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Goat Anti-TRPM7 / LTRPC7 Antibody
Peptide-affinity purified goat antibody
Catalog # AF2117a

Specification

Goat Anti-TRPM7 / LTRPC7 Antibody - Product Information

Application	**IHC, E**
Primary Accession	Q96QT4
Other Accession	NP_060142, 54822
Reactivity	**Mouse, Rat, Fish**
Predicted	**Human, Pig, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**212697**

Goat Anti-TRPM7 / LTRPC7 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, CHAK1, LTRPC7

Dilution
IHC~~1:100~500
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-TRPM7 / LTRPC7 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-TRPM7 / LTRPC7 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).

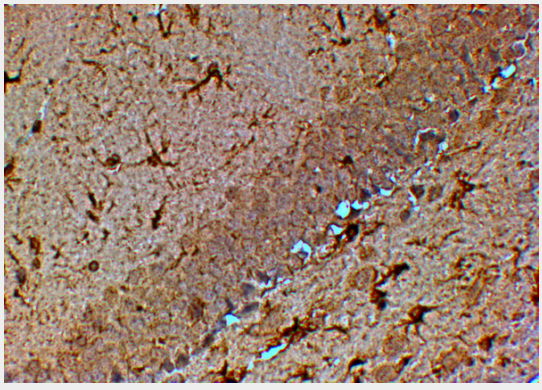
Cellular Location
Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q923J1}. Cytoplasmic vesicle membrane {ECO:0000250|UniProtKB:Q923J1}; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q923J1}. Note=Localized largely in intracellular Zn(2+)-storage vesicles. {ECO:0000250|UniProtKB:Q923J1}

Goat Anti-TRPM7 / LTRPC7 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

Goat Anti-TRPM7 / LTRPC7 Antibody - Images



AF2117a (4 µg/ml) staining of paraffin embedded Mouse Hippocampus. Steamed antigen retrieval with citrate buffer pH 6, HRP-staining. Similar results were obtained after antigen retrieval at pH9.

Goat Anti-TRPM7 / LTRPC7 Antibody - Background

The protein encoded by this gene is both an ion channel and a serine/threonine protein kinase. The kinase activity is essential for the ion channel function, which serves to increase intracellular calcium levels and to help regulate magnesium ion homeostasis. Defects in this gene are a cause of amyotrophic lateral sclerosis-parkinsonism/dementia complex of Guam.

Goat Anti-TRPM7 / LTRPC7 Antibody - References

TRPM7-mediated Ca2+ signals confer fibrogenesis in human atrial fibrillation. Du J, et al. Circ Res, 2010 Mar 19. PMID 20075334. TRPM7 activates m-calpain by stress-dependent stimulation of p38 MAPK and c-Jun N-terminal kinase. Su LT, et al. J Mol Biol, 2010 Mar 5. PMID 20070945. Identification of TRPM7 channels in human intestinal interstitial cells of Cajal. Kim BJ, et al. World J Gastroenterol, 2009 Dec 14. PMID 19998500. Gene variation of the transient receptor potential cation channel, subfamily M, member 7 (TRPM7), and risk of incident ischemic stroke: prospective, nested, case-control study. Romero JR, et al. Stroke, 2009 Sep. PMID 19644062. Evidence that TRPM7 is required for breast cancer cell proliferation. Guilbert A, et al. Am J Physiol Cell Physiol, 2009 Sep. PMID 19515901.