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TRPM7 Antibody (aa1817-1863, clone S74-25)

Mouse Monoclonal Antibody
Catalog # ALS13767

Specification

TRPM7 Antibody (aa1817-1863, clone S74-25) - Product Information

Application	**IF, WB**
Primary Accession	Q96QT4
Reactivity	**Human, Mouse, Rat**
Host	**Mouse**
Clonality	**Monoclonal**
Calculated MW	**213kDa KDa**

TRPM7 Antibody (aa1817-1863, clone S74-25) - Additional Information

Gene ID 54822

Other Names
Transient receptor potential cation channel subfamily M member 7, 2.7.11.1, Channel-kinase 1, Long transient receptor potential channel 7, LTrpC-7, LTrpC7, TRPM7, CHAK1, LTRPC7

Target/Specificity
Detects ~220 kD protein. No cross reactivity with TrpM6.

Reconstitution & Storage
Store at -20°C.

Precautions
TRPM7 Antibody (aa1817-1863, clone S74-25) is for research use only and not for use in diagnostic or therapeutic procedures.

TRPM7 Antibody (aa1817-1863, clone S74-25) - Protein Information

Name TRPM7

Synonyms CHAK1, LTRPC7 {ECO:0000303|PubMed:113855

Function
Bifunctional protein that combines an ion channel with an intrinsic kinase domain, enabling it to modulate cellular functions either by conducting ions through the pore or by phosphorylating downstream proteins via its kinase domain. The channel is highly permeable to divalent cations, specifically calcium (Ca2+), magnesium (Mg2+) and zinc (Zn2+) and mediates their influx (PubMed:11385574, PubMed:12887921, PubMed:15485879, PubMed:24316671, PubMed:35561741, PubMed:36027648).

Controls a wide range of biological processes such as Ca2(+), Mg(2+) and Zn(2+) homeostasis, vesicular Zn(2+) release channel and intracellular Ca(2+) signaling, embryonic development, immune responses, cell motility, proliferation and differentiation (By similarity). The C-terminal alpha-kinase domain autophosphorylates cytoplasmic residues of TRPM7 (PubMed:18365021). In vivo, TRPM7 phosphorylates SMAD2, suggesting that TRPM7 kinase may play a role in activating SMAD signaling pathways. In vitro, TRPM7 kinase phosphorylates ANXA1 (annexin A1), myosin II isoforms and a variety of proteins with diverse cellular functions (PubMed:15485879, PubMed:18394644).

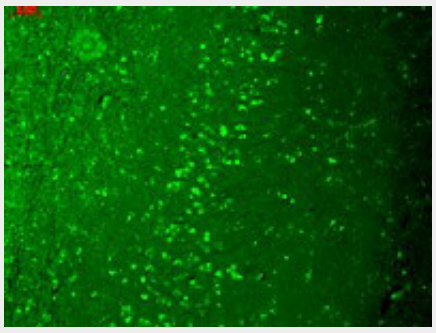
Cellular Location
Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q923J1}. Cytoplasmic vesicle membrane {ECO:0000250|UniProtKB:Q923J1}; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q923J1}. Note=Localized largely in intracellular Zn(2+)-storage vesicles. {ECO:0000250|UniProtKB:Q923J1}

TRPM7 Antibody (aa1817-1863, clone S74-25) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TRPM7 Antibody (aa1817-1863, clone S74-25) - Images



TrpM7 (S74-25), Human hippocampus.

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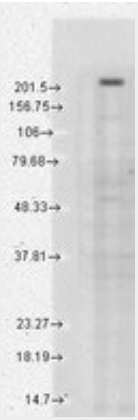

TrpM7 (S74-25), Human cell line mix.

TRPM7 Antibody (aa1817-1863, clone S74-25) - Background

Essential ion channel and serine/threonine-protein kinase. Divalent cation channel permeable to calcium and magnesium. Has a central role in magnesium ion homeostasis and in the regulation of anoxic neuronal cell death. Involved in TNF- induced necroptosis downstream of MLKL by mediating calcium influx. The kinase activity is essential for the channel function. May be involved in a fundamental process that adjusts plasma membrane divalent cation fluxes according to the metabolic state of the cell. Phosphorylates annexin A1 (ANXA1).

TRPM7 Antibody (aa1817-1863, clone S74-25) - References

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Ryazanova L.V.,et al.J. Biol. Chem. 279:3708-3716(2004).
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