10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TRPM4 Rabbit pAb

Catalog # AP99762

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8TD43
Other Accession	Q8TD43
Reactivity	Mouse
Predicted	Rat, Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	134301
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TRPM4
Epitope Specificity	751-850/1214
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the transient receptor (TC 1.A.4) family. LTrpC subfamily. TRPM4 sub-subfamily.
SUBUNIT	Homomultimer.
Post-translational modifications	Phosphorylation by PKC leads to increase the sensitivity to Ca(2+). Sumoylated. Desumoylated by SENP1.
DISEASE	Defects in TRPM4 are the cause of progressive familial heart block type 1B (PFHB1B) [MIM:604559]. It is a cardiac bundle branch disorder characterized by progressive alteration of cardiac conduction through the His-Purkinje system, with a pattern of a right bundle-branch block and/or left anterior hemiblock occurring individually or together. It leads to complete atrioventricular block causing syncope and sudden death.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Calcium-activated non selective (CAN) cation channel that mediates membrane depolarization. While it is activated by increase in intracellular Ca(2+), it is impermeable to it. Mediates transport of monovalent cations (Na(+) > K(+) > Cs(+) > Li(+)), leading to depolarize the membrane. It thereby plays a central role in cadiomyocytes, neurons from entorhinal cortex, dorsal root and vomeronasal neurons, endocrine pancreas cells, kidney epithelial cells, cochlea hair cells etc. Participates in T-cell activation by modulating Ca(2+) oscillations after T lymphocyte activation, which is required for NFAT-dependent IL2 production. Involved in myogenic constriction of cerebral arteries. Controls insulin secretion in pancreatic beta-cells. May also be involved in pacemaking or could cause irregular electrical activity under conditions of Ca(2+) overload. Affects T-helper 1 (Th1) and T-helper 2 (Th2) cell motility and cytokine production through differential regulation of calcium signaling and NFATC1 localization. Enhances cell proliferation through up-regulation of the beta-catenin signaling pathway. Involvement in disease: Defects in TRPM4 are the cause of progressive familial heart block type 1B (PFHB1B) [MIM:604559]. It is a cardiac bundle branch disorder characterized

by progressive alteration of cardiac conduction through the His-Purkinje system, with a pattern of a right bundle-branch block and/or left anterior hemiblock occurring individually or together. It leads to complete atrio-ventricular block causing syncope and sudden death.

Additional Information

Gene ID	54795
Other Names	EKVP6; LTrpC4; PFHB1B; TRPM4B; hTRPM4; 1110030C19Rik; LTrpC-4; Mls2s; TRPM4_HUMAN; TRPM4; Calcium-activated non-selective cation channel 1; Long transient receptor potential channel 4 (LTrpC-4 | LTrpC4); Melastatin-4; TRPM4_MOUSE; TRPM4_RAT; Melastatin-like 2; transient receptor potential cation channel subfamily M member 4; transient receptor potential cation channel, subfamily M, member 4
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=0.2ug/test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	TRPM4 (HGNC:17993)
Synonyms	LTRPC4
Function	Calcium-activated selective cation channel that mediates membrane depolarization (PubMed:12015988, PubMed:12842017, PubMed:29211723, PubMed:30528822). While it is activated by increase in intracellular Ca(2+), it is impermeable to it (PubMed:12015988). Mediates transport of monovalent cations (Na(+) > K(+) > Cs(+) > Li(+)), leading to depolarize the membrane (PubMed:12015988). It thereby plays a central role in cadiomyocytes, neurons from entorhinal cortex, dorsal root and vomeronasal neurons, endocrine pancreas cells, kidney epithelial cells, cochlea hair cells etc. Participates in T-cell activation by modulating Ca(2+) oscillations after T lymphocyte activation, which is required for NFAT-dependent IL2 production. Involved in myogenic constriction of cerebral arteries. Controls insulin secretion in pancreatic beta-cells. May also be involved in pacemaking or could cause irregular electrical activity under conditions of Ca(2+) overload. Affects T-helper 1 (Th1) and T-helper 2 (Th2) cell motility and cytokine production through differential regulation of calcium signaling and NFATC1 localization. Enhances cell proliferation through up-regulation of the beta-catenin signaling pathway. Plays a role in keratinocyte differentiation (PubMed:30528822).
Cellular Location	[Isoform 1]: Cell membrane; Multi-pass membrane protein. Endoplasmic reticulum. Golgi apparatus
Tissue Location	Widely expressed with a high expression in intestine and prostate. In brain, it is both expressed in whole cerebral arteries and isolated vascular smooth muscle cells Prominently expressed in Purkinje fibers. Expressed at higher levels in T-helper 2 (Th2) cells as compared to T-helper 1 (Th1) cells. Expressed in keratocytes (PubMed:30528822).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.