SANTA CRUZ BIOTECHNOLOGY, INC.

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

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 α1S, L-type Ca^{++} CP β1B and calsequestrin, JP-45 may participate in the regulation of the L-type Ca^{++} CP α1S voltage-sensitive calcium channel as well as the regulation of L-type Ca^{++} CP α1S 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

1. 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.
2. 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 µg IgG_1 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 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377298 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

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 µg per 100-500 µg 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.

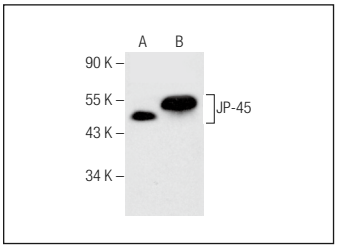
Molecular Weight (observed) of JP-45 in mouse: 50 kDa.

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

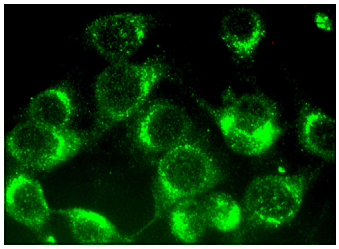
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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

1. Kanzaki, K., et al. 2017. Role of calpain in eccentric contraction-induced proteolysis of Ca^{2+}-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.