



RyR-1 (8.U.100): sc-71989

BACKGROUND

Dihydropyridine receptor (DHPR) and the sarcoplasmic reticulum ryanodine receptor (RyR) are two key components of the intracellular junctions where depolarization of the surface membrane is converted into the release of Ca^{2+} from internal stores. The RyR family consists of RyR-1, RyR-2 and RyR-3, which are characterized respectively as skeletal muscle, cardiac and brain ryanodine receptors. RyR proteins are essential for calcium-dependent excitation. Cells that do not express RyR lack excitation-contraction coupling and exhibit a several-fold reduction in Ca^{2+} current density. RyR-1 is expressed in slow- and fast-twitch skeletal muscle. Activation of RyR-1 leads to the release of Ca^{2+} from the sarcoplasmic reticulum (SR) which, in turn, leads to muscle contraction. Mutations in the gene for this protein can result in a variety of muscle diseases, including Brody disease, malignant hyperthermia, cardiomyopathy and central core disease.

REFERENCES

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SOURCE

RyR-1 (8.U.100) is a mouse monoclonal antibody raised against skeletal muscle triads of rabbit origin.

PRODUCT

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

APPLICATIONS

RyR-1 (8.U.100) is recommended for detection of skeletal muscle ryanodine receptor Ca^{2+} channel of mouse, rat, rabbit and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Molecular Weight of RyR-1: 550 kDa.

Positive Controls: rat heart extract: sc-2393.

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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml).

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.

PROTOCOLS

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