

CaV1.1 Monoclonal Antibody (1A)

Product Details	
Size	200 µL
Species Reactivity	Guinea pig, Human, Mouse, Rabbit, Rat
Published Species	Rabbit, Rat, Non-human primate, Zebrafish, Fish, Human, Mouse
Host/Isotype	Mouse / IgG1
Class	Monoclonal
Type	Antibody
Clone	1A
Conjugate	Unconjugated
Immunogen	Purified rabbit muscle T-tubule dihydropyridine receptor.
Form	Liquid
Concentration	1 mg/mL
Purification	Protein A
Storage buffer	PBS, pH 7.4
Contains	0.05% sodium azide
Storage conditions	-20° C, Avoid Freeze/Thaw Cycles
RRID	AB_2069575

Applications	Tested Dilution	Publications
Western Blot (WB)	1:500	37 Publications
Immunohistochemistry (IHC)	-	17 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:20	-
Immunohistochemistry (Frozen) (IHC (F))	1:200	-
Immunocytochemistry (ICC/IF)	-	14 Publications
Flow Cytometry (Flow)	1 µg/test	-
Immunoprecipitation (IP)	Assay-dependent	-
Immunomicroscopy (IM)	-	1 Publication

Product Specific Information

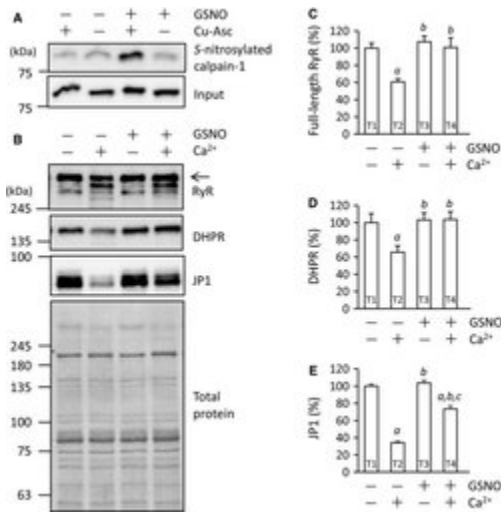
MA3-920 detects 1,4-dihydropyridine (DHP) receptor alpha-1 subunit in human, rat, mouse, guinea pig and rabbit skeletal muscle. The DHP Receptor alpha-1 protein is also known as CACNA1S or Cav1.1 alpha-1 subunit.

MA3-920 has been successfully used in Western blot, FACS, immunohistochemistry and immunoprecipitation procedures. By Western blot, this antibody detects an ~200 kDa protein representing the DHP receptor in rat skeletal muscle extracts. Immunohistochemical staining of DHP receptor in rabbit skeletal muscle with MA3-920 results in double rows of discrete punctate staining representing pairs of triads on the opposing sides of the Z-lines. This product can be used to inhibit the DHP-sensitive

calcium current in BC3H1 mouse muscle cells.

The MA3-920 antigen is purified rabbit muscle T-tubule DHP receptor.

Advanced Verification Data



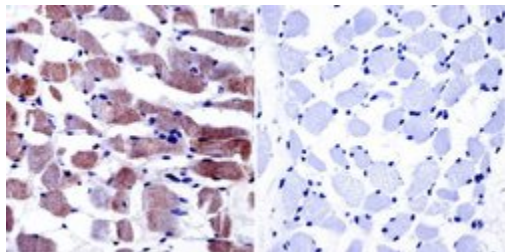
CaV1.1 Antibody (MA3-920)

Immunohistochemistry staining showing TRPV1 expression in the dorsal horn of the spinal cord (T8-L3), dorsal root ganglia (DRG) (T8-L3) and mesenteric arteries (MA) of rats fed a NS or HS diet 3 d after control or TRPV1 shRNA treatment. Scale bars, 100 μ m. Cell treatment validation info.

Product Images For CaV1.1 Monoclonal Antibody (1A)

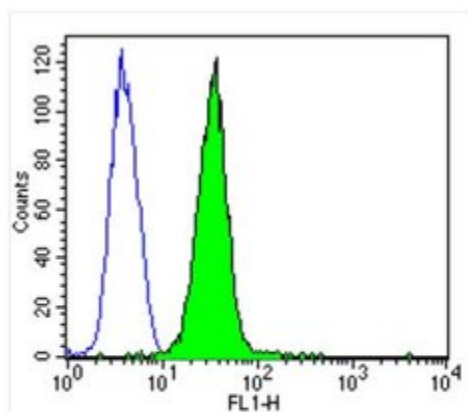
CaV1.1 Antibody (MA3-920) in IHC

Immunohistochemistry was performed on normal biopsies of deparaffinized human skeletal muscle tissue. To expose target proteins, heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer, microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:20 with a Mouse Monoclonal Antibody recognizing Dihydropyridine Receptor alpha-1 (Product # MA3-920) or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP, followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



CaV1.1 Antibody (MA3-920) in Flow

Flow cytometry analysis of Dihydropyridine Receptor alpha-1 in U251 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of $1-5 \times 10^6$ cells/mL, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a Dihydropyridine Receptor alpha-1 monoclonal antibody (Product # MA3-920) at a dilution of 1 μ g/test for 40 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.



Cell: U251

Concentration: 1 μ g/test (100 μ l)

Theory location: Cytoplasm

[View more figures on thermofisher.com](https://www.thermofisher.com)

Western Blot (37)

Experimental gerontology

Maximal strength training increases muscle force generating capacity and the anaerobic ATP synthesis flux without altering the cost of contraction in elderly.

"MA3-920 was used in Western Blotting to examine the intramuscular and metabolic adaptations induced by 8 weeks of knee-extension maximal strength training (MST) in the quadriceps of 10 older individuals (75 ± 9 yrs)."

Authors: Berg OK, Kwon OS, Hureau TJ, Clifton HL, Thurston T, Le Fur Y, Jeong EK, Amann M, Richardson RS, Trinity JD, Wang E, Layec G

Species
Human

Dilution
Not Cited

Year
2018

Physiological reports

l-arginine ingestion inhibits eccentric contraction-induced proteolysis and force deficit via S-nitrosylation of calpain.

"Published figure using CaV1.1 monoclonal antibody (Product # MA3-920) in Western Blot"

Authors: Kanzaki K, Watanabe D, Aibara C, Kawakami Y, Yamada T, Takahashi Y, Wada M

Species
Rat

Dilution
1:1,000

Year
2018

[View more WB references on thermofisher.com](#)

Immunohistochemistry (17)

The Journal of clinical investigation

Amphiphysin (BIN1) negatively regulates dynamin 2 for normal muscle maturation.

"MA3-920 was used in Immunohistochemistry-immunofluorescence to suggest that dynamin 2 modulation has potential as a therapeutic approach for patients with centronuclear myopathy and amphiphysin 2 defects."

Authors: Cowling BS, Prokic I, Tasfaout H, Rabai A, Humbert F, Rinaldi B, Nicot AS, Kretz C, Friant S, Roux A, Laporte J

Species
Mouse

Dilution
1:1,000

Year
2017

Proceedings of the National Academy of Sciences of the United States of America

Congenital myopathy results from misregulation of a muscle Ca²⁺ channel by mutant Stac3.

"Published figure using CaV1.1 monoclonal antibody (Product # MA3-920) in Immunofluorescence"

Authors: Linsley JW, Hsu IU, Groom L, Yarotsky V, LAVORATO M, Horstick EJ, Linsley D, Wang W, Franzini-Armstrong C, Dirksen RT, Kuwada JY

Species
Zebrafish

Dilution
1:100

Year
2017

[View more IHC references on thermofisher.com](#)

More applications with references on thermofisher.com

ICC/IF (14)

IM (1)

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization. Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample. NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (I) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (II) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (III) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (IV) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.