Supplementary Table 2. DEGs with and without Lymphatic Invasion

Gene symbol	Gene title	logFC	*p* value (<0.01)
ZBTB48	Zinc finger and BTB domain containing 48	0.563806	8.05E-06
ZNF643	Zinc finger protein 643	0.528492	1.79E-05
NCBP2	Nuclear cap binding protein subunit 2, 20 kDa	0.724388	8.01E-05
HYOU1	Hypoxia up-regulated 1	0.682604	0.000116
PIWIL1	Piwi-like 1 (Drosophila)	0.344894	0.000119
MMP12	Matrix metallopeptidase 12 (macrophage elastase)	1.217271	0.00012
CAMTA1	Calmodulin binding transcription activator 1	0.699423	0.000129
WNT6	Wingless-type MMTV integration site family, member 6	0.609091	0.000135
LOC728855	Hypothetical LOC728855	0.5238	0.000276
INTS3	Integrator complex subunit 3	0.547089	0.000294
B4GALT3	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 3	0.461384	0.000417
AP3B2	Adaptor-related protein complex 3, beta 2 subunit	0.290727	0.000518
EMID1	EMI domain containing 1	0.848031	0.000538
LDB1	LIM domain binding 1	0.528352	0.000627
SMARCAL1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a-like 1	0.379938	0.000685
CIZ1	CDKN1A interacting zinc finger protein 1	-0.4672	0.000728
PEX10	Peroxisomal biogenesis factor 10	0.385654	0.000742
LDB1	LIM domain binding 1	0.466135	0.000996
MRS2	MRS2 magnesium homeostasis factor homolog (*S. cerevisiae*)	0.616851	0.001003
BMPR1B	Bone morphogenetic protein receptor, type IB	0.370457	0.00101
PDIA4	Protein disulfide isomerase family A, member 4	0.712029	0.00111
FLAD1	FAD1 flavin adenine dinucleotide synthetase homolog (*S. cerevisiae*)	0.432829	0.001127
PRR7	Proline rich 7 (synaptic)	0.396546	0.001151
FASTKD2	FAST kinase domains 2	0.341267	0.001426
PRAME	Preferentially expressed antigen in melanoma	1.23601	0.001608
MOSPD2	Motile sperm domain containing 2	-0.42746	0.001727
POLR2H	Polymerase (RNA) II (DNA directed) polypeptide H	0.412422	0.001769
STK24	Serine/threonine kinase 24	-0.50521	0.001868
PDIA4	Protein disulfide isomerase family A, member 4	0.65595	0.002066
NCSTN	Nicastrin	0.414567	0.002435
C7orf49	Chromosome 7 open reading frame 49	0.523922	0.002439
THAP3	THAP domain containing, apoptosis associated protein 3	0.388608	0.002456
LSG1	Large subunit GTPase 1 homolog (*S. cerevisiae*)	0.500405	0.002466
PDIA5	Protein disulfide isomerase family A, member 5	0.603838	0.002545
SCGB1A1	Secretoglobin, family 1A, member 1 (uteroglobin)	0.877167	0.002546
SDF2L1	Stromal cell-derived factor 2-like 1	0.604091	0.002599
LTB	Lymphotoxin beta (TNF superfamily, member 3)	0.961932	0.00269
PRR3	Proline rich 3	0.597968	0.002692
ANXA4	Annexin A4	-0.61201	0.00277
SLC37A4	Solute carrier family 37 (glucose-6-phosphate transporter), member 4	0.466292	0.002832
HSPC157	Hypothetical LOC29092	0.533951	0.002904
SDF4	Stromal cell derived factor 4	0.464779	0.002933
AGT	Angiotensinogen (serpin peptidase inhibitor, clade A, member 8)	0.580028	0.00305
MYO9A	Myosin IXA	-0.38067	0.003186
WDR7	WD repeat domain 7	-0.48777	0.00323
KIAA1009	KIAA1009	0.377457	0.00325
ALPL	Alkaline phosphatase, liver/bone/kidney	0.793724	0.003317
CHI3L2	Chitinase 3-like 2	0.574062	0.003328
TFDP2	Transcription factor Dp-2 (E2F dimerization partner 2)	0.486381	0.003361
TARBP1	TAR (HIV-1) RNA binding protein 1	0.580702	0.003447

Supplementary Table 2. DEGs with and without Lymphatic Invasion (Continued)

Gene symbol	Gene title	logFC	*p* value (<0.01)
LOC100506935	Hypothetical LOC100506935	0.533572	0.003536
SPATS2	Spermatogenesis associated, serine-rich 2	0.537374	0.003589
CCR7	Chemokine (C-C motif) receptor 7	0.306163	0.003643
GALNT6	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 6 (GalNAc-T6)	0.705901	0.003664
SENP5	SUMO1/sentrin specific peptidase 5	0.563308	0.003759
EPAS1	Endothelial PAS domain protein 1	-0.54814	0.003845
DCAF8	DDB1 and CUL4 associated factor 8	0.321102	0.003899
CEP70	Centrosomal protein 70 kDa	0.460486	0.00401
RAB11FIP1	RAB11 family interacting protein 1 (class I)	-0.66721	0.004034
TGFB2	Transforming growth factor, beta 2	0.695234	0.004101
WDR77	WD repeat domain 77	0.476514	0.004175
RARG	Retinoic acid receptor, gamma	-0.35678	0.004273
RER1	RER1 retention in endoplasmic reticulum 1 homolog (*S. cerevisiae*)	0.4036	0.004321
FXR1	Fragile X mental retardation, autosomal homolog 1	0.44928	0.004355
DDOST	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase	0.344434	0.004381
SDF4	Stromal cell derived factor 4	0.368443	0.004577
CRELD1	Cysteine-rich with EGF-like domains 1	0.407172	0.004611
CIZ1	CDKN1A interacting zinc finger protein 1	-0.48339	0.004627
POMGNT1	Protein O-linked mannose beta1,2-N-acetylglucosaminyltransferase	0.359919	0.004776
NFE2L3	Nuclear factor (erythroid-derived 2)-like 3	0.587043	0.005341
MLC1	Megalencephalic leukoencephalopathy with subcortical cysts 1	0.331274	0.005358
STK24	Serine/threonine kinase 24	-0.36658	0.005412
KAZALD1	Kazal-type serine peptidase inhibitor domain 1	0.308883	0.005415
PEX10	Peroxisomal biogenesis factor 10	0.426257	0.005491
UGT2B28	UDP glucuronosyltransferase 2 family, polypeptide B28	0.731	0.005622
GLS	Glutaminase	-0.22006	0.005754
WDR91	WD repeat domain 91	0.436902	0.0059
LRRC41	Leucine rich repeat containing 41	0.543811	0.006053
WDR77	WD repeat domain 77	0.370192	0.006169
LRCH3	Leucine-rich repeats and calponin homology (CH) domain containing 3	0.460806	0.00628
FBXO28	F-box protein 28	0.446721	0.006404
SF3B4	Splicing factor 3b, subunit 4, 49 kDa	0.314007	0.006731
SH2D4A	SH2 domain containing 4A	-0.47004	0.006738
GMPPA	GDP-mannose pyrophosphorylase A	0.318644	0.006756
DSTN	Destrin (actin depolymerizing factor)	-0.27887	0.006837
C10orf57	Chromosome 10 open reading frame 57	0.431936	0.006852
BPHL	Biphenyl hydrolase-like (serine hydrolase)	0.403973	0.006954
CDYL	Chromodomain protein, Y-like	0.379992	0.006973
STK19	Serine/threonine kinase 19	0.29765	0.007327
CIZ1	CDKN1A interacting zinc finger protein 1	-0.46352	0.007381
NUP98	Nucleoporin 98 kDa	-0.58354	0.007484
FXYD6	FXYD domain containing ion transport regulator 6	0.898174	0.007533
RNF7	Ring finger protein 7	0.367376	0.007681
TBRG4	Transforming growth factor beta regulator 4	-0.21936	0.007901
DCLRE1A	DNA cross-link repair 1A	0.3577	0.007927
CCL18	Chemokine (C-C motif) ligand 18 (pulmonary and activation-regulated)	0.400346	0.00793
FSCN1	Fascin homolog 1, actin-bundling protein (Strongylocentrotus purpuratus)	0.485319	0.007958
BICD2	Bicaudal D homolog 2 (Drosophila)	-0.44755	0.008156
TFAM	Transcription factor A, mitochondrial	0.349735	0.008177
NUP160	Nucleoporin 160 kDa	0.247829	0.00818

Supplementary Table 2. DEGs with and without Lymphatic Invasion (Continued)

Gene symbol	Gene title	logFC	*p* value (<0.01)
BEND5	BEN domain containing 5	0.609724	0.00822
MNX1	Motor neuron and pancreas homeobox 1	0.26626	0.008268
KIAA1009	KIAA1009	0.234377	0.008319
SNRPA1	Small nuclear ribonucleoprotein polypeptide A'	0.428573	0.008473
PEX14	Peroxisomal biogenesis factor 14	0.254211	0.008549
EFNA4	Ephrin-A4	0.450274	0.008746
GPR107	G protein-coupled receptor 107	-0.35753	0.008749
TRIM62	Tripartite motif-containing 62	0.273888	0.00876
MANF	Mesencephalic astrocyte-derived neurotrophic factor	0.372254	0.008808
KIAA1466	KIAA1466 gene	0.846027	0.008827
EIF5A	Eukaryotic translation initiation factor 5A	0.392319	0.008874
PBXIP1	Pre-B-cell leukemia homeobox interacting protein 1	0.474677	0.008984
MAST2	Microtubule associated serine/threonine kinase 2	0.265493	0.008994
TRIM27	Tripartite motif-containing 27	0.495132	0.009029
TPD52	Tumor protein D52	-0.38211	0.009055
NUP50	Nucleoporin 50 kDa	-0.39001	0.009087
ZNF211	Zinc finger protein 211	-0.44737	0.009121
PON3	Paraoxonase 3	0.739774	0.009149
ATXN10	Ataxin 10	-0.41651	0.009183
ATP13A2	ATPase type 13A2	0.320403	0.009279
GGPS1	Geranylgeranyl diphosphate synthase 1	0.345411	0.009312
SLC2A6	Solute carrier family 2 (facilitated glucose transporter), member 6	0.476016	0.009316
GCOM1 /// GRINL1A	GRINL1A complex locus /// glutamate receptor, ionotropic, N-methyl D-aspartate-like 1A	-0.379	0.009319
CCDC90A	Coiled-coil domain containing 90A	0.464832	0.009326
CAST	Calpastatin	-0.60587	0.00939
HMGB3	High-mobility group box 3	0.462124	0.009472
FLNB	Filamin B, beta	-0.51194	0.009562
BAG2	BCL2-associated athanogene 2	0.874513	0.009612
AKIRIN1	Akirin 1	0.433163	0.009706
TSPAN14	Tetraspanin 14	0.389096	0.009769
PTP4A3	Protein tyrosine phosphatase type IVA, member 3	0.780533	0.009798
NPHP4	Nephronophthisis 4	0.2664	0.009906
MREG	Melanoregulin	0.55089	0.009967

DEGs, differentially expressed genes.