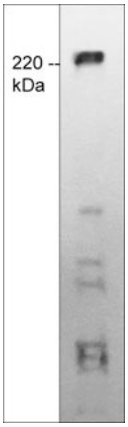
TRPM7 (Extracellular region)

Mouse Monoclonal IgG1

Cat. # TM5731
Size 100 µl

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.



Western blot image of TRPM7 expression in human MCF-7 cell lysate. The blot was probed with mouse monoclonal anti-TRPM7 (Extracellular region) M573 at a dilution of 1:250.

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

WB	1:500
ELISA	1:2000

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.

Species Reactivity

Hu, Rt, Ms

Specificity

The antibody was affinity purified using TRPM7 (Extracellular region) peptide. This antibody antibody detects a 220 kDa* protein on SDS-PAGE immunoblots of human MCF7 cells.

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

Immunogen

Clone M573 was generated from TRPM7 synthetic peptide (coupled to carrier) 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

Mouse monoclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

Related Products

TP5651	TRPM7 (Extracellular region) Rabbit Polyclonal
TP5691	TRPM7 (a.a. 1484-1497) 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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