Mouse KCNQ4 Monoclonal Antibody | anti-KCNQ4 antibody

KCNQ4 Antibody: ATTO 594

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA102870	**Mouse**	**Human, Mouse, Rat**	**Immunofluorescence, Immunocytochemistry, Immunoprecipitation, Western Blot**

PRODUCT SYNONYMS

KCNQ4; Monoclonal Antibody; KCNQ4 Antibody: ATTO 594; DFNA2; KQT like 4; Kv7.4; voltage gated potassium channel subunit Kv7.4; voltage gated potassium channel antibodies; anti-KCNQ4 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human, Mouse, Rat
Clonality	Monoclonal
Isotype	IgG1
Clone Number	S43-6
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	695
Applicable Applications for anti-KCNQ4 antibody	IF (Immunofluorescence), ICC (Immunocytochemistry), IP (Immunoprecipitation), WB (Western Blot)
Conjugate	ATTO 594
Storage Buffer	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

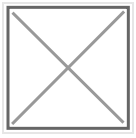
IMAGES



IHC (Immunohistochemisry)
Immunohistochemistry analysis using Mouse Anti-KCNQ4 Monoclonal Antibody, Clone S43-6. Tissue: hippocampus. Species: Human. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-KCNQ4 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.



WB (Western Blot)
Western Blot analysis of Rat tissue lysate showing detection of KCNQ4 protein using Mouse Anti-KCNQ4 Monoclonal Antibody, Clone S43-6. Load: 15 ug. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-KCNQ4 Monoclonal Antibody at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-KCNQ4 Monoclonal Antibody, Clone S43-6. Tissue: frozen brain section. Species: mouse. Fixation: 10% Formalin Solution for 12-24 hours at RT. Primary Antibody: Mouse Anti-KCNQ4 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: HRP/DAB Detection System: Biotinylated Goat Anti-Mouse, Streptavidin Peroxidase, DAB Chromogen (brown) for 30 minutes at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 250-500 ul for 5 minutes at RT.

ADDITIONAL INFORMATION

Related Product Information for anti-KCNQ4 antibody	**Background Info:** Detects ~77kDa. **Scientific Background:** Ion channels are integral membrane proteins that help establish and control the small voltage gradient across the plasma membrane of living cells by allowing the flow of ions down their electrochemical gradient (1). They are present in the membranes that surround all biological cells because their main function is to regulate the flow of ions across this membrane. Whereas some ion channels permit the passage of ions based on charge, others conduct based on a ionic species, such as sodium or potassium. Furthermore, in some ion channels, the passage is governed by a gate which is controlled by chemical or electrical signals, temperature, or mechanical forces. There are a few main classifications of gated ion channels. There are voltage- gated ion channels, ligand-gated, other gating systems and finally those that are classified differently, having more exotic characteristics. The first are voltage- gated ion channels which open and close in response to membrane potential. These are then separated into sodium, calcium, potassium, proton, transient receptor, and cyclic nucleotide-gated channels; each of which is responsible for a unique role. Ligand-gated ion channels are also known as ionotropic receptors, and they open in response to specific ligand molecules binding to the extracellular domain of the receptor protein. The other gated classifications include activation and inactivation by second messengers, inward-rectifier potassium channels, calcium-activated potassium channels, two-pore-domain potassium channels, light-gated channels, mechano-sensitive ion channels and cyclic nucleotide-gated channels. Finally, the other classifications are based on less normal characteristics such as two-pore channels, and transient receptor potential channels (2). Specifically, the protein encoded by this gene forms a potassium channel that is thought to play a critical role in the regulation of neuronal excitability (3), particularly in sensory cells of the cochlea (4). The current generated by this channel is inhibited by M1 muscarinic acetylcholine receptors and activated by retigabine, a novel anti-convulsant drug (5).
Product Categories/Family for anti-KCNQ4 antibody	Ion Channels; Neuroscience
References	1. Hille B. (2001) Ion Channels of Excitable Membranes, 3rd Ed., Sinauer Associated Inc.: Sunderland, MA USA. 2. www.iochannels.org 3. Hernandez C.C., Zaiko O., Tolstykh G.P., Shapiro M.S. (2008) J Physiol. 586(7): 1811-1821. 4. Kharkovets T., et al. (2006) EMBO J. 25(3): 642-652. 5. Tatulian L., Delmas P., Abogadie F.C., Brown D.A. (2001) J Neuroscience. 21(15): 5535-5545.

NCBI AND UNIPROT INFORMATION

NCBI GI #	26638653
NCBI GeneID	9132
NCBI Accession #	NP_004691.2
NCBI GenBank Nucleotide #	NM_004700.3
UniProt Accession #	P56696; O96025
Molecular Weight	71,196 Da
NCBI Official Full Name	potassium voltage-gated channel subfamily KQT member 4 isoform a
NCBI Official Synonym Full Names	potassium voltage-gated channel, KQT-like subfamily, member 4
NCBI Official Symbol	KCNQ4
NCBI Official Synonym Symbols	DFNA2; KV7.4; DFNA2A

NCBI Protein Information	potassium voltage-gated channel subfamily KQT member 4; potassium channel KQT-like 4; potassium channel subunit alpha KvLQT4
UniProt Protein Name	Potassium voltage-gated channel subfamily KQT member 4
UniProt Gene Name	**KCNQ4**
UniProt Entry Name	KCNQ4_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: https://stage.aaabiotech.com/monoclonal/kcnq4-antibody-clone-s43-6-immunofluorescence-immunocytochemistry-immunoprecipitation-western-blot-elisa/102870