

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
Canine	LAKA Inc.	Random Source Mongrels, Foxhounds	M/F	

Genetically Modified Animals

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

Antibodies

Target antigen	Vendor or Source	Catalog #	Working concentration	Lot # (optional)	Persistent ID / URL
Immunocytochemistry (ICC) and immunoblotting (WB) of canine atrial samples					
CaMKII δ (Total)	Badrilla	A010-56AP	ICC: 1:200 WB: 1:5,000		http://badrilla.com/media/datasheets/A010-56AP.pdf
CaMKII δ (Thr305)	Thermo Fisher Scientific	PA5-38238	ICC: 1:100		https://www.thermofisher.com/antibody/product/Phospho-CaMKII-alpha-beta-delta-Thr305-Antibody-Polyclonal/PA5-38238
CaMKII δ (Thr287)	Thermo Fisher Scientific	PA5-37833	WB: 1:1,000		https://www.thermofisher.com/antibody/product/Phospho-CaMKII-beta-gamma-delta-Thr287-Antibody-Polyclonal/PA5-37833
GAPDH	Fitzgerald	10R-G109a	WB: 1:10,000		https://www.fitzgerald-fii.com/gapdh-antibody-10r-g109a.html
HDAC4 (Total)	Santa Cruz	sc-11418	ICC: 1:50 WB: 1:100		https://www.scbt.com/p/hdac4-antibody-h-92
Histone H3	Abcam	Ab1791	WB: 1:10,000		https://www.abcam.com/histone-h3-antibody-nuclear-marker-and-chip-grade-ab1791.html
IP ₃ R1	Alomone Labs	ACC-019	ICC: 1:100 WB: 1:100		https://www.alomone.com/p/anti-ip3-receptor-1/ACC-019
IP ₃ R1	Neuromab	UCD-73-035	WB: 1:10		http://neuromab.ucdavis.edu/datasheet/L24_18.pdf

IP ₃ R2	Alomone Labs	ACC-116	ICC: 1:200 WB: 1:500		https://www.alomone.com/p/anti-ip3-receptor-2/ACC-116
Lamin A+C	Abcam	ab108595	ICC: 1:300		https://www.abcam.com/lamin-a--lamin-c-antibody-epr4100-nuclear-envelope-marker-ab108595.html
NPC	Abcam	ab24609	ICC: 1:300		https://www.abcam.com/nuclear-pore-complex-proteins-antibody-mab414-ab24609.html
RyR2	Thermo Fisher Scientific	MA3-916	ICC: 1:200 WB: 1:1,000		https://www.thermofisher.com/antibody/product/Ryanodine-Receptor-Antibody-clone-C3-33-Monoclonal/MA3-916
RyR2 (Ser2808)	Abcam	ab59225	WB: 1:1,000		https://www.abcam.com/ryanodine-receptor-2ryr-2-phospho-s2808-antibody-ab59225.html
RyR2 (Ser2814)	Badrilla	A010-31	WB: 1:1,000		https://badrilla.com/ryanodine-receptor-2-ryr2-pser2814-pab-serum.html
SERCA2a	Thermo Fisher Scientific	MA3-910	ICC: 1:200 WB: 1:5,000		https://www.thermofisher.com/antibody/product/SERCA2-ATPase-Antibody-clone-IID8-Monoclonal/MA3-910
Mouse IgG	Thermo Fisher Scientific	31903	ICC: 1:100		https://www.thermofisher.com/antibody/product/Mouse-IgG-Isotype-Control/31903
Rabbit IgG	Thermo Fisher Scientific	02-6102	ICC: 1:100		https://www.thermofisher.com/antibody/product/Rabbit-IgG-Isotype-Control/02-6102
Secondary antibodies					
Donkey anti-mouse 488	Thermo Fisher Scientific	A-21202	ICC: 1:600		https://www.thermofisher.com/antibody/product/Donkey-anti-Mouse-IgG-H-L-Highly-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-21202
Donkey anti-rabbit 555	Thermo Fisher Scientific	A-31572	ICC: 1:600		https://www.thermofisher.com/antibody/product/Donkey-anti-Rabbit-IgG-H-L-Highly-Cross-Adsorbed-Secondary-Antibody-Polyclonal/A-31572
Donkey anti-mouse IgG	Jackson Immuno	715-035-151	WB: 1:5,000 or 1:10,000		https://www.jacksonimmuno.com/catalog/products/715-035-151
Donkey anti-rabbit IgG	Jackson Immuno	711-035-152	WB: 1:5,000 or 1:10,000		https://www.jacksonimmuno.com/catalog/products/711-035-152
Immunoblotting in human atrial samples					
CaMKII δ (Total)	BD Biosciences	611293	1:10,000		https://wwwbdbiosciences.com/us/reagents/research/antibodies-buffers/cell-biology-reagents/cell-biology-antibodies/purified-mouse-anti-cam-kinase-ii-45cam-kinase-ii/p/611293

DOI [to be added]

CaMKIIδ (Thr287)	Promega	V1111	1:1,000		https://nld.promega.com/resources/msds/msdss/v1000/v1111/
GAPDH	Tebu-Bio	H86504M	1:20,000		https://www.tebu-bio.com/Product/221H86504M/MAB_TO_GLYCERALDEHYDE_3_PDH_H86504M_.html
HDAC4	Sigma/Merck	H9536-200	1:1,000		https://www.sigmaaldrich.com/catalog/product/sigma/h9536
Histone H3	Abcam	Ab1791	1:1,000		https://www.abcam.com/histone-h3-antibody-nuclear-marker-and-chip-grade-ab1791.html
IP ₃ R1	Alomone Labs	ACC-019	1:100		https://www.alomone.com/p/anti-ip3-receptor-1/ACC-019
SERCA2a	Santa Cruz	sc-8095	1:1,000		https://www.scbt.com/p/serca2-antibody-n-19
Secondary antibodies					
Goat anti-mouse	LI-COR	926-32210	1:20,000		https://www.licor.com/bio/reagents/irdye-800cw-goat-anti-mouse-igg-secondary-antibody
Goat anti-rabbit	LI-COR	926-68071	1:20,000		https://www.licor.com/bio/reagents/irdye-680rd-goat-anti-rabbit-igg-secondary-antibody
Rabbit anti-goat	Novus Bio	NB7352	1:1,000		https://www.novusbio.com/products/igg-h-l-antibody_nb7352
Goat anti-mouse	Sigma/Merck	401215	1:1,000		https://www.sigmaaldrich.com/catalog/product/mm/401215
Donkey anti-rabbit	GE Healthcare (Cytiva)	NA934V	1:1,000		https://www.cytivalifesciences.com/en/us/shop/protein-analysis/blotting-and-detection/blotting-standards-and-reagents/amersham-ecl-hrp-conjugated-antibodies-p-06260

DNA/cDNA Clones

Clone Name	Sequence	Source / Repository	Persistent ID / URL
miR-NC_S	<i>UCAUAAAGCUGAUAACCUCUAGAU</i>	Integrated DNA Technologies Inc., Coralville, Iowa	
miR-NC_AS	<i>CUAGAGGUUAUCAGCUUUAUGAAU</i>		
miR-26a_S	<i>UUCAAGUAAUCCAGGAUAGGCU</i>		
miR-26a_AS	<i>CCUAUUCUUGGUUACUUGCACG</i>		
AMO-26a	<i>AGCCTATCCTGGATTACTTGAA</i>	Exiqon-Qiagen, Frederick, MD	
ITPR1 siRNA	<i>GCCAAGCAGTTTGGCTTCATGCAA</i>	Invitrogen	
ITPR2 siRNA	<i>CCGAGACTTAGACTTTGCCAATGAT</i>	Invitrogen	
Stealth RNAi™ siRNA Negative Control		Invitrogen	https://www.thermofisher.com/order/catalog/product/12935300#/12935300

Cultured Cells

Name	Vendor or Source	Sex (F, M, or unknown)	Persistent ID / URL
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DOI [to be added]

Adult Canine atrial cardiomyocytes	Cells from dog atria, dogs listed above.	M/F	
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Data & Code Availability

Description	Source / Repository	Persistent ID / URL
Custom software to analyze nuclear and cytosolic Ca ²⁺	GitHub	https://github.com/FengXiongCA/Nucleus-Cytosolic-Ca

qPCR oligonucleotide primer sequences

Description	Source / Repository	Persistent ID / URL
HPRT1	TaqMan (4331182)	cf02626258_m1
<i>ITPR1</i>	TaqMan (4351372)	cf02675749_m1
<i>ITPR2</i>	TaqMan (4351372)	cf02675776_m1
<i>ITPR3</i>	TaqMan (4351372)	cf02630200_m1
miR-26a	TaqMan (4427975)	000405
U6 snRNA	TaqMan (4427975)	001973

Other

Description	Source / Repository	Persistent ID / URL
Human right-atrial samples	University Medical Center Essen, Germany	#12-5268-BO