

## Major Resources Table

### Animals (in vivo studies)

Species	Vendor or Source	Background Strain	Sex	Persistent ID / URL
<i>C57BL/6J</i>	In house	C57BL/6J	M/F	N/A
<i>FAK WT/KD</i>	In house	C57BL/6J	M/F	N/A
<i>FAK flox/flox Myh11-CreER<sup>T2</sup></i>	In house	C57BL/6J	M/F	N/A
<i>FAK flox/WT Myh11-CreER<sup>T2</sup></i>	In house	C57BL/6J	M	N/A
<i>FAK flox/KD Myh11-CreER<sup>T2</sup></i>	In house	C57BL/6J	M	N/A

### Antibodies

Target antigen	Host species	Vendor or Source	Catalog #	Working concentration	Persistent ID / URL
FAK	Mouse	Millipore	05-537	1:2000 WB 1:100 IF	<a href="https://www.emdmillipore.com/US/en/product/Anti-FAK-Antibody-clone-4.47,MM_NF-05-537">https://www.emdmillipore.com/US/en/product/Anti-FAK-Antibody-clone-4.47,MM_NF-05-537</a>
TAGLN (SM22)	Mouse	Millipore	MABT167	1:1000 WB 1:500 IF	<a href="https://www.emdmillipore.com/US/en/product/Anti-Transgelin-SM22a-Antibody-clone-20F2.2,MM_NF-MABT167">https://www.emdmillipore.com/US/en/product/Anti-Transgelin-SM22a-Antibody-clone-20F2.2,MM_NF-MABT167</a>
Calponin (CNN1)	Mouse	Millipore	C2687	1:1000 WB	<a href="https://www.sigmaaldrich.com/US/en/product/sigma/c2687?context=product">https://www.sigmaaldrich.com/US/en/product/sigma/c2687?context=product</a>
ACTA2 ( $\alpha$ -SMA)	Mouse	Millipore	A5228	1:5000 WB 1:500 IF	<a href="https://www.sigmaaldrich.com/US/en/product/SIGMA/A5228">https://www.sigmaaldrich.com/US/en/product/SIGMA/A5228</a>
ACTA2 ( $\alpha$ -SMA)	Rabbit	Millipore	ABT1487	1:500 IF	<a href="https://www.sigmaaldrich.com/US/en/product/mm/abt1487?context=product">https://www.sigmaaldrich.com/US/en/product/mm/abt1487?context=product</a>
5-mC	Mouse	Millipore	SAB2702243	1:10000 dot blot 1:1000 IF	<a href="https://www.sigmaaldrich.com/US/en/product/sigma/sab2702243?context=product">https://www.sigmaaldrich.com/US/en/product/sigma/sab2702243?context=product</a>
Ubiquitin	Mouse	Millipore	04-262	1:2000 WB	<a href="https://www.sigmaaldrich.com/US/en/product/mm/04262?context=product">https://www.sigmaaldrich.com/US/en/product/mm/04262?context=product</a>
H4Ac	Rabbit	Millipore	06-866	1 $\mu$ g ChIP	<a href="https://www.sigmaaldrich.com/US/en/product/mm/06866?context=product">https://www.sigmaaldrich.com/US/en/product/mm/06866?context=product</a>
GAPDH	Mouse	Millipore	MAB374	1:5000 WB	<a href="https://www.sigmaaldrich.com/US/en/product/mm/mab374?context=product">https://www.sigmaaldrich.com/US/en/product/mm/mab374?context=product</a>
DNMT3A	Rabbit	Cell Signaling Technology	2160	1:200 IF	<a href="https://www.cellsignal.com/products/primary-antibodies/dnmt3a-antibody/2160">https://www.cellsignal.com/products/primary-antibodies/dnmt3a-antibody/2160</a>
$\beta$ -Actin	Mouse	Santa Cruz Biotechnology	SC47778	1:5000 WB	<a href="https://www.scbt.com/p/beta-actin-antibody-c4">https://www.scbt.com/p/beta-actin-antibody-c4</a>
DNMT3A	Mouse	Santa Cruz Biotechnology	SC365769	1:1000 WB	<a href="https://www.scbt.com/p/dnmt3a-antibody-c-12">https://www.scbt.com/p/dnmt3a-antibody-c-12</a>
DNMT3A	Mouse	Santa Cruz Biotechnology	SC373905	1:200 IF	<a href="https://www.scbt.com/p/dnmt3a-antibody-a-10">https://www.scbt.com/p/dnmt3a-antibody-a-10</a>

DNMT1	Rabbit	Santa Cruz Biotechnology	SC20701	1:1000 WB 1:200 IF	<a href="https://www.scbt.com/p/dnmt1-antibody-h-300">https://www.scbt.com/p/dnmt1-antibody-h-300</a>
SRF	Rabbit	Santa Cruz Biotechnology	SC335	1 µg ChIP	<a href="https://www.scbt.com/p/srf-antibody-g-20">https://www.scbt.com/p/srf-antibody-g-20</a>
pY397 FAK	Rabbit	Thermo Fisher	44-624G	1:3000 WB 1:300 IF	<a href="https://www.thermofisher.com/antibody/product/Phospho-FAK-Tyr397-Antibody-Polyclonal/44-624G">https://www.thermofisher.com/antibody/product/Phospho-FAK-Tyr397-Antibody-Polyclonal/44-624G</a>
DNMT3B	Rabbit	Thermo Fisher	PA1-32317	1:1000 WB 1:200 IF	<a href="https://scicrunch.org/resources/Antibodies/search?q=PA1-32317&amp;l=PA1-32317">https://scicrunch.org/resources/Antibodies/search?q=PA1-32317&amp;l=PA1-32317</a> (Discontinued)
Alexa 488 anti-mouse	Goat	Thermo Fisher	A11001	1:1000 IF	<a href="https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11001">https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11001</a>
Alexa 594 anti-mouse	Goat	Thermo Fisher	A11005	1:1000 IF	<a href="https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11005">https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11005</a>
Alexa 488 anti-rabbit	Goat	Thermo Fisher	A11008	1:1000 IF	<a href="https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11008">https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11008</a>
Alexa 594 anti-rabbit	Goat	Thermo Fisher	A11012	1:1000 IF	<a href="https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11012">https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-11012</a>
Anti-Mouse HRP	Goat	Thermo Fisher	31430	1:5000 WB	<a href="https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Secondary-Antibody-Polyclonal/31430">https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Secondary-Antibody-Polyclonal/31430</a>
Anti-Rabbit HRP	Goat	Thermo Fisher	31460	1:5000 WB	<a href="https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Secondary-Antibody-Polyclonal/31460">https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Secondary-Antibody-Polyclonal/31460</a>
Caldesmon (CALD1)	Rabbit	abcam	ab32330	1µg ChIP	<a href="https://www.abcam.com/nav/primary-antibodies/rabbit-mono-clonal-antibodies/caldesmoncdm-antibody-e89-ab32330.html">https://www.abcam.com/nav/primary-antibodies/rabbit-mono-clonal-antibodies/caldesmoncdm-antibody-e89-ab32330.html</a>
H3K27Ac	Rabbit	abcam	ab4729	1µg ChIP	<a href="https://www.abcam.com/histone-h3-acetyl-k27-antibody-chip-grade-ab4729.html">https://www.abcam.com/histone-h3-acetyl-k27-antibody-chip-grade-ab4729.html</a>
H3K9me3	Rabbit	abcam	ab8898	1µg ChIP	<a href="https://www.abcam.com/histone-h3-tri-methyl-k9-antibody-chip-grade-ab8898.html">https://www.abcam.com/histone-h3-tri-methyl-k9-antibody-chip-grade-ab8898.html</a>
H3	Rabbit	abcam	ab1791	1µg ChIP	<a href="https://www.abcam.com/histone-h3-antibody-nuclear-">https://www.abcam.com/histone-h3-antibody-nuclear-</a>

					marker-and-chip-grade-ab1791.html
H4	Rabbit	abcam	ab10158	1 $\mu$ g ChIP	<a href="https://www.abcam.com/histone-h4-antibody-chip-grade-ab10158.html">https://www.abcam.com/histone-h4-antibody-chip-grade-ab10158.html</a>
MYH11	Rabbit	Alfa Aesar	BT562	1:1000 WB	<a href="https://www.fishersci.com/shop/products/anti-myosin-sm-562-100microl/aaj64817amj">https://www.fishersci.com/shop/products/anti-myosin-sm-562-100microl/aaj64817amj</a>
FAK	Rabbit	In house against a.a. 896-912 of human FAK		1 $\mu$ g IP	N/A

### Plasmids

Clone Name	Use	Source / Repository	Persistent ID / URL
pMD2.G	VSV-G envelope plasmid	Addgene	<a href="https://www.addgene.org/12259/">https://www.addgene.org/12259/</a>
pCMVR8.74	Gag/pol/REV plasmid	Addgene	<a href="https://www.addgene.org/22036/">https://www.addgene.org/22036/</a>
pCDH-FLAG-FAK-WT-puro	FLAG-FAK-WT Expression with Puro Resistance	In house	N/A
pCDH-FLAG-FAK-NLM-puro	FLAG-FAK-NLM Expression with Puro Resistance	In house	N/A
pLentiLox 3.7-puro	shRNA Backbone Vector with Puro Resistance	In house	N/A
pLentiLox 3.7-puro shScr	Scramble Control with Puro Resistance	In house	N/A
pLentiLox 3.7-puro shDNMT3A-1	DNMT3A Target Sequence #1	In house	N/A
pLentiLox 3.7-puro shDNMT3A-2	DNMT3A Target Sequence #2	In house	N/A
pLentiLox 3.7-puro shDNMT3B-1	DNMT3A Target Sequence #1	In house	N/A
pLentiLox 3.7-puro shDNMT3B-2	DNMT3B Target Sequence #2	In house	N/A
pSicoR mCh-empty	shRNA Backbone Vector with mCherry Expression	Addgene	<a href="https://www.addgene.org/21907/">https://www.addgene.org/21907/</a>
pSicoR mCherry shScr	Scramble Control with mCherry Expression	In house	N/A
pSicoR mCherry shDNMT3A-1	DNMT3A Target Sequence #1	In house	N/A
pcDNA-Myc-DNMT3A	Myc-DNMT3A Expression and Cloning for DNMT3A Mutants	Addgene	<a href="https://www.addgene.org/35521/">https://www.addgene.org/35521/</a>
pcDNA-Myc-DNMT3A- $\Delta$ N-Term	Myc-DNMT3A a.a. 71-012	In house	N/A
pcDNA-Myc-	Myc-DNMT3A a.a.	In house	N/A

DOI [to be added]

DNMT3A-N-Term	1-70		
pcDNA3.1-HA	Backbone for HA-Tagged Fusion Proteins	Addgene	<a href="https://www.addgene.org/128034/">https://www.addgene.org/128034/</a>
pcDNA3.1-UHRF1-HA	UHRF1-HA Expression	In house	N/A
pcDNA3.1-UHRF2-HA	UHRF2-HA Expression	In house	N/A
Myc-TRAF6	Myc-TRAF6 Expression	In house	N/A

### Oligonucleotides

Gene	Sequence	Use
Acta2	Fwd: 5' – AGACAGCTATGTGGGGGATG – 3' Rev: 5' – GTTCAGTGGTGCCTCTGTCA – 3'	qPCR
Cnn1	Fwd: 5' – AGCAGGAGCTGAGAGAGTGG – 3' Rev: 5' – TGGTGCCAGTTCTGAGTTGA – 3'	qPCR
Tagln	Fwd: 5' – CCCAGACACCGAAGCTACTC – 3' Rev: 5' – CCACTCCACTAGTCGCTCCT – 3'	qPCR
Myh11	Fwd: 5' – CGACAGGCTAGGGATGAGAG – 3' Rev: 5' – ACATGGCTTCCAGTGTCTCC – 3'	qPCR
DNMT3A	Fwd: 5' – ACGGCAATTCCTTCTCTGAA – 3' Rev: 5' – ACGGTTCTCCTCCTGTTCTCCT – 3'	qPCR
DNMT3B	Fwd: 5' – GCAGAGATGGAGACAGCACA – 3' Rev: 5' – AAAGTTGCCATCACCAAACC – 3'	qPCR
DNMT1	Fwd: 5' – GGAGAGCAGAAATGGCAGAC – 3' Rev: 5' – CCCTCTTCCGACTCTTCCTT – 3'	qPCR
GAPDH	Fwd: 5' – GGTGCTGAGTATGTCGTGGAGTCTA – 3' Rev: 5' – AAAGTTGTCATGGATGACCTTGG – 3'	qPCR
Myh11 Promoter	Fwd: 5' – TGGGAATTCCTGTTTTCGAGAAT – 3' Rev: 5' – CACACCACTCAGGCCATAAA – 3'	ChIP
Tagln Promoter	Fwd: 5' – CTCATTGAAGAGCAGACC – 3' Rev: 5' – ATGCTTTGGAGATGCTGC – 3'	ChIP
Acta2 Promoter	Fwd: 5' – TCTGGCCACCCAGATTAGA – 3' Rev: 5' – GCTGAACGCTGAAGGGTTAT – 3'	ChIP
Tagln Promoter BS	Fwd: 5' – TATTAATTYGATTTTAACTTTTTGTAAGAAGGTG – 3' Rev: 5' – CTCCTACCCATAAAAATCTACTTAACTC – 3'	Bisulfite Sequencing
Myh11 Promoter BS	Fwd: 5' – TTTTGTGTATTGTTGTTTAGTGAG – 3' Rev: 5' – CCATTACACTCTAACTTTAATTTTC – 3'	Bisulfite Sequencing
Mouse DNMT3A-1	Sense: 5' - TGTTTCATACTTGGGAGGCTTTCAAGAGAAGCCTCCC AAGTATGAAACTTTTTTC – 3' Antisense 5' - TCGAGAAAAAAGTTTCATACTTGGGAGGCTTCTCT TGAAAGCCTCCCAAGTATGAAACA – 3'	shRNA Knockdown
Mouse DNMT3A-2	Sense: 5' - TGTGTAGATATGTGGCATATTTCAAGAGAATATGCCA CATATCTACACTTTTTTC – 3' Antisense 5' - TCGAGAAAAAAGTGTAGATATGTGGCATATTCTCT TGAAATATGCCACATATCTACACA – 3'	shRNA Knockdown
Mouse DNMT3B-1	Sense: 5' - TACCCAAGCGCCTCAAGACATTCAAGAGATGTCTTG AGGCGCTTGGGTTTTTTTC – 3' Antisense 5' - TCGAGAAAAAACCCTCAAGACATCTC TTGAATGTCTTGAGGCGCTTGGGTA – 3'	shRNA Knockdown
Mouse DNMT3B-2	Sense: 5' - TGCTCTGATATTCTAATGCCTTCAAGAGAGGCATTAG AATATCAGAGCTTTTTTC – 3' Antisense 5' - TCGAGAAAAAAGCTCTGATATTCTAATGCCTCTCT TGAAGGCATTAGAATATCAGAGCA – 3'	shRNA Knockdown

DNMT3A N-Term	Fwd CMV: 5' - CGCAAATGGGCGGTAGG – 3' Rev: 5' – AAAGGATCCTTACGCAGGGTCCTTTGGCGTGTC – 3'	Cloning
DNMT3A ΔN-Term	Fwd: 5' – AAAGAATTCGTGATCTCCAAGTCCCCATCC – 3' Rev SP6: 5' – ATTTAGGTGACACTATA – 3'	Cloning
UHRF1	Fwd: 5' – AAAGGTACCGATGTGGATCCAGGTTCCGGACCATG – 3' Rev: 5' – AAAGATATCTCACCGGCCATTGCCGTAGCCG – 3'	Cloning
UHRF2	Fwd: 5' – AAAGGTACCGATGTGGATACAGGTTCCGCACCATT – 3' Rev: 5' – AAAGATATCTCATCGTCCTTTGCTGTAGCCA – 3'	Cloning

### Cultured Cells

Name	Vendor or Source	Sex (F, M, or unknown)	Persistent ID / URL
mSMC	In house	Male	
hCASMC	Lonza	Female	<a href="https://bioscience.lonza.com/lonza_bs/US/en/Primary-and-Stem-Cells/p/000000000000185163/CASMC-%E2%80%93-Human-Coronary-Artery-Smooth-Muscle-Cells">https://bioscience.lonza.com/lonza_bs/US/en/Primary-and-Stem-Cells/p/000000000000185163/CASMC-%E2%80%93-Human-Coronary-Artery-Smooth-Muscle-Cells</a>
HEK 293T	ATCC	Female	<a href="https://www.atcc.org/products/crl-11268">https://www.atcc.org/products/crl-11268</a>
HEK 293 FT	Life Technologies	Female	<a href="https://www.thermofisher.com/order/catalog/product/R70007?us&amp;en#/R70007?us&amp;en">https://www.thermofisher.com/order/catalog/product/R70007?us&amp;en#/R70007?us&amp;en</a>

### Data & Code Availability

Description	Source / Repository	Persistent ID / URL
RNA Sequencing for Femoral Artery Samples	Gene Expression Omnibus	<a href="https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE183143">https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE183143</a>

### Other

Description	Source / Repository	Catalog number
Fibronectin	Sigma Aldrich	1141
Poly-L-Lysine	Sigma Aldrich	P4707
Matrigel (Laminin)	Corning	356230
Collagen Type I	Corning	354236
Gelatin (Porcine)	Sigma Aldrich	G1890
Boyden Chamber	Millipore	PI8P01250
Protease inhibitor cocktail	Roche	06538282001
DMEM	Sigma Aldrich	D6429
FBS	Omega Scientific	FB-02
SmBM	Lonza	CC-3181
SmGM-2 SingleQuots	Lonza	CC-4149
PEI	Polysciences	24765
4-12 % Bis-Tris Polyacrylamide Gel	Thermo Fisher	NP0336BOX
Protein A Agarose	Thermo Fisher	20334
Protein G Sepharose	BioVision InCorp	6511-25
Dynabeads Protein A	Thermo Fisher	10001D
Dynabeads Protein G	Thermo Fisher	10003D
Steriflip Filter (0.45 μm)	Millipore	SE1M003M00
Amicon Ultra-15 Centrifuge Filter	Millipore	UFC910096
NucleoSpin RNA isolation kit	Macherey-Nagel	740955
SuperScript III Reverse Transcriptase	Life Technologies	18080093

SYBR Green SMX	Bio-Rad	172-5124
Tamoxifen	Sigma Aldrich	T5648
OCT	Fisher Scientific	23730571
DAPI	Sigma Aldrich	D8417
Fluoromount-G	SouthernBiotech	0100-01
Image J	NIH	software
Photoshop CS5	Adobe	software
GraphPad Prism	GraphPad Software	software