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KD-Validated Anti-TRPM7 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1712

Specification

KD-Validated Anti-TRPM7 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	Q96QT4
Reactivity	**Human**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 213 kDa , observed , 260 kDa KDa**
Gene Name	**TRPM7**
Aliases	**TRPM7; Transient Receptor Potential Cation Channel Subfamily M Member 7; LTRPC7; CHAK1; TRP-PLIK; Long Transient Receptor Potential Channel 7; Channel-Kinase 1; EC 2.7.11.1; LTrpC-7; Transient Receptor Potential Cation Channel, Subfamily M, Member 7; Transient Receptor Potential-Phospholipase C-Interacting Kinase; LTRPC Ion Channel Family Member 7; ALSPDC; LTrpC7; CHAK**
Immunogen	**A synthesized peptide derived from human TRPM7**

KD-Validated Anti-TRPM7 Rabbit Monoclonal Antibody - Additional Information

Gene ID **54822**

Other Names
Transient receptor potential cation channel subfamily M member 7, 2.7.11.1, Channel-kinase 1, Long transient receptor potential channel 7, LTrpC-7, LTrpC7, TRPM7 kinase, cleaved form, TRPM7, CHAK1, LTRPC7 {ECO:0000303|PubMed:11385574}

KD-Validated Anti-TRPM7 Rabbit Monoclonal Antibody - Protein Information

Name TRPM7

Synonyms CHAK1, LTRPC7 {ECO:0000303|PubMed:113855

Function
Bifunctional protein that combines an ion channel with an intrinsic kinase domain, enabling it to modulate cellular functions either by conducting ions through the pore or by phosphorylating downstream proteins via its kinase domain. The channel is highly permeable to divalent cations, specifically calcium (Ca2+), magnesium (Mg2+) and zinc (Zn2+) and mediates their influx (PubMed:11385574,

PubMed:12887921, PubMed:15485879, PubMed:24316671, PubMed:35561741, PubMed:36027648). Controls a wide range of biological processes such as Ca2(+), Mg(2+) and Zn(2+) homeostasis, vesicular Zn(2+) release channel and intracellular Ca(2+) signaling, embryonic development, immune responses, cell motility, proliferation and differentiation (By similarity). The C-terminal alpha-kinase domain autophosphorylates cytoplasmic residues of TRPM7 (PubMed:18365021). In vivo, TRPM7 phosphorylates SMAD2, suggesting that TRPM7 kinase may play a role in activating SMAD signaling pathways. In vitro, TRPM7 kinase phosphorylates ANXA1 (annexin A1), myosin II isoforms and a variety of proteins with diverse cellular functions (PubMed:15485879, PubMed:18394644).

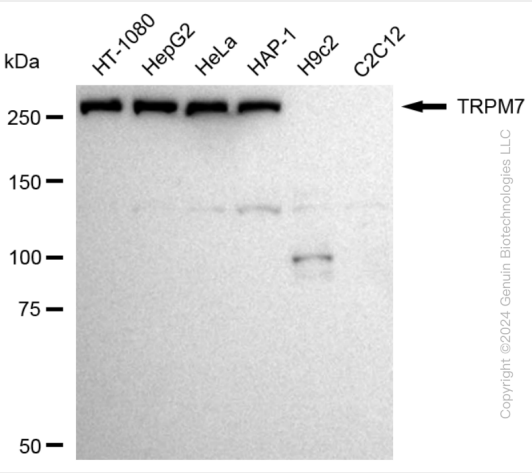
Cellular Location
Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q923J1}. Cytoplasmic vesicle membrane {ECO:0000250|UniProtKB:Q923J1}; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q923J1}. Note=Localized largely in intracellular Zn(2+)-storage vesicles. {ECO:0000250|UniProtKB:Q923J1}

KD-Validated Anti-TRPM7 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-TRPM7 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-TRPM7 antibody (Cat#AGI1712). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with

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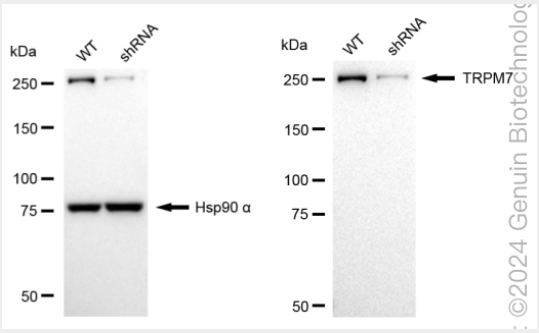
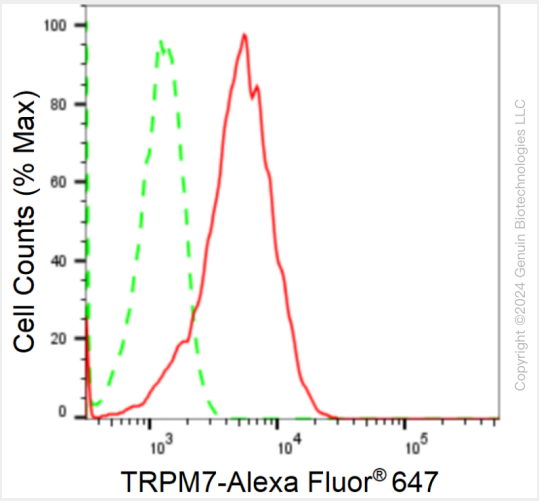
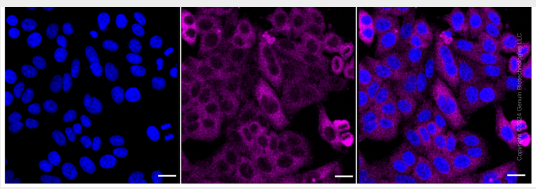
anti-TRPM7 antibody (Cat#AGI1712, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-TRPM7 antibody (Cat#AGI1712). TRPM7 expression in wild type (WT) and TRPM7 shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-TRPM7 antibody (Cat#AGI1712, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of TRPM7 expression in HepG2 cells using anti-TRPM7 antibody (Cat#AGI1712, 1:2,000). Green, isotype control; red, TRPM7.



Immunocytochemical staining of HepG2 cells with anti-TRPM7 antibody (Cat#AGI1712, 1:1,000). Nuclei were stained blue with DAPI;TRPM7 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.