

**Table S1:** Gene glossary.

Gene Symbol	Official Full Name	Gene ID
<b>ALDH1A1 (ALDH1)</b>	Aldehyde dehydrogenase 1 family member A1	216
<b>ALDH1A3</b>	Aldehyde dehydrogenase 1 family member A3	220
<b>ALDH1L1</b>	Aldehyde dehydrogenase 1 family member L1	10840
<b>ALK</b>	ALK receptor tyrosine kinase	238
<b>AKT (AKT1)</b>	AKT serine/threonine kinase 1	207
<b>APC</b>	APC regulator of WNT signaling pathway	324
<b>ARID1A</b>	AT-rich interaction domain 1A	8289
<b>CCNE1</b>	Cyclin E1	898
<b>CD133 (PROM1)</b>	Prominin 1	8842
<b>CD166 (ALCAM)</b>	Activated leukocyte cell adhesion molecule	214
<b>CD44</b>	CD44 molecule	960
<b>CDH1</b>	Cadherin 1	999
<b>c-FLIP (CFLAR)</b>	CASP8 and FADD like apoptosis regulator	8837
<b>E2F1</b>	E2F transcription factor 1	1869
<b>EGFR</b>	Epidermal growth factor receptor	1956
<b>ERBB2 (HER2)</b>	erb-b2 receptor tyrosine kinase 2	2064
<b>ERCC1</b>	ERCC excision repair 1, endonuclease non-catalytic subunit	2067
<b>HMMR (CD168)</b>	Hyaluronan mediated motility receptor	3161
<b>JAK2</b>	Janus kinase 2	3717
<b>Klf4</b>	Kruppel-like factor 4	16600
<b>KRAS</b>	KRAS proto-oncogene, GTPase	3845
<b>LGR5</b>	Leucine rich repeat containing G protein-coupled receptor 5	8549
<b>MLH1</b>	mutL homolog 1	4292
<b>MTOR</b>	Mechanistic target of rapamycin kinase	2475
<b>MYC</b>	MYC proto-oncogene, bHLH transcription factor	4609
<b>PD-1 (PDCD1)</b>	Programmed cell death 1	5133
<b>PD-L1 (CD274)</b>	CD274 molecule	29126
<b>PD-L2 (PDCD1LG2)</b>	Programmed cell death 1 ligand 2	80380
<b>PIK3CA</b>	Phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha	5290
<b>PLK1</b>	Polo like kinase 1	5347
<b>RHOA</b>	RAS homolog family member A	387
<b>RIF1</b>	Replication timing regulatory factor 1	55183
<b>RSK1 (RPS6KA1)</b>	Ribosomal protein S6 kinase A1	6195
<b>SMAD4</b>	SMAD family member 4	4089
<b>Sox2</b>	SRY (sex determining region Y)-box 2	20674
<b>TP53</b>	Tumor protein p53	7157
<b>UBE2 (UBA7)</b>	Ubiquitin like modifier activating enzyme 7	7318
<b>VEGFR2 (KDR)</b>	Kinase insert domain receptor	3791