

# JP-45 (H-11): sc-377297



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  $\text{Ca}^{++}$  CP  $\alpha 1\text{S}$ , L-type  $\text{Ca}^{++}$  CP  $\beta 1\text{B}$  and calsequestrin, JP-45 may participate in the regulation of the L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{S}$  voltage-sensitive calcium channel as well as the regulation of L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{S}$  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  $\alpha 1.1$  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  $\text{Ca}^{2+}$  channel  $\text{Ca}_v1.1$ . *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  $\text{Ca}^{2+}$  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 (H-11) 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  $\mu\text{g}$  IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377297 P, (100  $\mu\text{g}$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

JP-45 (H-11) 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  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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.

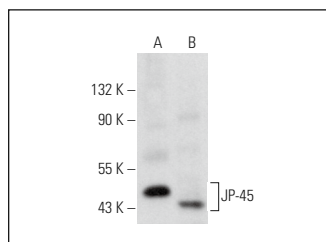
Positive Controls: mouse skeletal muscle extract: sc-364250 or rat skeletal muscle extract: sc-364810.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 (H-11): sc-377297. Western blot analysis of JP-45 expression in rat skeletal muscle (A) and mouse skeletal muscle (B) tissue extracts.

## STORAGE

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

## RESEARCH USE

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