



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 565 kDa
Clone number:	PSH15-54

Description:	Ryanodine receptor 2 (RYR2) is one of a class of ryanodine receptors and a protein found primarily in cardiac muscle. In humans, it is encoded by the RYR2 gene. In the process of cardiac calcium-induced calcium release, RYR2 is the major mediator for sarcoplasmic release of stored calcium ions. The RYR2 protein functions as the major component of a calcium channel located in the sarcoplasmic reticulum that supplies ions to the cardiac muscle during systole. To enable cardiac muscle contraction, calcium influx through voltage-gated L-type calcium channels in the plasma membrane allows calcium ions to bind to RYR2 located on the sarcoplasmic reticulum. This binding causes the release of calcium through RYR2 from the sarcoplasmic reticulum into the cytosol, where it binds to the C domain of troponin, which shifts tropomyosin and allows the myosin ATPase to bind to actin, enabling cardiac muscle contraction. RYR2 channels are associated with many cellular functions, including mitochondrial metabolism, gene expression and cell survival, in addition to their role in cardiomyocyte contraction.
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Immunogen:	Recombinant protein within human RYR-2 aa 1,301-1,600.
Positive control:	Mouse heart tissue lysate, Rat heart tissue lysate, mouse heart tissue.
Subcellular location:	Sarcoplasmic reticulum membrane.
Database links:	SwissProt: E9Q401 Mouse B0LPN4 Rat
Storage Buffer:	1*PBS (pH7.4).
Storage Instruction:	Store at 2-8℃. Avoid freeze.
Purity:	Protein A affinity purified.

Images

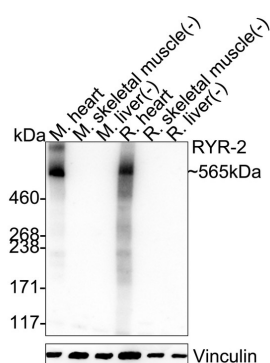


Fig1: This data was developed using HA723760, the same antibody clone in a different buffer formulation.

Western blot analysis of Ryanodine receptor 2 / RYR-2 on different lysates with Rabbit anti-Ryanodine receptor 2 / RYR-2 antibody (HA723760) at 1/2,000 dilution.

Lane 1: Mouse heart tissue lysate

Lane 2: Mouse skeletal muscle tissue lysate (negative)

Lane 3: Mouse liver tissue lysate (negative)

Lane 4: Rat heart tissue lysate

Lane 5: Rat skeletal muscle tissue lysate (negative)

Lane 6: Rat liver tissue lysate (negative)

Lysates/proteins at 40 µg/Lane.

Predicted band size: 565 kDa

Observed band size: 565 kDa

Exposure time: 1 minute 7 seconds; ECL: K1802;

3-8% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA723760) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

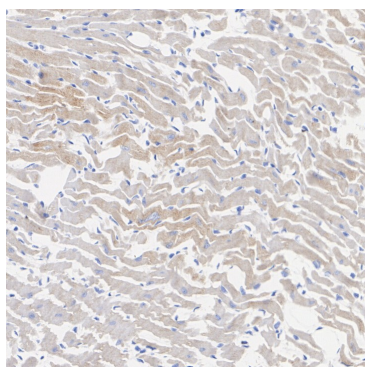


Fig2: This data was developed using HA723760, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded mouse heart tissue with Rabbit anti-Ryanodine receptor 2 / RYR-2 antibody (HA723760) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723760) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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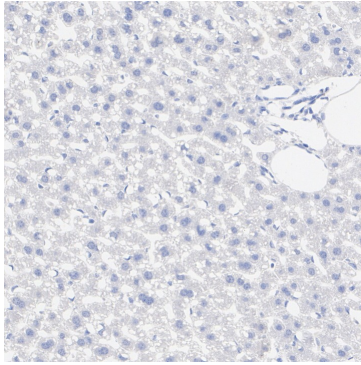


Fig3: This data was developed using HA723760, the same antibody clone in a different buffer formulation. Immunohistochemical analysis of paraffin-embedded mouse liver tissue (negative) with Rabbit anti-Ryanodine receptor 2 / RYR-2 antibody (HA723760) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723760) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Steinberg C et al. RYR2-ryanodinopathies: from calcium overload to calcium deficiency. *Europace*. 2023 Jun
2. Fowler ED et al. Molecular, Subcellular, and Arrhythmogenic Mechanisms in Genetic RyR2 Disease. *Biomolecules*. 2022 Jul

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Applications: WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation