity 49, member A	81553	FAM49A
4.28	AF022048	Killer cell immunoglobulin-like receptor, three domains, long cytoplasmic tail, 1	3811	KIR3DL1
4.36	NM_003969	Ubiquitin-conjugating enzyme E2M (UBC12 homolog, yeast)	9040	UBE2M
4.41	AJ243936	Ring finger protein 5	6048	RNF5
4.46	NM_025120	Hypothetical protein FLJ13480	-	-
4.47	X96666	Y box binding protein 1	4904	-
4.55	NM_016134	Plasma glutamate carboxypeptidase	10404	PGCP
4.56	AL049988	Inositol 1,4,5-triphosphate receptor, type 2	3709	ITPR2
4.59	NM_005692	ATP-binding cassette, sub-family F (GCN20), member 2	10061	ABCF2
4.64	AU147166	Phosphoinositide-3-kinase, catalytic, alpha polypeptide	5290	PIK3CA
4.66	AC002550		-	-
4.74	BE552409	FXDY domain containing ion transport regulator 5	53827	FXDY5
4.75	NM_022136	SAM domain, SH3 domain and nuclear localization signals 1	64092	SAMSN1
4.83	K03199	Tumor protein p53 (Li-Fraumeni syndrome)	7157	TP53
4.98	NM_017848	Family with sequence similarity 120C	54954	FAM120C
5.03	BF574664	Superkiller viralicidic activity 2-like 2 (<i>S. cerevisiae</i>)	23517	SKIV2L2
5.03	AI979087	Tetraspanin 4	7106	TSPAN4
5.08	NM_005930	CTAGE family, member 5	4253	CTAGE5
5.12	NM_015978	TNNI3 interacting kinase	51086	TNNI3K
5.23	AW589975	Sin3A-associated protein, 30kDa	8819	SAP30
5.32	NM_000780	Cytochrome P450, family 7, subfamily A, polypeptide 1	1581	CYP7A1
6.26	AI825798	Rap2-binding protein 9	154661	RPIB9
6.34	NM_001829	Chloride channel 3	1182	CLCN3
6.44	NM_022444	Solute carrier family 13 (sodium/sulfate symporters), member 1	6561	SLC13A1
6.78	U79301	Hypothetical protein LOC728759	728759	LOC728759
7.35	X79990	Runt-related transcription factor 1; translocated to, 1 (cyclin D-related)	862	RUNX1T1
8.02	AF196478	Annexin A10	11199	ANXA10
9.92	NM_005966	NGFI-A binding protein 1 (EGR1 binding protein 1)	4664	NAB1
11.95	NM_017774	CDK5 regulatory subunit associated protein 1-like 1	54901	CDKAL1

¹. Ratio calculated as zinc deficient/zinc adequate.