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KD-Validated Anti-TRPM7 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1712

Product Information

Application	WB, FC, ICC
Primary Accession	Q96QT4
Reactivity	Human
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB2250
Calculated MW	212697
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

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}

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}

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