**BACKGROUND**

Dihydropyridine receptor (DHPR) is a surface membrane protein critical for the excitation-contraction coupling of striated muscle. 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 α1-subunit of the DHPR contains a cytoplasmic loop which is thought to be involved in the interactions with RyR. Phosphorylation of the DHPR α1-subunit is also thought to play a role in the functional interaction of DHPR and RyR. Mutation in DHPR α1 results in excitation-contraction uncoupling, leading to muscular dystrophy, a complete inactivity in developing skeletal muscles. Cells that do not express RyR also lack excitation-contraction coupling and exhibit a several-fold reduction in Ca\(^{2+}\) current density.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: RYR1 (human) mapping to 19q13.1; Ryr1 (mouse) mapping to 7 A2-B3.

**SOURCE**

RyR (H-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RyR of human origin.

**STORAGE**

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

**PRODUCT**

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-34019 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**APPLICATIONS**

RyR (H-21) is recommended for detection of skeletal muscle, cardiac muscle and brain ryanodine receptors of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

RyR (H-21) is also recommended for detection of skeletal muscle, cardiac muscle and brain ryanodine receptors in additional species, including equine, canine, bovine and porcine.

Molecular Weight of RyR-1: 550 kDa.

Molecular Weight of RyR-2: 565 kDa.

Molecular Weight of RyR-3: 552 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, A-10 cell lysate: sc-3806 or L6 whole cell lysate.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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-2033 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

**DATA**

**RESEARCH USE**

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