

Table S1 | **Upregulated genes in mesothelioma spheroids**

<b>Gene Symbol</b>	<b>Description</b>	<b>Unigene ID</b>
<i>ABCG2</i>	ATP-binding cassette, sub-family G (WHITE), member 2	Hs.480218
<i>ADD3</i>	adducin 3 (gamma)	Hs.501012
<i>AKR1B1</i>	aldo-keto reductase family 1, member B1 (aldose reductase)	Hs.521212
<i>AKR1B10</i>	aldo-keto reductase family 1, member B10 (aldose reductase)	Hs.116724
<i>AKR1C1</i>	aldo-keto reductase family 1, member C1 (dihydrodiol dehydrogenase 1; 20-alpha (3-alpha)-hydroxysteroid dehydrogenase)	Hs.460260
<i>ANXA4</i>	annexin A4	Hs.422986
<i>APOBEC3C</i>	apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3C	Hs.441124
<i>APOBEC3G</i>	apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3G	Hs.474853
<i>APOL1</i>	apolipoprotein L, 1	Hs.114309
<i>APOL6</i>	apolipoprotein L, 6	Hs.257352
<i>AQP3</i>	aquaporin 3 (Gill blood group)	Hs.234642
<i>ARL6IP5</i>	ADP-ribosylation-like factor 6 interacting protein 5	Hs.518060
<i>ASS1</i>	argininosuccinate synthetase 1	Hs.160786
<i>ATF3</i>	activating transcription factor 3	Hs.460
<i>ATXN1</i>	ataxin 1	Hs.434961
<i>B2M</i>	beta-2-microglobulin	Hs.48516
<i>BST2</i>	bone marrow stromal cell antigen 2	Hs.118110
<i>BTN3A1</i>	butyrophilin, subfamily 3, member A1	Hs.191510
<i>BTN3A3</i>	butyrophilin, subfamily 3, member A3	Hs.167741
<i>C10orf39</i>	chromosome 10 open reading frame 39	Hs.106254
<i>C15orf48</i>	chromosome 15 open reading frame 48	Hs.112242
<i>C16orf45</i>	chromosome 16 open reading frame 45	Hs.460095
<i>C1R</i>	complement component 1, r subcomponent	Hs.376414
<i>C3orf34</i>	chromosome 3 open reading frame 34	Hs.334526
<i>CAPG</i>	capping protein (actin filament), gelsolin-like	Hs.516155
<i>CARD6</i>	caspase recruitment domain family, member 6	Hs.200242
<i>CAT</i>	catalase	Hs.502302
<i>CD9</i>	CD9 molecule	Hs.114286
<i>CLU</i>	clusterin	Hs.436657
<i>CRABP2</i>	cellular retinoic acid binding protein 2	Hs.405662
<i>CTH</i>	cystathionase (cystathionine gamma-lyase)	Hs.19904
<i>CYP1B1</i>	cytochrome P450, family 1, subfamily B, polypeptide 1	Hs.154654
<i>DDIT4</i>	DNA-damage-inducible transcript 4	Hs.523012
<i>DHRS3</i>	dehydrogenase/reductase (SDR family) member 3	Hs.289347
<i>DOCK11</i>	dedicator of cytokinesis 11	Hs.368203
<i>ECH1</i>	enoyl Coenzyme A hydratase 1, peroxisomal	Hs.196176
<i>ELF3</i>	E74-like factor 3 (ets domain transcription factor, epithelial-specific)	Hs.67928
<i>EPHX1</i>	epoxide hydrolase 1, microsomal (xenobiotic)	Hs.89649
<i>FA2H</i>	fatty acid 2-hydroxylase	Hs.461329
<i>FADS2</i>	fatty acid desaturase 2	Hs.502745
<i>FAM26B</i>	family with sequence similarity 26, member B	Hs.241545
<i>FAM46A</i>	family with sequence similarity 46, member A	Hs.10784
<i>FAM46A</i>	family with sequence similarity 46, member A	Hs.10784
<i>FLJ13236</i>	hypothetical protein FLJ13236	Hs.170298
<i>FLJ20273</i>	RNA-binding protein	Hs.518727
<i>FLJ20920</i>	hypothetical protein FLJ20920	Hs.288959
<i>FLJ22675</i>	hypothetical gene supported by AK026328	Hs.232604
<i>GLRX</i>	glutaredoxin (thioltransferase)	Hs.28988
<i>GNG11</i>	guanine nucleotide binding protein (G protein), gamma 11	Hs.83381
<i>GNG2</i>	guanine nucleotide binding protein (G protein), gamma 2	Hs.187772
<i>GOT1</i>	glutamic-oxaloacetic transaminase 1, soluble (aspartate aminotransferase 1)	Hs.500756
<i>GPNUMB</i>	glycoprotein (transmembrane) numb	Hs.190495
<i>GSN</i>	gelsolin (amyloidosis, Finnish type)	Hs.522373
<i>HDLBP</i>	high density lipoprotein binding protein (vigilin)	Hs.471851
<i>HLA-G</i>	HLA-G histocompatibility antigen, class I, G	Hs.512152
<i>IDH1</i>	isocitrate dehydrogenase 1 (NADP+), soluble	Hs.11223
<i>IFI35</i>	interferon-induced protein 35	Hs.50842
<i>IFIT1</i>	interferon-induced protein with tetratricopeptide repeats 1	Hs.20315
<i>IGFBP6</i>	insulin-like growth factor binding protein 6	Hs.274313
<i>IL17RC</i>	interleukin 17 receptor C	Hs.129959
<i>INSIG1</i>	insulin induced gene 1	Hs.520819
<i>KIAA0274</i>	KIAA0274	Hs.529959
<i>KLF9</i>	Kruppel-like factor 9	Hs.150557
<i>KLK6</i>	kallikrein 6 (neurosin, zyme)	Hs.79361
<i>LAMA3</i>	laminin, alpha 3	Hs.436367
<i>LOC285943</i>	hypothetical protein LOC285943	Hs.520721
<i>LPAAT-THETA</i>	lysophosphatidic acid acyltransferase theta	Hs.99196
<i>LXN</i>	latexin	Hs.478067
<i>MAGED2</i>	melanoma antigen family D, 2	Hs.4943
<i>MAP1A</i>	microtubule-associated protein 1A	Hs.194301
<i>METTL7A</i>	methyltransferase like 7A	Hs.288771
<i>MGC16075</i>	hypothetical protein MGC16075	Hs.334508
<i>MMP2</i>	matrix metalloproteinase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV collagenase)	Hs.513617
<i>MVP</i>	major vault protein	Hs.513488
<i>NCOA7</i>	nuclear receptor coactivator 7	Hs.171426

<i>NDRG1</i>	N-myc downstream regulated gene 1	Hs.372914
<i>NEBL</i>	nebullette	Hs.5025
<i>NFE2</i>	nuclear factor (erythroid-derived 2), 45kDa	Hs.75643
<i>NFKBIA</i>	nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	Hs.81328
<i>NMNAT2</i>	nicotinamide nucleotide adenyltransferase 2	Hs.497123
<i>NOV</i>	nephroblastoma overexpressed gene	Hs.235935
<i>NR1H3</i>	nuclear receptor subfamily 1, group H, member 3	Hs.438863
<i>NULL</i>	NULL	Hs.535320
<i>OAS1</i>	2',5'-oligoadenylate synthetase 1, 40/46kDa	Hs.524760
<i>OLIG2</i>	oligodendrocyte lineage transcription factor 2	Hs.176977
<i>OPTN</i>	optineurin	Hs.332706
<i>P4HA2</i>	procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide II	Hs.519568
<i>PC</i>	pyruvate carboxylase	Hs.89890
<i>PDCD4</i>	programmed cell death 4 (neoplastic transformation inhibitor)	Hs.232543
<i>PGM1</i>	phosphoglucomutase 1	Hs.1869
<i>PIR</i>	pirin (iron-binding nuclear protein)	Hs.495728
<i>POR</i>	P450 (cytochrome) oxidoreductase	Hs.354056
<i>PPARA</i>	peroxisome proliferative activated receptor, alpha	Hs.103110
<i>PPARA</i>	peroxisome proliferative activated receptor, alpha	Hs.275711
<i>PPARG</i>	peroxisome proliferative activated receptor, gamma	Hs.162646
<i>PPP1R1A</i>	protein phosphatase 1, regulatory (inhibitor) subunit 1A	Hs.505662
<i>PSMB10</i>	proteasome (prosome, macropain) subunit, beta type, 10	Hs.9661
<i>PTGES</i>	prostaglandin E synthase	Hs.146688
<i>QPRT</i>	quinolinate phosphoribosyltransferase (nicotinate-nucleotide pyrophosphorylase (carboxylating))	Hs.513484
<i>RAB27B</i>	RAB27B, member RAS oncogene family	Hs.25318
<i>RAB31</i>	RAB31, member RAS oncogene family	Hs.99528
<i>RAB7B</i>	RAB7B, member RAS oncogene family	Hs.534612
<i>RAP1GAP</i>	RAP1 GTPase activating protein	Hs.148178
<i>RARRES3</i>	retinoic acid receptor responder (tazarotene induced) 3	Hs.17466
<i>RASSF4</i>	Ras association (RalGDS/AF-6) domain family 4	Hs.522895
<i>S100A3</i>	S100 calcium binding protein A3	Hs.433168
<i>S100A4</i>	S100 calcium binding protein A4	Hs.81256
<i>S100A6</i>	S100 calcium binding protein A6	Hs.275243
<i>SCD</i>	stearoyl-CoA desaturase (delta-9-desaturase)	Hs.368641
<i>SCNN1A</i>	sodium channel, nonvoltage-gated 1 alpha	Hs.130989
<i>SDCBP</i>	syndecan binding protein (syntenin)	Hs.200804
<i>SERPINB1</i>	serpin peptidase inhibitor, clade B (ovalbumin), member 1	Hs.381167
<i>SLC2A3</i>	solute carrier family 2 (facilitated glucose transporter), member 3	Hs.419240
<i>SLC9A3R1</i>	solute carrier family 9 (sodium/hydrogen exchanger), member 3 regulator 1	Hs.396783
<i>SMAD3</i>	SMAD, mothers against DPP homolog 3 (Drosophila)	Hs.99843
<i>SNCG</i>	synuclein, gamma (breast cancer-specific protein 1)	Hs.349470
<i>SSBP2</i>	single-stranded DNA binding protein 2	Hs.102735
<i>STC1</i>	stanniocalcin 1	Hs.25590
<i>SULF2</i>	sulfatase 2	Hs.162016
<i>SYNPO</i>	synaptopodin	Hs.435228
<i>TCN2</i>	transcobalamin II; macrocytic anemia	Hs.417948
<i>TGFBR2</i>	transforming growth factor, beta receptor II (70/80kDa)	Hs.82028
<i>TIMP3</i>	TIMP metalloproteinase inhibitor 3 (Sorsby fundus dystrophy, pseudoinflammatory)	Hs.297324
<i>TIMP4</i>	TIMP metalloproteinase inhibitor 4	Hs.549073
<i>TLR3</i>	toll-like receptor 3	Hs.29499
<i>TLR4</i>	toll-like receptor 4	Hs.174312
<i>TMEM140</i>	transmembrane protein 140	Hs.521215
<i>TNFRSF9</i>	tumor necrosis factor receptor superfamily, member 9	Hs.193418
<i>TNIK</i>	TRAF2 and NCK interacting kinase	Hs.34024
<i>TP53INP2</i>	tumor protein p53 inducible nuclear protein 2	Hs.516994
<i>TPBG</i>	trophoblast glycoprotein	Hs.82128
<i>TPD52L1</i>	tumor protein D52-like 1	Hs.201482
<i>TSC22D1</i>	TSC22 domain family, member 1	Hs.507916
<i>TSC22D3</i>	TSC22 domain family, member 3	Hs.522074
<i>UBE2L6</i>	ubiquitin-conjugating enzyme E2L 6	Hs.425777
<i>VAMP5</i>	vesicle-associated membrane protein 5 (myobrevin)	Hs.172684
<i>VAV3</i>	vav 3 oncogene	Hs.267659
<i>WNT6</i>	wingless-type MMTV integration site family, member 6	Hs.29764

Genes upregulated in all three mesothelioma cell lines (M28, REN, VAMT) in spheroids compared to monolayers with Bonferoni adjusted  $P < 0.05$ .