

TRPM7 Phospho-Regulation

Antibody Sampler Kit

Cat. # TK6990

Size Kit

Kit Summary

The TRPM7 phospho-regulation antibody sampler kit includes phospho-specific antibodies for detection of the phosphorylation of Ser-1493, Ser-1513, and Ser-1569 relative to total TRPM7 expression levels. The kit includes rabbit polyclonal and mouse monoclonal antibodies to TRPM7 for examining total expression level of TRPM7.

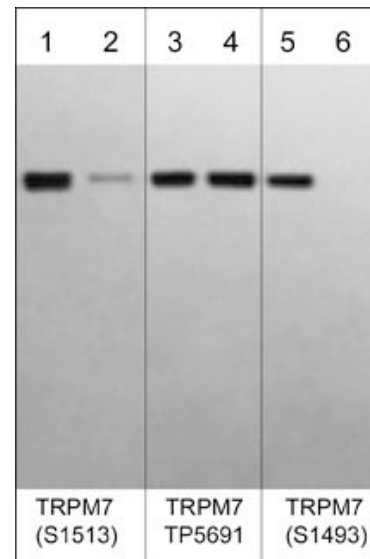
Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
TM5731	TRPM7 (Extracellular region)	Mouse mAb	50 µl	WB, E	Hu, Rt, Ms	1:500
TP5651	TRPM7 (Extracellular region)	Rabbit pAb	50 µl	WB, E	Hu, Rt, Ms	1:500
TP5691	TRPM7 (a.a. 1484-1497)	Rabbit pAb	50 µl	WB, E	Hu	1:1000
TP5661	TRPM7 (Ser-1493), phospho-specific	Rabbit pAb	50 µl	WB, E	Hu	1:500
TP5671	TRPM7 (Ser-1513), phospho-specific	Rabbit pAb	50 µl	WB, E	Hu, Rt, Ms	1:500
TP5681	TRPM7 (Ser-1569), phospho-specific	Rabbit pAb	50 µl	WB, E	Hu, Rt, Ms	1:1000

Applications: WB = Western blot, E = ELISA, ICC = Immunocytochemistry, IP = Immunoprecipitation, IHC = Immunohistochemistry, FC = Flow Cytometry
Species: H = Human, R = Rat, Ms = Mouse, C = Chicken, F = Fish, Fr = Frog, Rb = Rabbit



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.



Western blot image of human autophosphorylated TRPM7 C-terminal kinase domain (lanes 1-6). The blot was treated with lambda phosphatase to dephosphorylate TRPM7 phosphosites (lanes 2, 4, & 6). The blot was probed with rabbit polyclonals anti-TRPM7 (Ser-1513) phospho-specific (lanes 1 & 2), anti-TRPM7 (a.a.1484-1497) TP5691 antibody (lanes 3 & 4), or anti-TRPM7 (Ser-1493) phospho-specific (lanes 5 & 6).

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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

Buffer and Storage

Rabbit polyclonal and mouse monoclonal antibodies are supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store all at -20°C . Stable for 1 year.

Product Citations

Cat. # **Citation & Application**

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