

JP-45 (C-4): sc-377298

BACKGROUND

JP-45 (junctional-face membrane protein of 45 kDa homolog), also known as JSRP1 (junctional sarcoplasmic reticulum protein 1), is a 331 amino acid sarcoplasmic and endoplasmic reticulum membrane protein. Interacting with L-type Ca⁺⁺ CP α 1S, L-type Ca⁺⁺ CP β 1B and calsequestrin, JP-45 may participate in the regulation of the L-type Ca⁺⁺ CP α 1S voltage-sensitive calcium channel as well as the regulation of L-type Ca⁺⁺ CP α 1S membrane targeting and activity. JP-45 may also have a role in the excitation and contraction coupling of muscle cells via interactions with key proteins present in the sarcoplasmic reticulum (SR). JP-45's interaction with SR proteins make it an important component to skeletal muscle development and maintenance. The gene encoding JP-45 maps to human chromosome 19p13.3, silencing of this gene, while having no effect on postnatal development, may result in decreased muscle strength.

REFERENCES

- Zorzato, F., et al. 2000. Identification of a novel 45 kDa protein (JP-45) from rabbit sarcoplasmic-reticulum junctional-face membrane. *Biochem. J.* 351: 537-543.
- Anderson, A.A., et al. 2003. The novel skeletal muscle sarcoplasmic reticulum JP-45 protein. Molecular cloning, tissue distribution, developmental expression, and interaction with α 1.1 subunit of the voltage-gated calcium channel. *J. Biol. Chem.* 278: 39987-39992.

CHROMOSOMAL LOCATION

Genetic locus: *Jsrp1* (mouse) mapping to 10 C1.

SOURCE

JP-45 (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 191-223 within an internal region of JP-45 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

JP-45 (C-4) is available conjugated to agarose (sc-377298 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377298 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377298 PE), fluorescein (sc-377298 FITC), Alexa Fluor[®] 488 (sc-377298 AF488), Alexa Fluor[®] 546 (sc-377298 AF546), Alexa Fluor[®] 594 (sc-377298 AF594) or Alexa Fluor[®] 647 (sc-377298 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377298 AF680) or Alexa Fluor[®] 790 (sc-377298 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377298 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

JP-45 (C-4) is recommended for detection of JP-45 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for JP-45 siRNA (m): sc-146331, JP-45 shRNA Plasmid (m): sc-146331-SH and JP-45 shRNA (m) Lentiviral Particles: sc-146331-V.

Molecular Weight (predicted) of JP-45 isoforms 1/2 in human: 54/40 kDa.

Molecular Weight (predicted) of JP-45 isoforms 1/2 in mouse: 36/31 kDa.

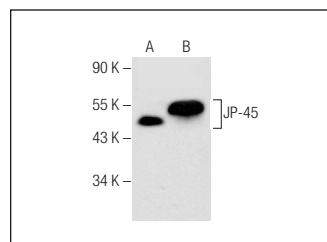
Molecular Weight (observed) of JP-45 in mouse: 50 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810 or Sol8 cell lysate: sc-2249.

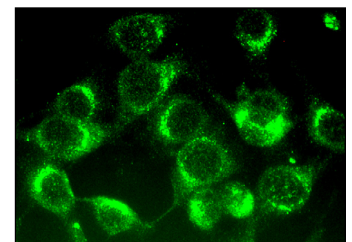
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



JP-45 (C-4): sc-377298. Western blot analysis of JP-45 expression in rat skeletal muscle tissue extract (A) and Sol8 whole cell lysate (B).



JP-45 (C-4): sc-377298. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Kanzaki, K., et al. 2017. Role of calpain in eccentric contraction-induced proteolysis of Ca²⁺-regulatory proteins and force depression in rat fast-twitch skeletal muscle. *J. Appl. Physiol.* 122: 396-405.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.