

## 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

### Genetically Modified Animals

	Species	Vendor or Source	Background Strain	Other Information	Persistent ID / URL
Parent - Male					
Parent - Female					

### Antibodies

Target antigen	Vendor or Source	Catalog #	Working concentration	Persistent ID / URL
Mouse IgG	Abcam	ab46540	1:50	<a href="https://www.abcam.com/rabbit-mouse-igg-hl-ab46540.html">https://www.abcam.com/rabbit-mouse-igg-hl-ab46540.html</a>
H3K4me3	Active Motifs	391159	1:50	<a href="https://www.activemotif.com/catalog/details/39159/histone-h3-trimethyl-lys4-antibody-pab">https://www.activemotif.com/catalog/details/39159/histone-h3-trimethyl-lys4-antibody-pab</a>
CREB	EMD Millipore	CS203204	1:50	<a href="https://www.emdmillipore.com/CA/en/product/ChIPAb-CREB-ChIP-Validated-Antibody-and-Primer-Set-rabbit-monoclonal,MM_NF-17-600">https://www.emdmillipore.com/CA/en/product/ChIPAb-CREB-ChIP-Validated-Antibody-and-Primer-Set-rabbit-monoclonal,MM_NF-17-600</a>
H3K27ac	Abcam	ab4729	1:50	<a href="http://abcam.com/histone-h3-acetyl-k27-antibody-chip-grade-ab4729.html">abcam.com/histone-h3-acetyl-k27-antibody-chip-grade-ab4729.html</a>
Rabbit IgG	Novus	NBP1-72763	1:100	<a href="https://www.novusbio.com/products/igg-h-l-antibody_nbp1-72763">https://www.novusbio.com/products/igg-h-l-antibody_nbp1-72763</a>
FHL5	Novus	NBP1-32660	1:100; 1:50	<a href="https://www.novusbio.com/products/fhl5-antibody_nbp1-32660">https://www.novusbio.com/products/fhl5-antibody_nbp1-32660</a>
FHL5	Abnova	H00009457-M01	1:1000	<a href="https://www.abnova.com/products/products_detail.asp?catalog_id=H00009457-M01">https://www.abnova.com/products/products_detail.asp?catalog_id=H00009457-M01</a>
H3	Cell Signaling	9715S	1:5000	<a href="https://www.cellsignal.com/products/primary-antibodies/histone-h3-antibody/9715?site-search-type=Products&amp;N=4294956287&amp;Ntt=9715s&amp;fromPage=plp&amp;requestid=806222">https://www.cellsignal.com/products/primary-antibodies/histone-h3-antibody/9715?site-search-type=Products&amp;N=4294956287&amp;Ntt=9715s&amp;fromPage=plp&amp;requestid=806222</a>
ACTA2	Abcam	ab5694	1:2500	<a href="https://www.abcam.com/alpha-smooth-muscle-actin-antibody-ab5694.html">https://www.abcam.com/alpha-smooth-muscle-actin-antibody-ab5694.html</a>
TAGLN	Abcam	ab14106	1:2500	<a href="https://www.abcam.com/taglntransgelin-antibody-ab14106.html">https://www.abcam.com/taglntransgelin-antibody-ab14106.html</a>
HA	Abcam	ab9110	1:5000	<a href="https://www.abcam.com/ha-tag-antibody-chip-grade-ab9110.html">https://www.abcam.com/ha-tag-antibody-chip-grade-ab9110.html</a>
RUNX2	Santa Cruz Biotechnology	sc-390351	1:300	<a href="https://www.scbt.com/p/runx2-antibody-f-2">https://www.scbt.com/p/runx2-antibody-f-2</a>
F-Actin	ThermoFisher	ActinGreen™ 488	1:400	<a href="https://www.thermofisher.com/order/catalog/product/R37110">https://www.thermofisher.com/order/catalog/product/R37110</a>

DOI [to be added]

	Scientific	ReadyProbes		
a-SMA	Santa Cruz Biotechnology	SC-53142	1:100	<a href="https://www.scbt.com/p/smooth-muscle-actin-antibody-b4?gclid=CjwKCAiA0cyfBhBREiwAAtStHLfLTloyo6jBmptBp4F2rtv7g-yI7RQxu28NJKBgYINq-IG5UH6zxoCwEkQAvD_BwE">https://www.scbt.com/p/smooth-muscle-actin-antibody-b4?gclid=CjwKCAiA0cyfBhBREiwAAtStHLfLTloyo6jBmptBp4F2rtv7g-yI7RQxu28NJKBgYINq-IG5UH6zxoCwEkQAvD_BwE</a>
Tubulin	Invitrogen	32-2500	1:1000	<a href="https://www.thermofisher.com/antibody/product/alpha-Tubulin-Antibody-clone-B-5-1-2-Monoclonal/32-2500">https://www.thermofisher.com/antibody/product/alpha-Tubulin-Antibody-clone-B-5-1-2-Monoclonal/32-2500</a>
MYLK	Abcam	ab76092	1:2000	<a href="https://www.abcam.com/myosin-light-chain-kinasemlck-antibody-ep1458y-ab76092.html">https://www.abcam.com/myosin-light-chain-kinasemlck-antibody-ep1458y-ab76092.html</a>
pMLC20	Cell Signaling	3671	1:1000	<a href="https://www.cellsignal.com/products/primary-antibodies/phospho-myosin-light-chain-2-ser19-antibody/3671">https://www.cellsignal.com/products/primary-antibodies/phospho-myosin-light-chain-2-ser19-antibody/3671</a>

#### DNA/cDNA Clones

Clone Name	Sequence	Source / Repository	Persistent ID / URL
FHL5	5035.1	NCBI CCDS Database	<a href="https://www.ncbi.nlm.nih.gov/projects/CCDS/CcidsBrowse.cgi?REQUEST=GV&amp;DATA=647651&amp;BUILDS=CURRENTBUILDS">https://www.ncbi.nlm.nih.gov/projects/CCDS/CcidsBrowse.cgi?REQUEST=GV&amp;DATA=647651&amp;BUILDS=CURRENTBUILDS</a>

#### Cultured Cells

Name	Vendor or Source	Sex (F, M, or unknown)	Persistent ID / URL
HCASMC	Cell Applications	F	
HEK293T	ATCC	Unknown	
A7r5	ATCC	Unknown	

#### Data & Code Availability

Description	Source / Repository	Persistent ID / URL
Human Coronary Artery scATAC-seq	GSE175621	<a href="https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE175621">https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE175621</a>
Bulk Coronary Artery RNA-seq	GSE72696	<a href="https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE72696">https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE72696</a>
Bulk RNA-seq (Left Ventricle, Liver, HUVEC, HEPG2, K562)	ENCODE	<a href="https://www.encodeproject.org">https://www.encodeproject.org</a>
Bulk RNA-seq (Human Coronary Artery Smooth Muscle Cells)	GSE141752	<a href="https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE141752">https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE141752</a>
Human Coronary Artery scRNA-seq	GSE131780	<a href="https://www.plaquiview.com">https://www.plaquiview.com</a>
GTEEx AOR eQTL	GTEEx	<a href="https://gtexportal.org/home/datasets">https://gtexportal.org/home/datasets</a>
STARNET AOR eQTL and Gene Regulatory Network	STARNET	<a href="http://starnet.mssm.edu">http://starnet.mssm.edu</a>
GWAS summary statistics and gene annotations	Cardiovascular Disease Knowledge Portal	<a href="https://cvd.hugeamp.org">https://cvd.hugeamp.org</a>

#### Other

Description	Source / Repository	Persistent ID / URL

DOI [to be added]


**ARRIVE GUIDELINES**

The ARRIVE guidelines (<https://arriveguidelines.org/>) are a checklist of recommendations to improve the reporting of research involving animals. Key elements of the study design should be included below to better enable readers to scrutinize the research adequately, evaluate its methodological rigor, and reproduce the methods or findings.

**Study Design**

Groups	Sex	Age	Number (prior to experiment)	Number (after termination)	Littermates (Yes/No)	Other description
Group 1 (Control)						
Group 2						
Add more if needed						

**Sample Size:** Please explain how the sample size was decided Please provide details of any a *prior* sample size calculation, if done.

**Inclusion Criteria**

**Exclusion Criteria**

**Randomization**

**Blinding**