

JP-45 (Q-15): sc-139148

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

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.
3. Anderson, A.A., et al. 2006. The junctional SR protein JP-45 affects the functional expression of the voltage-dependent Ca²⁺ channel Cav1.1. *J. Cell Sci.* 119: 2145-2155.
4. Ríos, E. 2006. Calcium signalling in muscle: a milestone for modulation studies. *J. Physiol.* 572: 1-2.
5. Gouadon, E., et al. 2006. A possible role of the junctional face protein JP-45 in modulating Ca²⁺ release in skeletal muscle. *J. Physiol.* 572: 269-280.
6. Delbono, O., et al. 2007. Loss of skeletal muscle strength by ablation of the sarcoplasmic reticulum protein JP45. *Proc. Natl. Acad. Sci. USA* 104: 20108-20113.

CHROMOSOMAL LOCATION

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

SOURCE

JP-45 (Q-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of JP-45 of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139148 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

JP-45 (Q-15) is recommended for detection of JP-45 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) 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.

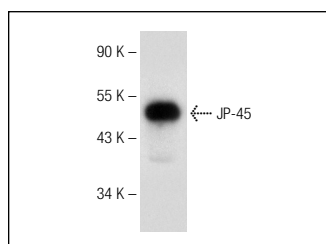
Molecular Weight (observed) of JP-45 in mouse: 50 kDa.

Positive Controls: Rat skeletal muscle tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



JP-45 (Q-15): sc-139148. Western blot analysis of JP-45 expression in rat skeletal muscle tissue extract.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.