# Recombinant Ryanodine Receptor Monoclonal Antibody

**catalog number:** **AN301983L**

**Note:** *Centrifuge before opening to ensure complete recovery of vial contents.*

## Description

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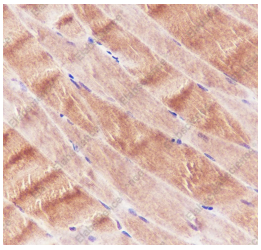
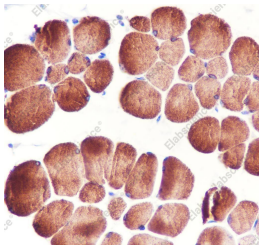
|---|---|
| **Reactivity** | Human;Mouse;Rat |
| **Immunogen** | Peptide. This information is proprietary to PTMab |
| **Host** | Rabbit |
| **Isotype** | Rabbit IgG |
| **Clone** | C151604 |
| **Purification** | Protein A affinity purification |
| **Conjugation** | Unconjugated |
| **Buffer** | PBS, 50% glycerol, 0.05% Proclin 300, 0.05% protein protectant. |

| Applications | Recommended Dilution |
|---|---|
| **IHC** | 1:500-1:1000 |

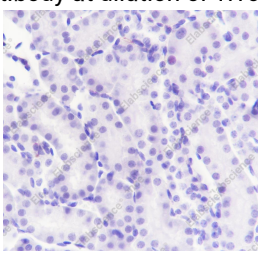
## Data



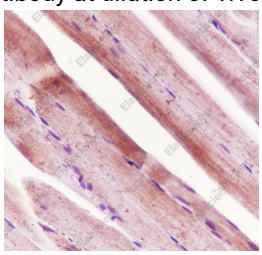
Immunohistochemistry of paraffin-embedded Human skeletal muscle using Ryanodine Receptor Monoclonal Antibody at dilution of 1:1000.



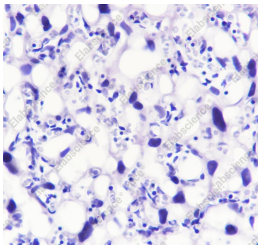
Immunohistochemistry of paraffin-embedded Mouse skeletal muscle using Ryanodine Receptor Monoclonal Antibody at dilution of 1:1000.



Immunohistochemistry of paraffin-embedded Mouse kidney (negative tissue) using Ryanodine Receptor Monoclonal Antibody at dilution of 1:1000.



Immunohistochemistry of paraffin-embedded Rat skeletal muscle using Ryanodine Receptor Monoclonal Antibody at dilution of 1:1000.



Immunohistochemistry of paraffin-embedded Rat placenta (negative tissue) using Ryanodine Receptor Monoclonal Antibody at dilution of 1:1000.

## Preparation & Storage

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|---|---|
| **Storage** | Store at -20°C Valid for 12 months. Avoid freeze/thaw cycles. |
| **Shipping** | Ice bag |

## Background

Ryanodine receptors (RyRs) are large ( > 500 kDa), intracellular calcium channels found in the sarcoplasmic/ endoplasmic reticulum membrane and are responsible for the release of Ca2+ from intracellular stores in excitable cells, such as muscle and neurons. RyRs exist as three mammalian isoforms (RyR1-3), all of which form homotetramers regulated by phosphorylation and/or direct or indirect interaction with a variety of proteins (L-type calcium channels, PKA, FKBP12/12.6, CaMKII, calmodulin, calsequestrin, junctin, and triadin) and ions (Mg2+ and Ca2+). Regulation of the RyR channel by protein modulators occurs within the large cytoplasmic domain, whereas the carboxy terminal portion of the protein forms the ion-binding and conducting pore. RyR1 and RyR2 are predominantly expressed in skeletal and cardiac muscle, respectively, where they localize exclusively to the sarcoplasmic reticulum (SR) and facilitate calcium-mediated communication between transverse-tubules and sarcoplasmic reticulum. Contraction of skeletal muscle is triggered by release of calcium ions from the SR following depolarization of T-tubules. Research studies have shown that defects in RyR1 are the cause of malignant hyperthermia susceptibility type 1 (MHS1), central core disease of muscle (CCD), multiminicore disease with external ophthalmoplegia, and congenital myopathy with fiber-type disproportion (CFTD), each of which is manifested by defects in muscle function, metabolism, and development.


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