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Product datasheet for TA328748

Trpm6 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	WB: 1:200-1:2000
Reactivity:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide CVKDYDLERGPDEK, corresponding to amino acid residues 802-815 of mouse TRPM6. 1st extracellular loop.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	transient receptor potential cation channel, subfamily M, member 6
Database Link:	NP_700466 Entrez Gene 293874 RatEntrez Gene 225997 Mouse Q8CIR4

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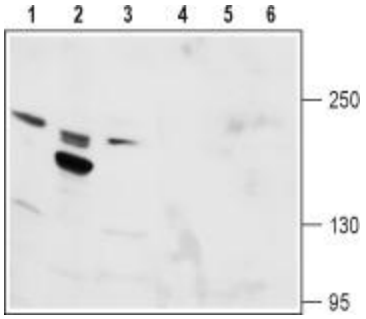
Background: Transient receptor potential (TRP) channels are relatively non-selective ion channels enabling the exchange of cations down their electrochemical gradient. This exchange enables the intracellular rise in Na+ and Ca2+ concentration and ultimately in the cell membrane depolarization, important for action potential propagation and muscle contraction. They are activated by an extremely broad range of stimuli namely, temperature, voltage, pH, endocrine factors as well as signaling molecules. The TRP channel family is composed of 28 members divided in 7 subgroups: TRPV, TRPC, TRPM, TRPA, TRPN, TRPP and TRPML. All members of the TRP family have 6 transmembrane (TM) domains, and a pore domain between the fifth (S5) and sixth (S6) transmembrane domains. In general, TRP channels enable the passage of either Na+ or Ca2+ ions with little or no preference. However, some channels do exhibit some selectivity. Also, TRP channels do not display the positive charges in the S4 voltage-sensing domain like most voltage sensitive channels, although they do display voltage dependency. In addition, TRP channels have in the C-terminal intracellular region to the S6 domain a TRP domain comprising 25 amino acids that is more or less conserved among most TRP channels. Within the TRP domain, there is a TRP box composed of six amino acids, and TRP box 2 – a proline rich domain. The TRP domain seems to be responsible for the binding of PIP2, a phospholipid important for the regulation of channel activity. The TRPM subfamily consists of 8 members divided in to three major groups: TRPM1/3, TRPM4/5, and TRPM6/7. TRPM2 and TRPM8 are not included in any of the groups since they are quite different even with respect to each other. TRPM2, TRPM6 and TRPM7 are distinctly different from the other TRP channels and other ion channels as all three have an active kinase domain in the C-terminal tail. TRPM6 kinase domain is able to phosphorylate TRPM7 thus increasing TRPM7 channel activity. However, TRPM7 cannot phosphorylate TRPM6; it can though autophosphorylate and phosphorylate other proteins. The significance of the kinase activity of these two channels has yet to be determined. Both channels are regulated by cytosolic Mg2+. Extracellular Mg2+ inhibits the channels. Both TRPM6 and TRPM7 are thus important regulators of Mg2+ homeostasis. TRPM7 does so in a more or less ubiquitous manner whereas TRPM6 does so selectively in the kidney and intestines where it is selectively expressed. Indeed, mutations in TRPM6 results in hypomagnesemia with secondary hypocalcemia. TRPM6 and TRPM7 are able to form homo- and heterodimers, where every channel-type formed demonstrates different properties related to cation affinity, and pH sensitivity.

Synonyms: CHAK2; FLJ22628; HMGX; HOMG; HOMG1; HSH

Product images:



Western blot analysis of rat kidney (lanes 1 and 4), rat testis (lanes 2 and 5) and mouse kidney (lanes 3 and 6) lysates: 1-3. Anti-TRPM6 (extracellular) antibody, (1:200). 4-6. Anti-TRPM6 (extracellular) antibody, preincubated with the control peptide antigen.