



Rabbit Anti-TRPM4 antibody

SL9051R

Product Name:	TRPM4
Chinese Name:	瞬时受体电位离子Channel protein4抗体(M亚家族)
Alias:	Long transient receptor potential channel 4; LTrpC-4; LTrpC4; Melastatin 4; Melastatin like 2 protein; Melastatin-4; Melastatin-like 2; Mls2s; PFHB1B; Transient receptor potential cation channel subfamily M member 4; Transient receptor potential cation channel, subfamily M, member 4; Trpm4; TRPM4_HUMAN; TRPM4B; 1110030C19Rik; AW047689; Calcium-activated non-selective cation channel 1; FLJ20041; hTRPM4.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=0.2ug/testIF=1:50-200 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	134kDa
Cellular localization:	cytoplasmicThe cell membrane
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human TRPM4:751-850/1214<Extracellular>
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. 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.
PubMed:	PubMed
Product Detail:	Calcium-activated non selective (CAN) cation channel that mediates membrane

depolarization. While it is activated by increase in intracellular $\text{Ca}(2+)$, it is impermeable to it. Mediates transport of monovalent cations ($\text{Na}(+) > \text{K}(+) > \text{Cs}(+) > \text{Li}(+)$), leading to depolarize the membrane. It thereby plays a central role in cardiomyocytes, 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 $\text{Ca}(2+)$ 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 $\text{Ca}(2+)$ 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.

Function:

Calcium-activated non selective (CAN) cation channel that mediates membrane depolarization. While it is activated by increase in intracellular $\text{Ca}(2+)$, it is impermeable to it. Mediates transport of monovalent cations ($\text{Na}(+) > \text{K}(+) > \text{Cs}(+) > \text{Li}(+)$), leading to depolarize the membrane. It thereby plays a central role in cardiomyocytes, 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 $\text{Ca}(2+)$ 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 $\text{Ca}(2+)$ 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.

Subunit:

Homomultimer.

Subcellular Location:

Endoplasmic reticulum. Golgi apparatus and Cell membrane. Endoplasmic reticulum. Golgi apparatus

Tissue Specificity:

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.

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.

Similarity:

Belongs to the transient receptor (TC 1.A.4) family. LTrpC subfamily. TRPM4 sub-subfamily.

SWISS:

Q8TD43

Gene ID:

54795

Database links:

[Entrez Gene: 54795](#) Human

[Entrez Gene: 68667](#) Mouse

[Entrez Gene: 171143](#) Rat

[Omim: 606936](#) Human

[SwissProt: Q8TD43](#) Human

[SwissProt: Q7TN37](#) Mouse

[SwissProt: Q9ESQ5](#) Rat

[Unigene: 467101](#) Human

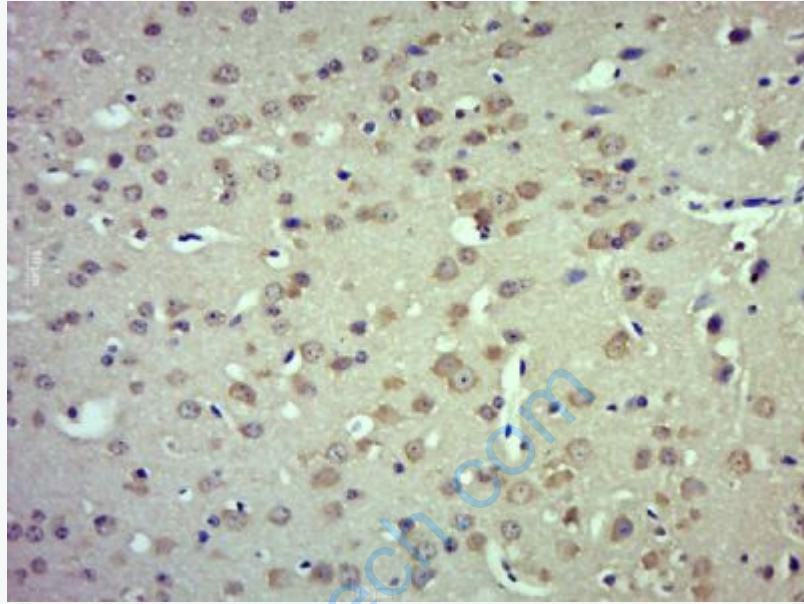
[Unigene: 439890](#) Mouse

[Unigene: 205004](#) Rat

Important Note:

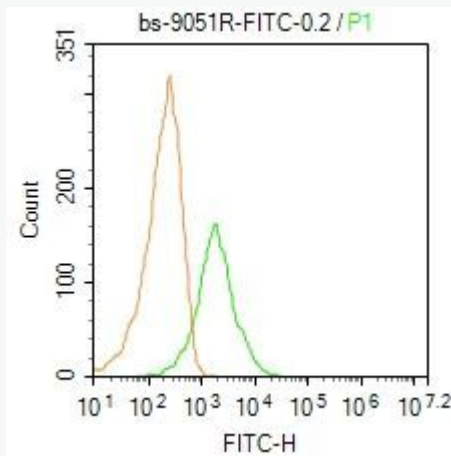
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therapeutic or diagnostic applications.



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TRPM4) Polyclonal Antibody, Unconjugated (SL9051R) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.

Picture:



Blank control: Mouse spleen.

Primary Antibody (green line): Rabbit Anti-TRPM4/FITC Conjugated antibody (SL9051R)

Dilution: 0.2 μ g /10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG-FITC .

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 0.1% PBST for 20 min at-20°C. The cells were then incubated in 5% BSA to block non-specific protein-protein interactions for 30 min at room temperature. The cells were stained with Primary Antibody for 30 min at room temperature. Acquisition of 20,000 events was performed.