

Product datasheet for **TA329025**

Ryanodine receptor 2 (RYR2) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide CAGESMSPGQGRNN, corresponding to amino acid residues 1489-1502 of human Ryanodine Receptor 2. Intracellular, N-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	ryanodine receptor 2
Database Link:	NP_001026 Entrez Gene 20191 Mouse Entrez Gene 689560 Rat Q92736



[View online »](#)

Background:

It is well established that cytosolic calcium (Ca^{2+}) acts as a key second messenger in many intracellular pathways including synaptic transmission, muscle contraction, hormonal secretion, cell growth and proliferation. The primary intracellular Ca^{2+} storage/release organelle in most cells is the endoplasmic reticulum (ER) or the sarcoplasmic reticulum (SR) in striated muscle cells. The ER and SR contain two Ca^{2+} release channels families, the Inositol trisphosphate receptors (IP3Rs) and the Ryanodine receptors (RyRs). The Ryanodine receptor family consists of three different isoforms: The skeletal muscle isoform, Ryanodine Receptor type 1 (RyR1); the cardiac muscle isoform, Ryanodine Receptor type 2 (RyR2) and the brain isoform, Ryanodine Receptor type 3 (RyR3). The Ryanodine receptors are homotetrameric proteins. They play a key role in the mechanism of excitation-contraction coupling in striated muscle. Binding of Ryanodine to the Ryanodine Receptor causes to two major changes in the channel: a reduction in single-channel conductance and a marked increase in open state probability. RyR2 serves as an intracellular Ca^{2+} channel in the SR membrane. It is predominantly expressed in cardiac muscle where it plays a central role in cardiac excitation-contraction coupling. RyR2 is also expressed in the brain.

Synonyms:

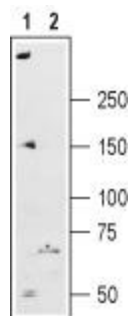
ARVC2; ARVD2; RyR; RYR-2; VTSIP

Protein Families:

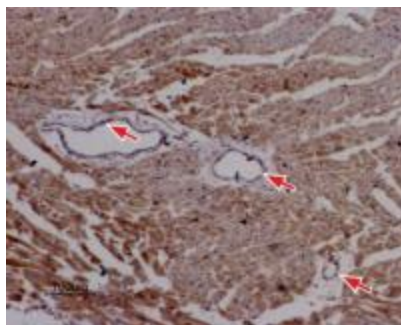
Druggable Genome, Transmembrane

Protein Pathways:

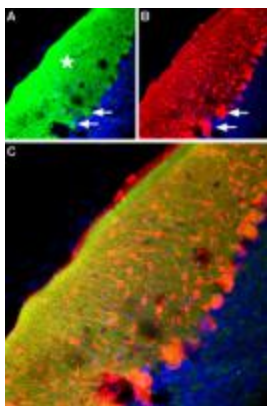
Arrhythmogenic right ventricular cardiomyopathy (ARVC), Calcium signaling pathway, Cardiac muscle contraction, Dilated cardiomyopathy, Hypertrophic cardiomyopathy (HCM)

Product images:

Western blot analysis of rat heart membranes: 1. Anti-Ryanodine Receptor 2 antibody, (1:200). 2. Anti-Ryanodine Receptor 2 antibody, preincubated with the control peptide antigen.



Expression of Ryanodine Receptor 2 in rat cardiac muscle. Immunohistochemical staining of paraffin-embedded sections of rat myocardium using Anti-Ryanodine Receptor 2 antibody, (1:50). Staining is specific for cardiomyocytes while smooth muscles cells in the artery walls are negative (red arrows). Hematoxylin is used as the counterstain.



IHC staining of mouse cerebellum frozen sections with Anti-Ryanodine Receptor 2 antibody, (1:100), (green). A. The highest expression of Ryanodine Receptor 2 is in the molecular layer (Asterisk) but there is also some expression in the soma of Purkinje cells (arrows). B. In the same section, there is staining for parvalbumin (red). C. Merged image of panels A and B demonstrates Ryanodine Receptor 2 is localized both in the area surrounding the dendritic tree and in the soma of Purkinje cells.