Datasheet for ABIN7043827

anti-TRPC7 antibody (Extracellular)

2 Images

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Overview

Quantity:	25 µL
Target:	TRPC7
Binding Specificity:	AA 504-516, Extracellular
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This TRPC7 antibody is un-conjugated
Application:	Western Blotting (WB), Immunofluorescence (IF), Immunochromatography (IC), Live Cell Imaging (LCI)

Product Details

Purpose:	A Rabbit Polyclonal Antibody to TRPC7 Channel
Immunogen:	Immunogen: Synthetic peptide Immunogen Sequence: (C)DQHVQDDTLHNVS, corresponding to amino acid residues 504-516 of human TRPC7
Isotype:	IgG
Specificity:	2nd extracellular loop
Cross-Reactivity:	Human, Mouse, Rat
Predicted Reactivity:	Rat,mouse - 11,13 amino acid residues identical
Characteristics:	Anti-TRPC7 (extracellular) Antibody is directed against an extracellular epitope of the human

Product Details

	TPC7 channel. Anti-TRPC7 (extracellular) Antibody (ABIN7043827, ABIN7044032 and ABIN7044033) can be used in western blot and immunocytochemistry applications. It has been designed to recognize TRPC7 from mouse, rat and human samples.
Purification:	Affinity purified on immobilized antigen.

Target Details

Target:	TRPC7
Alternative Name:	TRPC7 (TRPC7 Products)
Background:	Transient receptor protein 7, TRP7,Transient receptor potential (TRP) channels are relatively non-selective ion channels enabling the exchange of cations down their electrochemical gradient. This exchange enables the intracellular rise in Na+ and Ca2+ concentration and ultimately in the cell membrane depolarization, important for action potential propagation and muscle contraction1. They are activated by an extremely broad range of stimuli namely, temperature, voltage, pH , endocrine factors as well as signaling molecules2.The TRP channel family is composed of 28 members divided in 7 subgroups: TRPV, TRPC, TRPM, TRPA, TRPN, TRPP and TRPML. All members of the TRP family form tetramers and could heterhomultimerize. They have 6 transmembrane (TM) domains, and a pore domain between the fifth (S5) and sixth (S6) transmembrane domains. In general, TRP channels enable the passage of either Na+ or Ca2+ ions with little or no preference. However, some channels do exhibit some selectivity. Also, TRP channels do not display the positive charges in the S4 voltage-sensing domain like most voltage sensitive channels, although they do display voltage dependency3. In addition, TRP channels have in the C-terminal intracellular region to the S6 domain a TRP domain comprising 25 amino acids that is more or less conserved among most TRP channels. Within the TRP domain, there is a TRP box composed of six amino acids, and TRP box 2 - a proline rich domain1,3. The TRP domain seems to be responsible for the binding of PIP2, a phospholipid important for the regulation of channel activity4.The TRPC subfamily is further divided into the following: TRPC1/4/5, TRPC3/6/7 and TRPC21. Activation of phospholipase C (PLC) ultimately leads to the formation of diacylglycerol (DAG) and inositol 1,4,5-triphosphate (IP3) via hydrolysis of PIP2. The increase in concentration of these intracellular second messengers leads to the activation of non-selective Ca2+ channels and an IP3-induced release of Ca2+ from intracellular stores5. The intracellular Ca2+ store depletion in turn activates Ca2+ specific channels to allow replenish intracellular Ca2+ levels. TRPCs are thought to be activated upon intracellular store Ca2+ depletion, and may function in concert along with the recently identified Orai channel5. The TRPC3/6/7 class produces similar currents

Target Details

	upon activation.TRPC7 is activated by a broad range of hormones and neurotrophins, many of which activate PLC dependent pathways, via G-protein coupled receptors (GPCRs) or receptor tyrosine kinases (RTKs). Its expression is has been detected in dorsal root ganglia (DRGs), heart, uterine myometrium, keratinocytes and leukemic cells5.In myocardial cells, TRPC7 has recently been shown to promote apoptosis, thereby becoming a contributing factor in the development of heart disease. Indeed, there is a strong correlation between the high expression level of TRPC7 and apoptosis in hearts from Dahl salt-sensitive rats which have suffered from heart failure5,6. Alternative names: TRPC7, Transient receptor protein 7, TRP7
Gene ID:	57113
NCBI Accession:	NM_020389
UniProt:	Q9HCX4

Application Details

Application Notes:	Antigen preadsorption control: 1 µg peptide per 1 µg antibody Application Dilutions Immunohistochemistry paraffin embedded sections ihc: N/A Application Dilutions Western blot wb: 1:200
Comment:	Negative Control: (ABIN7237439) Blocking Peptide: (ABIN7237439)
Restrictions:	For Research Use only

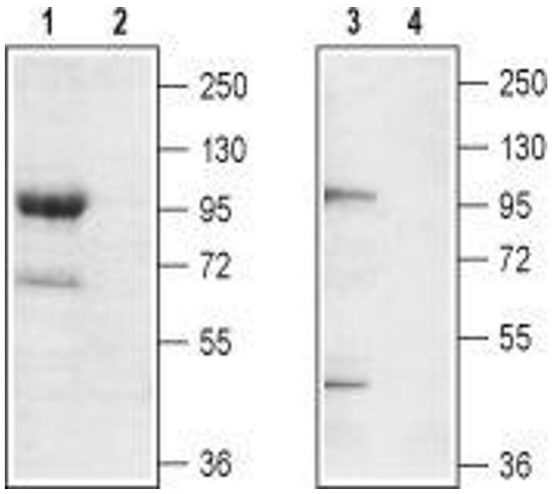
Handling

Format:	Lyophilized
Reconstitution:	0.2 mL double distilled water (DDW).
Concentration:	1 mg/mL
Buffer:	PBS pH 7.4
Storage:	4 °C,-20 °C
Storage Comment:	Storage before reconstitution: The antibody ships as a lyophilized powder at room temperature. Upon arrival, it should be stored at -20°C. Storage after reconstitution: The reconstituted solution can be stored at 4°C for up to 1 week.

Handling

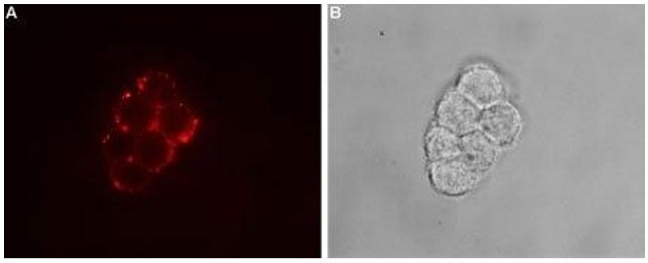
For longer periods, small aliquots should be stored at -20°C. Avoid multiple freezing and thawing. Centrifuge all antibody preparations before use (10000 x g 5 min).

Images



Western Blotting

Image 1. Western blot analysis of mouse brain membrane (lanes 1 and 2) and rat brain lysate (lanes 3 and 4): - 1,3. Anti-TRPC7 (extracellular) Antibody (ABIN7043827, ABIN7044032 and ABIN7044033), (1:200).2,4. Anti-TRPC7 (extracellular) Antibody, preincubated with TRPC7 (extracellular) Blocking Peptide (#BLP-CC066).



Immunocytochemistry

Image 2. Expression of TRPC7 in rat PC12 cells - Cell surface detection of TRPC7 in intact living rat pheochromocytoma (PC12) cells using. A. Extracellular staining of cells using Anti-TRPC7 (extracellular) Antibody (ABIN7043827, ABIN7044032 and ABIN7044033), (1:50) followed by goat anti-rabbit-AlexaFluor-594 secondary antibody (red). B. Live view of the cells.