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## **TRPM8 Recombinant Monoclonal Antibody**

Product Code	CSB-RA186773A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q7Z2W7
Immunogen	A synthesized peptide derived from human TRPM8
Species Reactivity	Human
<b>Tested Applications</b>	ELISA, IHC; Recommended dilution: IHC:1:50-1:200
Relevance	Receptor-activated non-selective cation channel involved in detection of sensations such as coolness, by being activated by cold temperature below 25 degrees Celsius. Activated by icilin, eucalyptol, menthol, cold and modulation of intracellular pH. Involved in menthol sensation. Permeable for monovalent cations sodium, potassium, and cesium and divalent cation calcium. Temperature sensing is tightly linked to voltage-dependent gating. Activated upon depolarization, changes in temperature resulting in graded shifts of its voltage-dependent activation curves. The chemical agonist menthol functions as a gating modifier, shifting activation curves towards physiological membrane potentials. Temperature sensitivity arises from a tenfold difference in the activation energies associated with voltage-dependent opening and closing. In prostate cancer cells, shows strong inward rectification and high calcium selectivity in contrast to its behavior in normal cells which is characterized by outward rectification and poor cationic selectivity. Plays a role in prostate cancer cell migration (PubMed:25559186). Isoform 2 and isoform 3 negatively regulate menthol- and cold-induced channel activity by stabilizing the closed state of the channel.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Neuroscience; Cancer; Metabolism; Signal transduction
Gene Names	TRPM8
Clone No.	2G7
Image	



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IHC image of CSB-RA186773A0HU diluted at 1:100 and staining in paraffin-embedded human prostate cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

## Description

The production process of the TRPM8 recombinant monoclonal antibody began with the synthesis of the gene encoding the TRPM8 monoclonal antibody. Immunizing animals using a synthesized peptide derived from human TRPM8 and isolating B cells from the immunized animals. B cells were fused with myeloma cells to generate hybridomas, which were screened for TRPM8 antibody production. The variable light and variable heavy domains of the TRPM8 antibody were then sequenced, and the TRPM8 monoclonal antibody gene was cloned into a vector. The recombinant vector was transfected into cells for cultivation, and the resulting TRPM8 recombinant monoclonal antibody was purified through affinity chromatography from the cell culture supernatant. This highly specific TRPM8 recombinant monoclonal antibody can react with both human and mouse TRPM8 samples and has been tested in ELISA and IHC applications.

The TRPM8 protein is a cation channel that is mainly expressed in sensory neurons. It is activated by cold temperatures and menthol and plays a role in thermosensation and nociception. When activated, TRPM8 allows the influx of calcium and sodium ions into the cell, leading to the depolarization of the neuron and the initiation of nerve impulses. In addition to its role in thermosensation and nociception, TRPM8 has also been implicated in various physiological processes, such as inflammation, cancer, and bladder function.