

SUPPLEMENTARY INFORMATION

Supplementary Table Correlations between mRNA expression levels of *ADCY9* and 84 cancer-related genes

Genes	Official full names	Correlation coefficients	P-values
<i>ABL1</i>	ABL proto-oncogene 1, non-receptor tyrosine kinase	0.3297	0.2713
<i>AKT1</i>	AKT serine/threonine kinase 1	0.4615	0.1124
<i>APC</i>	APC regulator of WNT signaling pathway	0.4066	0.168
<i>ATM</i>	ATM serine/threonine kinase	0.2033	0.5053
<i>BAX</i>	BCL2 associated X, apoptosis regulator	0.6593	0.0142
<i>BCL2</i>	BCL2 apoptosis regulator	0.5495	0.0518
<i>BCL2L1</i>	BCL2 like 1	-0.2363	0.4371
<i>BCR</i>	BCR activator of RhoGEF and GTPase	0.2692	0.3737
<i>BRCA1</i>	BRCA1 DNA repair associated	0.4451	0.1275
<i>BRCA2</i>	BRCA2 DNA repair associated	0.6538	0.0153
<i>CASP8</i>	caspase 8	0.0934	0.7615
<i>CCND1</i>	cyclin D1	0.4011	0.1744
<i>CDH1</i>	cadherin 1	0.0989	0.7479
<i>CDK4</i>	cyclin dependent kinase 4	0.5495	0.0518
<i>CDKN1A</i>	cyclin dependent kinase inhibitor 1A	0.6868	0.0095
<i>CDKN2A</i>	cyclin dependent kinase inhibitor 2A	-0.1758	0.5656
<i>CDKN2B</i>	cyclin dependent kinase inhibitor 2B	0.3631	0.2226
<i>CDKN3</i>	cyclin dependent kinase inhibitor 3	0.5165	0.0707
<i>CTNNB1</i>	catenin beta 1	0.1703	0.578
<i>E2F1</i>	E2F transcription factor 1	0.1099	0.7208
<i>EGF</i>	epidermal growth factor	-0.2802	0.3538
<i>ELK1</i>	ETS transcription factor ELK1	0.0659	0.8305
<i>ERBB2</i>	erb-b2 receptor tyrosine kinase 2	-0.2418	0.4262
<i>ESR1</i>	estrogen receptor 1	0.2308	0.4481
<i>ETS1</i>	ETS proto-oncogene 1, transcription factor	-0.0055	0.9858
<i>FHIT</i>	fragile histidine triad diadenosine triphosphatase	-0.1484	0.6286
<i>FOS</i>	Fos proto-oncogene, AP-1 transcription factor subunit	0.0769	0.8028
<i>FOXD3</i>	forkhead box D3	-0.0934	0.7615
<i>HGF</i>	hepatocyte growth factor	-0.4088	0.1654
<i>HIC1</i>	HIC ZBTB transcriptional repressor 1	0.0604	0.8445
<i>HRAS</i>	HRas proto-oncogene, GTPase	0.3846	0.1944
<i>IGF2R</i>	insulin like growth factor 2 receptor	0.1923	0.5291
<i>JAK2</i>	Janus kinase 2	0.4011	0.1744
<i>JUN</i>	Jun proto-oncogene, AP-1 transcription factor subunit	0.2802	0.3538
<i>JUNB</i>	JunB proto-oncogene, AP-1 transcription factor subunit	-0.0055	0.9858
<i>JUND</i>	JunD proto-oncogene, AP-1 transcription factor subunit	-0.0604	0.8445
<i>KIT</i>	KIT proto-oncogene, receptor tyrosine kinase	0.1044	0.7343
<i>KITLG</i>	KIT ligand	-0.0055	0.9858
<i>KRAS</i>	KRAS proto-oncogene, GTPase	0.2308	0.4481
<i>MCL1</i>	MCL1 apoptosis regulator, BCL2 family member	0.0934	0.7615
<i>MDM2</i>	MDM2 proto-oncogene	0.3681	0.2159
<i>MEN1</i>	menin 1	0.1868	0.5411
<i>MET</i>	MET proto-oncogene, receptor tyrosine kinase	0.1703	0.578
<i>MGMT</i>	O-6-methylguanine-DNA methyltransferase	0.1099	0.7208

<i>MLH1</i>	mutL homolog 1	0.5659	0.0438
<i>MOS</i>	MOS proto-oncogene, serine/threonine kinase	-0.0989	0.7479
<i>MYB</i>	MYB proto-oncogene, transcription factor	0.1648	0.5905
<i>MYC</i>	MYC proto-oncogene, bHLH transcription factor	0.3626	0.2233
<i>MYCN</i>	MYCN proto-oncogene, bHLH transcription factor	-0.2473	0.4154
<i>NF1</i>	neurofibromin 1	0.2253	0.4593
<i>NF2</i>	neurofibromin 2	0.2253	0.4593
<i>NFKB1</i>	nuclear factor kappa B subunit 1	0.4341	0.1383
<i>NFKBIA</i>	NFKB inhibitor alpha	0.6484	0.0165
<i>NRAS</i>	NRAS proto-oncogene, GTPase	0.6538	0.0153
<i>PIK3C2A</i>	phosphatidylinositol-4-phosphate 3-kinase catalytic subunit type 2 alpha	-0.0055	0.9858
<i>PIK3CA</i>	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha	0.4615	0.1124
<i>PML</i>	PML nuclear body scaffold	0.3077	0.3064
<i>PRKCA</i>	protein kinase C alpha	0.5385	0.0576
<i>RAF1</i>	Raf-1 proto-oncogene, serine/threonine kinase	0.5989	0.0306
<i>RARA</i>	retinoic acid receptor alpha	0.2857	0.344
<i>RASSF1</i>	Ras association domain family member 1	-0.1319	0.6676
<i>RB1</i>	RB transcriptional corepressor 1	0.4066	0.168
<i>REL</i>	REL proto-oncogene, NF-kB subunit	0.2198	0.4706
<i>RET</i>	ret proto-oncogene	0.0165	0.9574
<i>ROS1</i>	ROS proto-oncogene 1, receptor tyrosine kinase	-0.2637	0.3839
<i>RUNX1</i>	RUNX family transcription factor 1	0.3297	0.2713
<i>RUNX3</i>	RUNX family transcription factor 3	-0.3242	0.2799
<i>S100A4</i>	S100 calcium binding protein A4	0.1648	0.5905
<i>SERPINB5</i>	serpin family B member 5	-0.3956	0.1809
<i>SH3PXD2A</i>	SH3 and PX domains 2A	-0.0495	0.8725
<i>SMAD4</i>	SMAD family member 4	0.6593	0.0142
<i>SRC</i>	SRC proto-oncogene, non-receptor tyrosine kinase	0.011	0.9716
<i>STAT3</i>	signal transducer and activator of transcription 3	0.1593	0.6031
<i>STK11</i>	serine/threonine kinase 11	0.3681	0.2159
<i>TGFB1</i>	transforming growth factor beta 1	0.7088	0.0067
<i>TNF</i>	tumor necrosis factor	0.033	0.9149
<i>TP53</i>	tumor protein p53	0.4066	0.168
<i>TP73</i>	tumor protein p73	0.2747	0.3637
<i>TSC1</i>	TSC complex subunit 1	0.4066	0.168
<i>VHL</i>	von Hippel-Lindau tumor suppressor	0.3846	0.1944
<i>WT1</i>	WT1 transcription factor	-0.3681	0.2159
<i>WWOX</i>	WW domain containing oxidoreductase	0.3956	0.1809
<i>XRCC1</i>	X-ray repair cross complementing 1	0.3736	0.2086
<i>ZHX2</i>	zinc fingers and homeoboxes 2	0.1538	0.6158

ADCY9: adenylate cyclase 9

mRNA: messenger RNA