

TRPC6 (D3G1Q) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	110	Rabbit IgG	#Q9Y210	7225

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

TRPC6 (D3G1Q) Rabbit mAb recognizes endogenous levels of total TRPC6 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human TRPC6 protein.

Background

Transient receptor potential (TRP) canonical 6 (TRPC6) belongs to the superfamily of TRP cation channels. The TRPC subfamily (TRPC1-7) is a group of calcium-permeable cation channels that mediates the increase in intracellular $[Ca^{2+}]$ following activation by G-protein-coupled receptors or receptor tyrosine kinases (1). TRPC6 is directly activated by diacylglycerol (DAG) (2). Various tissues express TRPC6, including brain, lung, kidney, ovary and small intestine. TRPC6 exerts a variety of biological functions in various tissues. In brain, TRPC6 plays important roles in synaptic plasticity, spatial cognition (3) and protects neurons from ischemic excitotoxicity (4). In kidney, TRPC6 is expressed in mesangial cells and podocytes of renal glomeruli (5) and regulates glomerular filtration (6). Mutations in TRPC6 gene cause autosomal dominant focal segmental glomerulosclerosis (7). In smooth muscle cells, TRPC6 mediates Na^+ influx followed by Ca^{2+} entry via Na^+/Ca^{2+} -exchanger (NCX) reversal which leads to contraction (8, 9).

Background References

1. Montell, C. (2005) *Sci STKE* 2005, re3.
2. Hofmann, T. et al. (1999) *Nature* 397, 259-63.
3. Liu, Y. et al. (2015) *Behav Brain Res* 294, 186-93.
4. Li, H. et al. (2012) *J Neurochem* 123, 1010-8.
5. Sours, S. et al. (2006) *Am J Physiol Renal Physiol* 290, F1507-15.
6. Dryer, S.E. and Reiser, J. (2010) *Am J Physiol Renal Physiol* 299, F689-701.
7. Reiser, J. et al. (2005) *Nat Genet* 37, 739-44.
8. Poburko, D. et al. (2007) *Circ Res* 101, 1030-8.
9. Dietrich, A. and Gudermann, T. (2014) *Handb Exp Pharmacol* 222, 157-88.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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