

**Table S5 Molecular phenotypes of freshly isolated ECs from GBM and tumor peripheral tissue**

Assigned phenotype	Nr.	Expressed genes typical of
peripheral endothelial cell type I (Pe1)	cluster 1	<ul style="list-style-type: none"> <li>• Vascular integrity: KLF2[1]; TIMP3[2]</li> <li>• BBB Transporter: SLC2A1[3]; SLCO1A2[4]</li> <li>• BBB enriched genes: TSC22D1; DEGS2; NET1; SPARCL1; ATP10A; JUND[5]</li> </ul>
tumor core endothelial cell type I (Co1)	cluster 2	<ul style="list-style-type: none"> <li>• Basement membrane remodeling: COL4A1[6]; COL4A2; LAMB1[7]; LAMC1[8]; LAMA4[9]; HSPG2[10];PXDN, PLOD1; NID1; NID2[11]</li> <li>• Cell migration and cytoskeleton associated genes: MYO1B[12]; CD93[13, 14], INSR[15]; SPARC[16], RASGRP3[17];</li> <li>• Angiogenesis: KDR, PGF, ANGPT2, APLN[18], NOX4[19]; PTP4A3[20]; FLT4[21]</li> <li>• Vascular remodeling: NOTCH4[22]; UNC5B[23]</li> <li>• Tip cell markers: COL4A1; PXDN; COL4A2; NID1; CD93; ANGPT2; LAMB1; MCAM; TCF4; LAMC1; LAMA4; MYO1B; SPARC; PGF; NOTCH4; SOX4; PLOD1; ITGA5; APLN[24]</li> </ul>
tumor core endothelial cell type II (Co2)	cluster 3	<ul style="list-style-type: none"> <li>• Cytoskeleton organization: TMSB4X; ACTB; ACTG1; TMSB10; VIM [25]; PFN1[26]; MYL6; MARCKSL1; ARPC2; MYL12B; CFL1[27]</li> <li>• Ribosomal genes: RPLP1; RPS2; RPLP2; RPL39; RPS24; RPL41; RPL6; RPL13; RPL8; RPL35; RPLS8; RPS28; RPS12; RPS26; RPS6; RPL36; RPL10; RPL15; RPS4X; RPLP0</li> <li>• Tip cell markers: GAPDH; ACTG1; CFL1; VIM; FKBP1A; CALM1; MARCKSL1; GNG11[24]</li> </ul>
peripheral endothelial cell type I (Pe1)	cluster 4	<ul style="list-style-type: none"> <li>• Inflammation and cytokine: CCL4; CCL4L2; CCL3L1; ACKR1[28]; CCL3[29]</li> <li>• MHC class II molecules: HLA-DRB1; HLA-DRA; HLA-DPA1; HLA-DPB1; HLA-DQB1</li> </ul>
tumor core endothelial cell type III (Co3)	cluster 5	<ul style="list-style-type: none"> <li>• Inflammation and cytokines: NR4A3; IL1B; IL1R1; ACKR1[28, 30, 31]</li> <li>• Immune cell recruitment: SELE; SELP;VCAM1[32]</li> </ul>

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