

## Major Resources Table

In order to allow validation and replication of experiments, all essential research materials listed in the Methods should be included in the Major Resources Table below. Authors are encouraged to use public repositories for protocols, data, code, and other materials and provide persistent identifiers and/or links to repositories when available. Authors may add or delete rows as needed.

### Animals (in vivo studies)

Species	Vendor or Source	Background Strain	Sex	Persistent ID / URL
C57BL6/N		C57BL6/N	Male/female	
See GMA list				

### Genetically Modified Animals

	Species	Vendor or Source	Background Strain	Other Information	Persistent ID / URL
<b>Parent - Male</b>	<i>Mus musculus</i>	Young CD et al. PLoS One 2011. Modulation of glucose transporter 1 (GLUT1) expression alters mouse mammary tumor cell growth in vitro and in vivo	C57Bl/6	GLUT1 <sup>lox/lox</sup>	B6-slc2a1<tm floxed aed>
<b>Parent - Female</b>	<i>Mus musculus</i>	Young CD et al. PLoS One 2011. Modulation of glucose transporter 1 (GLUT1) expression alters mouse mammary tumor cell growth in vitro and in vivo	C57Bl/6	GLUT1 <sup>lox/lox</sup>	B6-slc2a1<tm floxed aed>
<b>Parent - Male</b>	<i>Mus musculus</i>	Claxton et al., Genesis 2008. Efficient, inducible Cre-recombinase activation in vascular endothelium	C57Bl/6	Pdgfb-Cre <sup>ERT2</sup>	Tg(Pdgfb-icre/ERT2)1Frut
<b>Parent - Female</b>	<i>Mus musculus</i>	Claxton et al., Genesis 2008. Efficient, inducible Cre-recombinase activation in vascular endothelium	C57Bl/6	Pdgfb-Cre <sup>ERT2</sup>	Tg(Pdgfb-icre/ERT2)1Frut

## Antibodies

Target antigen	Vendor or Source	Catalog #	Working concentration	Lot # (preferred but not required)	Persistent ID / URL
Mouse/Rat CD31/PECAM-1 Antibody	R&D Systems	AF3628	1/200		<a href="https://www.rndsystems.com/products/mouse-rat-cd31-pecam-1-antibody_af3628">https://www.rndsystems.com/products/mouse-rat-cd31-pecam-1-antibody_af3628</a>
CD31-PE conjugated antibody	ThermoFisher Scientific	12-0311-82	1/100		<a href="https://www.thermofisher.com/antibody/product/CD31-PECAM-1-Antibody-clone-390-Monoclonal/12-0311-82">https://www.thermofisher.com/antibody/product/CD31-PECAM-1-Antibody-clone-390-Monoclonal/12-0311-82</a>
CD45-APC conjugated antibody	BD Biosciences	561018	1/100		<a href="https://wwwbdbiosciences.com/us/applications/research/stem-cell-research/cancer-research/mouse/apc-rat-anti-mouse-cd45-30-f11/p/561018">https://wwwbdbiosciences.com/us/applications/research/stem-cell-research/cancer-research/mouse/apc-rat-anti-mouse-cd45-30-f11/p/561018</a>
GLUT1	Abcam	ab14683	1/1000		<a href="https://www.abcam.com/glucose-transporter-glut1-antibody-ab14683.html">https://www.abcam.com/glucose-transporter-glut1-antibody-ab14683.html</a>
CDH5	Abcam	ab33168	1/1000		<a href="https://www.abcam.com/ve-cadherin-antibody-intercellular-junction-marker-ab33168.html">https://www.abcam.com/ve-cadherin-antibody-intercellular-junction-marker-ab33168.html</a>
OCLN	Abcam	ab31721	1/1000		<a href="https://www.abcam.com/occludin-antibody-ab31721.html">https://www.abcam.com/occludin-antibody-ab31721.html</a>

DOI [to be added]

ZO1	ThermoFisher Scientific	61-7300	1/1000	<a href="https://www.thermofisher.com/antibody/product/ZO-1-Antibody-Polyclonal/61-7300">https://www.thermofisher.com/antibody/product/ZO-1-Antibody-Polyclonal/61-7300</a>
CLDN5	Abcam	ab15106	1/1000	<a href="https://www.abcam.com/claudin-5-antibody-ab15106.html">https://www.abcam.com/claudin-5-antibody-ab15106.html</a>
Phospho-AMPK $\alpha$ (Thr172)	Cell signaling	2531	1/1000	<a href="https://www.cellsignal.com/products/primary-antibodies/phospho-ampka-thr172-antibody/2531">https://www.cellsignal.com/products/primary-antibodies/phospho-ampka-thr172-antibody/2531</a>
AMPK $\alpha$	Cell signaling	2532	1/1000	<a href="https://www.cellsignal.com/products/primary-antibodies/ampka-antibody/2532">https://www.cellsignal.com/products/primary-antibodies/ampka-antibody/2532</a>
p53 (1C12)	Cell signaling	2524	1/1000	<a href="https://www.cellsignal.com/products/primary-antibodies/p53-1c12-mouse-mab/2524">https://www.cellsignal.com/products/primary-antibodies/p53-1c12-mouse-mab/2524</a>
p21	Abcam	ab109520	1/1000	<a href="https://www.abcam.com/p21-antibody-epr362-ab109520">https://www.abcam.com/p21-antibody-epr362-ab109520</a>
activated Notch1 (NICD)	Abcam	ab8925	1/1000	<a href="https://www.abcam.com/activated-notch1-antibody-ab8925.html">https://www.abcam.com/activated-notch1-antibody-ab8925.html</a>
PFKFB3	Abcam	ab181861	1/1000	<a href="https://www.abcam.com/pfkfb3-antibody-epr12594-ab181861.html">https://www.abcam.com/pfkfb3-antibody-epr12594-ab181861.html</a>
$\beta$ -Actin (8H10D10)	Cell signaling	3700	1/1000	<a href="https://www.cellsignal.com/products/primary-antibodies/b-actin-8h10d10-mouse-mab/3700">https://www.cellsignal.com/products/primary-antibodies/b-actin-8h10d10-mouse-mab/3700</a>
HRP-M (Anti-mouse IgG, HRP-linked Antibody)	Cell signaling	7076	1/2000	<a href="https://www.cellsignal.com/products/secondary-antibodies/anti-mouse-igg-hrp-linked-antibody/7076">https://www.cellsignal.com/products/secondary-antibodies/anti-mouse-igg-hrp-linked-antibody/7076</a>
HRP-R (Anti-rabbit IgG, HRP-linked Antibody)	Cell signaling	7074	1/2000	<a href="https://www.cellsignal.com/products/secondary-antibodies/anti-rabbit-igg-hrp-linked-antibody/7074?N=4294956287&amp;Ntt=7074v&amp;requestid=401748&amp;fromPage=plp&amp;site-search-type=Products">https://www.cellsignal.com/products/secondary-antibodies/anti-rabbit-igg-hrp-linked-antibody/7074?N=4294956287&amp;Ntt=7074v&amp;requestid=401748&amp;fromPage=plp&amp;site-search-type=Products</a>
Mannose Receptor antibody [MR5D3]	GeneTex	GTX42263	1/100	<a href="https://www.genetex.com/Product/Detail/Mannose-Receptor-antibody-MR5D3/GTX42263">https://www.genetex.com/Product/Detail/Mannose-Receptor-antibody-MR5D3/GTX42263</a>
Mouse Podocalyxin Antibody	R&D Systems	AF1556	1/300	<a href="https://www.rndsystems.com/products/mouse-podocalyxin-antibody_af1556">https://www.rndsystems.com/products/mouse-podocalyxin-antibody_af1556</a>
ERG (A7L1G)	Cell signaling	97249	1/200	<a href="https://www.cellsignal.com/products/primary-antibodies/erg-a7l1g-rabbit-mab/97249">https://www.cellsignal.com/products/primary-antibodies/erg-a7l1g-rabbit-mab/97249</a>
CLDN5 (anti-mouse Alexa-488-conjugated antibody)	ThermoFisher Scientific	352588	1/50	<a href="https://www.thermofisher.com/antibody/product/Claudin-5-Antibody-clone-4C3C2-Monoclonal/352588">https://www.thermofisher.com/antibody/product/Claudin-5-Antibody-clone-4C3C2-Monoclonal/352588</a>
CD105/Endoglin (anti-rat antibody)	Merck	CBL1358	1/100	<a href="https://www.merckmillipore.com/BE/en/product/Anti-Endoglin-Antibody-Extracellular-clone-MJ7-18,MM_NF-CBL1358">https://www.merckmillipore.com/BE/en/product/Anti-Endoglin-Antibody-Extracellular-clone-MJ7-18,MM_NF-CBL1358</a>

## Chemicals

Name	Vendor or Source	Catalog #	Working concentration	Persistent ID / URL
4',6-Diamidino-2-phenylindole dihydrochloride (DAPI dihydrochloride)	Sigma-Aldrich	D9542	1:10000	<a href="https://www.sigmaaldrich.com/catalog/product/sigma/d9542?lang=de&amp;region=CH">https://www.sigmaaldrich.com/catalog/product/sigma/d9542?lang=de&amp;region=CH</a>

## Cultured Cells

Name	Vendor or Source	Catalog #	Sex (F, M, or unknown)	Persistent ID / URL
bEnd.3 [BEND3]	ATCC , France	CRL2299™	unknown	bEnd.3 [BEND3] <a href="https://www.lgcstandards-atcc.org/Products/All/CRL-2299.aspx?geo_country=ch">https://www.lgcstandards-atcc.org/Products/All/CRL-2299.aspx?geo_country=ch</a>
Human retinal microvascular endothelial cells	Cell Systems	ACBRI 181	unknown	Primary Human Retinal Microvascular Endothelial Cells <a href="https://cell-systems.com/collections/all/products/primary-human-retinal-microvascular-endothelial-cells-acbri-181?variant=37741819851">https://cell-systems.com/collections/all/products/primary-human-retinal-microvascular-endothelial-cells-acbri-181?variant=37741819851</a>
human brain microvascular (HBMV) ECs	ScienCell, Switzerland	1000	unknown	Human Brain Microvascular Endothelial Cells(HBMEC) <a href="https://www.sciencellonline.com/PS/1000.pdf">https://www.sciencellonline.com/PS/1000.pdf</a>
Human Umbilical Vein Endothelial Cells (HUVECS)	Sigma	200P-05N	unknown	<a href="https://www.sigmaaldrich.com/catalog/product/sigma/200p05n?lang=de&amp;region=CH">https://www.sigmaaldrich.com/catalog/product/sigma/200p05n?lang=de&amp;region=CH</a>

## Data & Code Availability

Description	Source / Repository	Persistent ID / URL
GSE141924	Gene Expression Omnibus	<a href="https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE141924">https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE141924</a>
GSE141923	Gene Expression Omnibus	<a href="https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE141923">https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE141923</a>