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

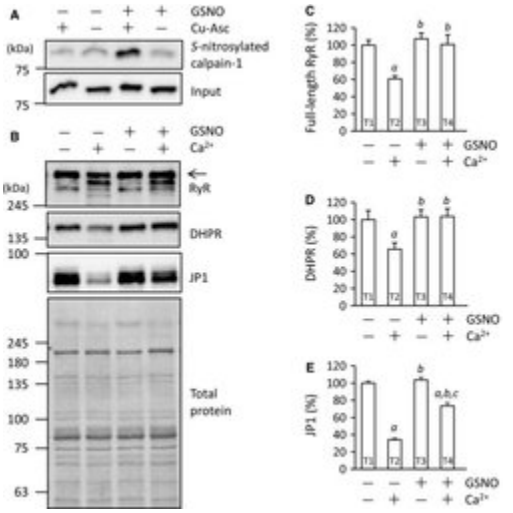
MA3-920 detects 1,4-dihydropyridine (DHP) receptor alpha-1 subunit in human, rat, mouse, guinea pig and rabbit skeletal muscle. The DHP Receptor alpha-1 protein is also known as CACNA1S or Cav1.1 alpha-1 subunit.

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.

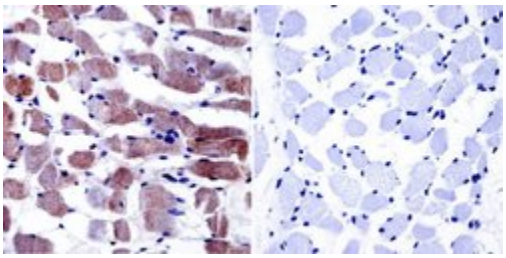
The MA3-920 antigen is purified rabbit muscle T-tubule DHP receptor.

Advanced Verification Data

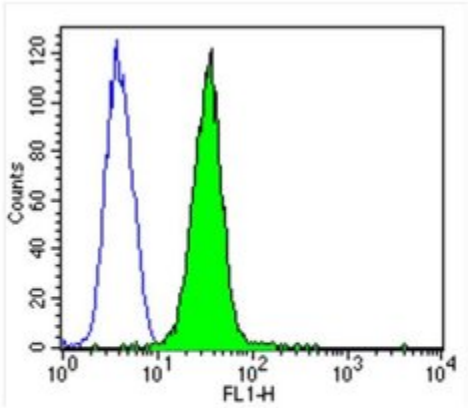


CaV1.1 Antibody (MA3-920)
Immunohistochemistry staining showing TRPV1 expression in the dorsal horn of the spinal cord (T8-L3), dorsal root ganglia (DRG) (T8-L3) and mesenteric arteries (MA) of rats fed a NS or HS diet 3 d after control or TRPV1 shRNA treatment. Scale bars, 100 ?m. Cell treatment validation 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.



Cell: U251

Concentration: 1µg/test (100µl)

Theory location: Cytoplasm

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 1-5x10^6 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 µg/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.

View more figures on thermofisher.com

69 References

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,Yarotskyy 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)**