

Supplemental Table 1: List of genes in the PI3K/Akt pathway array and their differential expression represented as the relative fold change in Cd exposed (Cd-RWPE1; Cd-PWR1E) compared to parental normal (RWPE1; PWR1E) cells.

Position	Unigene	Refseq	Symbol	Description	Fold Change: Cd-RWPE1 vs RWPE1 cells	Fold Change: Cd-PWR1E vs PWR1E cells
A01	Hs.12341	NM_0011	ADAR	Adenosine deaminase, RNA-specific	1.0109	4.19
A02	Hs.52562	NM_0051	AKT1	V-akt murine thymoma viral oncogene homolog 1	0.9359	1.78
A03	Hs.63153	NM_0016	AKT2	V-akt murine thymoma viral oncogene homolog 2	0.9556	1.37
A04	Hs.49829	NM_0054	AKT3	V-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)	2.266	1.12
A05	Hs.15893	NM_0000	APC	Adenomatous polyposis coli	0.8491	2.48
A06	Hs.37025	NM_0043	BAD	BCL2-associated agonist of cell death	1.2341	3.17
A07	Hs.15949	NM_0000	BTK	Bruton agammaglobulinemia tyrosine kinase	1.4062	1.01
A08	Hs.32950	NM_0012	CASP9	Caspase 9, apoptosis-related cysteine peptidase	1.1412	5.24
A09	Hs.52385	NM_0530	CCND1	Cyclin D1	1.7508	1.25
A10	Hs.16386	NM_0005	CD14	CD14 molecule	1.0109	1.01
A11	Hs.46763	NM_0017	CDC42	Cell division cycle 42 (GTP binding protein, 25kDa)	1.1817	2.87
A12	Hs.23899	NM_0040	CDKN1B	Cyclin-dependent kinase inhibitor 1B (p27, Kip1)	4.7557	1.01
B01	Hs.19899	NM_0012	CHUK	Conserved helix-loop-helix ubiquitous kinase	0.9051	1.73
B02	Hs.64405	NM_0018	CSNK2A1	Casein kinase 2, alpha 1 polypeptide	1.1579	2.29
B03	Hs.71292	NM_0019	CTNNB1	Catenin (cadherin-associated protein), beta 1, 88kDa	1.8256	1.01
B04	Hs.13143	NM_0027	EIF2AK2	Eukaryotic translation initiation factor 2-alpha kinase 2	0.7406	1.3
B05	Hs.64839	NM_0014	EIF4B	Eukaryotic translation initiation factor 4B	1.0327	2.55
B06	Hs.24971	NM_0019	EIF4E	Eukaryotic translation initiation factor 4E	1.4207	1.31
B07	Hs.41164	NM_0040	EIF4EBP1	Eukaryotic translation initiation factor 4E binding protein 1	1.3973	1.01
B08	Hs.43375	NM_1829	EIF4G1	Eukaryotic translation initiation factor 4 gamma, 1	0.7093	2.2
B09	Hs.18112	NM_0052	ELK1	ELK1, member of ETS oncogene family	4.5356	1.01
B10	Hs.2007	NM_0008	FASLG	Fas ligand (TNF superfamily, member 6)	3.2919	1.01
B11	Hs.47193	NM_0008	FKBP1A	FK506 binding protein 1A, 12kDa	1.4954	2.36
B12	Hs.25647	NM_0052	FOS	FBJ murine osteosarcoma viral oncogene homolog	0.9177	13.78
C01	Hs.37066	NM_0020	FOXO1	Forkhead box O1	0.9639	1.01
C02	Hs.22095	NM_0014	FOXO3	Forkhead box O3	1.2368	1.57
C03	Hs.70069	NM_0001	GJA1	Gap junction protein, alpha 1, 43kDa	0.7833	1.01
C04	Hs.16406	NM_0053	GRB10	Growth factor receptor-bound protein 10	0.4302	1.01
C05	Hs.44435	NM_0020	GRB2	Growth factor receptor-bound protein 2	0.3628	3.08
C06	Hs.44573	NM_0020	GSK3B	Glycogen synthase kinase 3 beta	1.1175	2.23
C07	Hs.37003	NM_0053	HRAS	V-Ha-ras Harvey rat sarcoma viral oncogene homolog	0.8712	1.94
C08	Hs.52097	NM_0015	HSPB1	Heat shock 27kDa protein 1	1.2214	8.78
C09	Hs.16056	NM_0008	IGF1	Insulin-like growth factor 1 (somatomedin C)	0.0853	1.01
C10	Hs.64312	NM_0008	IGF1R	Insulin-like growth factor 1 receptor	0.9246	1.57
C11	Hs.70635	NM_0045	ILK	Integrin-linked kinase	0.8761	0.6
C12	Hs.52281	NM_0015	IRAK1	Interleukin-1 receptor-associated kinase 1	0.8421	1.01
D01	Hs.47150	NM_0055	IRS1	Insulin receptor substrate 1	0.3588	1.01
D02	Hs.64381	NM_0022	ITGB1	Integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 include	1.2313	5.13
D03	Hs.69668	NM_0022	JUN	Jun proto-oncogene	1.2054	1.01
D04	Hs.14544	NM_0027	MAP2K1	Mitogen-activated protein kinase kinase 1	0.7761	1.28
D05	Hs.43185	NM_0027	MAPK1	Mitogen-activated protein kinase 1	1.1425	1.25
D06	Hs.48523	NM_0013	MAPK14	Mitogen-activated protein kinase 14	1.2239	6.41
D07	Hs.861	NM_0027	MAPK3	Mitogen-activated protein kinase 3	1.1808	4.6
D08	Hs.13821	NM_0027	MAPK8	Mitogen-activated protein kinase 8	1.2811	1.12
D09	Hs.6917	NM_0010	MTCP1	Mature T-cell proliferation 1	0.7074	1.01
D10	Hs.33820	NM_0049	MTOR	Mechanistic target of rapamycin (serine/threonine kinase)	1.424	1.01
D11	Hs.82116	NM_0024	MYD88	Myeloid differentiation primary response gene (88)	2.0934	16.82
D12	Hs.61843	NM_0039	NFKB1	Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1	2.1939	0.88
E01	Hs.81328	NM_0205	NFKBIA	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, a	3.257	1.01
E02	Hs.38780	NM_0025	PABPC1	Poly(A) binding protein, cytoplasmic 1	1.9846	1.81
E03	Hs.43571	NM_0025	PAK1	P21 protein (Cdc42/Rac)-activated kinase 1	0.9724	1.9
E04	Hs.74615	NM_0062	PDGFRA	Platelet-derived growth factor receptor, alpha polypeptide	4.1014	1.01
E05	Hs.47063	NM_0026	PKD1	Pyruvate dehydrogenase kinase, isozyme 1	1.2291	0.1
E06	Hs.25666	NM_0026	PKD2	Pyruvate dehydrogenase kinase, isozyme 2	1.1142	1.12
E07	Hs.45969	NM_0026	PDPK1	3-phosphoinositide dependent protein kinase-1	2.1163	0.87
E08	Hs.55349	NM_0062	PIK3CA	Phosphoinositide-3-kinase, catalytic, alpha polypeptide	1.9686	1.94
E09	Hs.32942	NM_0026	PIK3CG	Phosphoinositide-3-kinase, catalytic, gamma polypeptide	1.0109	1.01
E10	Hs.13222	NM_1815	PIK3R1	Phosphoinositide-3-kinase, regulatory subunit 1 (alpha)	0.4259	1.13
E11	Hs.37134	NM_0050	PIK3R2	Phosphoinositide-3-kinase, regulatory subunit 2 (beta)	0.4714	1.01
E12	Hs.53170	NM_0027	PRKCA	Protein kinase C, alpha	0.8681	0.35
F01	Hs.46035	NM_0027	PRKCB	Protein kinase C, beta	1.4687	1.01
F02	Hs.49625	NM_0027	PRKCZ	Protein kinase C, zeta	1.1688	0.5
F03	Hs.72945	NM_0003	PTEN	Phosphatase and tensin homolog	1.5953	3.45
F04	Hs.39548	NM_0056	PTK2	PTK2 protein tyrosine kinase 2	1.2349	1.01
F05	Hs.50685	NM_0028	PTPN11	Protein tyrosine phosphatase, non-receptor type 11	0.8844	1.65
F06	Hs.41381	NM_0069	RAC1	Ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding pr	2.3357	2.6
F07	Hs.15913	NM_0028	RAF1	V-raf-1 murine leukemia viral oncogene homolog 1	1.1696	2.69
F08	Hs.66408	NM_0028	RASA1	RAS p21 protein activator (GTPase activating protein) 1	1.0444	1.07
F09	Hs.51360	NM_0056	RBL2	Retinoblastoma-like 2 (p130)	1.2532	3.25
F10	Hs.28352	NM_0056	RHEB	Ras homolog enriched in brain	1.1492	2.09
F11	Hs.24707	NM_0016	RHOA	Ras homolog gene family, member A	1.7431	3.54
F12	Hs.14995	NM_0029	RPS6KA1	Ribosomal protein S6 kinase, 90kDa, polypeptide 1	1.9326	1.08
G01	Hs.46364	NM_0031	RPS6KB1	Ribosomal protein S6 kinase, 70kDa, polypeptide 1	1.5061	0.9
G02	Hs.43379	NM_0030	SHC1	SHC (Src homology 2 domain containing) transforming protein 1	0.6251	1.11
G03	Hs.70989	NM_0056	SOS1	Son of sevenless homolog 1 (Drosophila)	0.9167	1.72
G04	Hs.52014	NM_0031	SRF	Serum response factor (c-fos serum response element-binding transcription	0.651	1.73
G05	Hs.2484	NM_0219	TCL1A	T-cell leukemia/lymphoma 1A	2.2175	1.01
G06	Hs.53712	NM_0010	TIRAP	Toll-interleukin 1 receptor (TIR) domain containing adaptor protein	0.2199	1.01
G07	Hs.17431	NM_1385	TLR4	Toll-like receptor 4	7.3045	1.01
G08	Hs.36852	NM_0190	TOLLIP	Toll interacting protein	2.0628	1.01
G09	Hs.37085	NM_0003	TSC1	Tuberous sclerosis 1	1.1012	1.48
G10	Hs.90303	NM_0005	TSC2	Tuberous sclerosis 2	1.3375	1.01
G11	Hs.14372	NM_0039	WASL	Wiskott-Aldrich syndrome-like	0.748	1.01
G12	Hs.22675	NM_0034	YWHAH	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein,	0.7568	1.57
H01	Hs.52064	NM_0011	ACTB	Actin, beta		
H02	Hs.53425	NM_0040	B2M	Beta-2-microglobulin		
H03	Hs.59235	NM_0020	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase		
H04	Hs.41270	NM_0001	HPRT1	Hypoxanthine phosphoribosyltransferase 1		
H05	Hs.54628	NM_0010	RPLP0	Ribosomal protein, large, P0		
H06	N/A	SA_0010	HGDC	Human Genomic DNA Contamination		
H07	N/A	SA_0010	RTC	Reverse Transcription Control		
H08	N/A	SA_0010	RTC	Reverse Transcription Control		
H09	N/A	SA_0010	RTC	Reverse Transcription Control		
H10	N/A	SA_0010	PPC	Positive PCR Control		
H11	N/A	SA_0010	PPC	Positive PCR Control		
H12	N/A	SA_0010	PPC	Positive PCR Control		