TRPM7 (Extracellular region)

Blocking Peptide

Cat. # TX5655
Size 50 µg

Background

The transient receptor potential melastatin (TRPM) subfamily of cation-permeable TRP channels is ubiquitously expressed in mammalian tissues. This family includes TRPM1-8. In addition to acting as a calcium-permeant channel, TRPM6 and TRPM7 possess an inherent serine/threonine kinase activity. TRPM7 specifically is involved with cellular magnesium homeostasis and neurotransmitter release. Due to the magnesium inhibition, TRPM7's ion channel activity is very low. TRPM7 has been implicated in cell proliferation and migration during cancer progression, and its expression levels correlate with prognosis in breast cancer. TRPM7 kinase activation leads to massive autophosphorylation of the C-terminal region, including phosphorylation of Ser-1493, Ser-1513, and Ser-1569. Both Ser -1513 and Ser-1569 phosphorylation is required for kinase activity, and phosphorylation of Ser-1513 may inhibit Caspase-mediated cleavage of the C-terminal tail. Thus, TRPM7 is a multifunctional transmembrane protein with roles in cell signaling, proliferation, migration, and death.

Background References

Masayuki, M. et al. (2005) J of Bio Chem 280(21): 20793
Clark, K. et al. (2008) PLoS ONE 3(3): e1876
Desai, BN. et al. (2012) Dev. Cell. 22(6): 1149

Applications

Blocking	1:1000
ELISA	50 ng/well

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Specificity

The peptide is specifically recognized by TRPM7 (Extracellular region), antibody (TP5651) in ELISA, and has been shown to block the reactivity of TP5651 in Western blot. In addition, the peptide is recommended for use in blocking TP5651 reactivity in immunocytochemistry.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Peptide Sequence

TRPM7 synthetic peptide corresponding to amino acids in the extracellular region of human TRPM7. This site is well conserved in rat and mouse TRPM7, but has low homology to other TRPM family members.

Buffer and Storage

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.
Store at –20°C. Stable for 1 year.

Related Products

TM5731	TRPM7 (Extracellular region) Mouse Monoclonal
TP5651	TRPM7 (Extracellular region) Rabbit Polyclonal
TP5661	TRPM7 (Ser-1493), phospho-specific Rabbit Polyclonal
TP5671	TRPM7 (Ser-1513), phospho-specific Rabbit Polyclonal
TP5681	TRPM7 (Ser-1569), phospho-specific Rabbit Polyclonal

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