

Major Resources Table

Animals (in vivo studies)

Species	Vendor or Source	Background Strain	Sex	Persistent ID / URL
Mouse	The Jackson Laboratory	C57BL6/J	M,F	

Genetically Modified Animals

	Species	Vendor or Source	Background Strain	Other Information	Persistent ID / URL
Parent - Male	<i>Mgp</i> ^{+/-} mouse	The Jackson Laboratory	C57BL6/J	B6.129S7- <i>Mgp</i> ^{tm1Kry/KbosJ} stock #023811	https://www.jax.org/strain/023811
Parent - Female	<i>Mgp</i> ^{+/-} mouse	The Jackson Laboratory	C57BL6/J	B6.129S7- <i>Mgp</i> ^{tm1Kry/KbosJ} stock #023811	https://www.jax.org/strain/023811
Parent - Male	<i>Mgp</i> ^{mut/mut} mouse	Investigator Lab (Bostrom)	C57BL6/J	Mutation of MGP; Proline-64 to Glycine	
Parent - Female	<i>Mgp</i> ^{mut/mut} mouse	Investigator Lab (Bostrom)	C57BL6/J	Mutation of MGP; Proline-64 to Glycine	
(Not bred by investigator)	<i>Bmp4</i> ^{+/-} mouse	The Jackson Laboratory	C57BL6/J	B6.129S2- <i>Bmp4</i> ^{tm1Blh/J} stock #002612	https://www.jax.org/strain/002612

Antibodies

Target antigen	Vendor or Source	Catalog #	Working concentration	Lot # (preferred but not required)	Persistent ID / URL
See Table below					

DNA/cDNA Clones

Clone Name	Sequence	Source / Repository	Persistent ID / URL
N/A			

Cultured Cells

Name	Vendor or Source	Sex (F, M, or unknown)	Persistent ID / URL
Human Pulmonary Artery Endothelial Cells (HPAECs), primary	Thermo Fisher Scientific Catalog number:C0085C	Unknown	
Human Aortic Endothelial Cells (HAECs), primary	Thermo Fisher Scientific Catalog number:C0065C	Unknown	
Human Aortic Endothelial Cells (HAECs), primary	Prepared by the UCLA Atherosclerosis Research Unit Core from de-identified human aortic tissue	Unknown	
Human Saphenous Vein Endothelial Cells (HSVEC), primary	Promocell Catalog number: C-12231	Unknown	
Human Brain Endothelial Cells (HBECs), immortalized	ATCC® HBEC-5i (ATCC® CRL-3245™)	Unknown	

Mouse or Human Dedifferentiated Fat Cells (DFAT cells), primary	Prepared from mouse or de-identified human fat from liposuction by the Investigator Lab (Bostrom)	Unknown	
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Data & Code Availability

Description	Source / Repository	Persistent ID / URL
Code for Computational Model	Investigators: Drs. Y. Guo and A. Garfinkel	Request from AGarfinkel@mednet.ucla.edu

Other

Description	Source / Repository	Persistent ID / URL
Primers and Probes for qPCR	Applied Biosystems; Taqman® Gene Expression Assays	
Human or mouse ALK1	Hs00953798 m1; Mm00437432 m1	
Human or mouse ALK2	Hs00153836 m1; Mm01331069 m1	
Human APLN	Hs00175572 m1	
Human or mouse BMP4	Hs03676628 s1; Mm00432087 m1	
Human CD34	Hs02576480 m1	
Human or mouse CV-2	Hs00403062 m1; Mm01175806 m1	
Human DLL4	Hs00184092 m1	
Human or mouse ENG	Hs00923996 m1; Mm00468252 m1	
Human HEY1	Hs05047713 s1	
Human JAG1	Hs01070032 m1	
Human or mouse MGP	Hs00969490 m1; Mm00485009 m1	
Human VEGF	Hs00900055 m1	
Recombinant Proteins		
BMP-4, human	R&D Systems Catalog number: 314-BP	
BMP-9, human	R&D Systems Catalog number: 3209-BP	
ELISA		
Human BMP-9 DuoSet ELISA	R&D Systems Catalog number: DY008	

Target Antigen / Antibody	Reactivity	Manufacturer	Catalogue Number	Working Concentration
Retinal Immunofluorescence				
Alpha-Smooth Muscle Actin	Mouse anti-Mouse; monoclonal	R&D Systems	MAB1420	1:200
Crossveinless-2 / CV-2	Goat anti-Mouse; polyclonal	R&D Systems	AF2299	1:200
Activin receptor-like kinase 1 (ALK-1)	Goat anti-Mouse; polyclonal	R&D Systems	AF770	1:200
Matrix Gla protein (MGP)	Rabbit anti-Mouse; polyclonal	Abcam	ab192396	1:200 (or as titrated)
CD31/PECAM-1	Goat anti-Mouse; polyclonal	R&D Systems	AF3628	1:200
Endoglin (CD105)	Rat anti-Mouse; monoclonal	BD Biosciences	550546	1:200
Griffonia Simplicifolia Lectin I (GSL I) isolectin B4 (IB4), biotinylated	Galactose	Vector Labs	B-1205	1:200
Isotype control Mouse IgG		Millipore Sigma	NI03	1:250
Isotype control Rabbit IgG		Abcam	ab171870	1:500
Isotype control Goat IgG		Abcam	ab37373	1:200
Isotype control Rat IgG		Thermo Fisher Scientific	02-9602	1:500
Secondary Antibodies for Immunofluorescence				
Chicken anti-Goat IgG secondary antibody, Alexa Fluor 594	Chicken anti-Goat; polyclonal	Invitrogen / Thermo Fisher Scientific	A-21468	1:500-1,000
Chicken anti-Rabbit IgG secondary antibody, Alexa Fluor 594	Chicken anti-Rabbit; polyclonal	Invitrogen / Thermo Fisher Scientific	A-21442	1:500-1,000
Chicken anti-Rabbit IgG secondary antibody, Alexa Fluor 488	Chicken anti-Rabbit; polyclonal	Invitrogen / Thermo Fisher Scientific	A-21441	1:500-1,000
Chicken anti-Goat IgG secondary antibody, Alexa Fluor 488	Chicken anti-Goat; polyclonal	Invitrogen / Thermo Fisher Scientific	A-21467	1:500-1,000
Chicken anti-Mouse IgG secondary antibody, Alexa Fluor 488	Chicken anti-Mouse; polyclonal	Invitrogen / Thermo Fisher Scientific	A-21200	1:500-1,000
Streptavidin, Alexa Fluor™ 594 conjugate		Thermo Fisher Scientific	S11227	1:500
Streptavidin, Alexa Fluor™ 350 conjugate		Thermo Fisher Scientific	S11249	1:500
Immunoblotting				
Crossveinless-2 / CV-2	Goat anti-Mouse; polyclonal	R&D Systems	AF2299	1:5,000
Matrix Gla protein (MGP)	Rabbit anti-Mouse; polyclonal	Abcam	ab192396	1:2,000 (or as titrated)
Beta (β)-Actin	Mouse anti-mouse; monoclonal	Sigma-Aldrich	A2228	1:5,000
Secondary Antibodies for Immunofluorescence				
Secondary antibody, HRP	Rabbit anti-Goat IgG (H+L)	Thermo Fisher Scientific	31402	1:5,000
Secondary antibody, HRP	Goat anti-Rabbit IgG (H+L)	Thermo Fisher Scientific	31460	1:5,000
Secondary antibody, HRP	Goat anti-Mouse IgG (H+L)	Thermo Fisher Scientific	31430	1:5,000