

KCNQ2/3/4/5 Rabbit pAb

CatalogNo: YT2458

Key Features

Host Species

- Rabbit

Reactivity

- Human, Mouse, Rat

Applications

- IHC, IF, ELISA

MW

- 97kD (Calculated)

Isotype

- IgG

Storage

Storage* -15°C to -25°C/1 year (Do not lower than -25°C)

Formulation Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

IHC 1:100-1:300

ELISA 1:10000

IF 1:50-200

Basic Information

Clonality Polyclonal

Immunogen Information

Immunogen The antiserum was produced against synthesized peptide derived from human Kv7.3/KCNQ3. AA range:191-240

Specificity KCNQ2/3/4/5 Polyclonal Antibody detects endogenous levels of KCNQ2/3/4/5 protein.

Target Information

Gene name KCNQ2

Protein Name Potassium voltage-gated channel subfamily KQT member 2

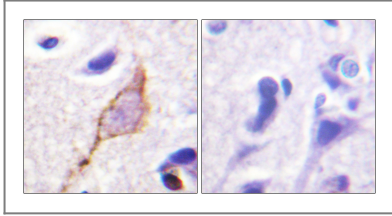
Organism	Gene ID	UniProt ID
Human	3785 ; 3786 ; 9132 ; 56479 ;	O43526 ; O43525 ; P56696 ; Q9NR82 ;
Mouse	16536 ; 110862 ; 60613 ; 226922 ;	
Rat	170848 ; 29682 ;	O88943 ; O88944 ; Q9JK96 ;

Cellular Localization Cell membrane ; Multi-pass membrane protein .

Tissue specificity In adult and fetal brain. Highly expressed in areas containing neuronal cell bodies, low in spinal cord and corpus callosum. Isoform 2 is preferentially expressed in differentiated neurons. Isoform 6 is prominent in fetal brain, undifferentiated neuroblastoma cells and brain tumors.

Function Alternative products:Additional isoforms seem to exist,Disease:Defects in KCNQ2 are the cause of benign neonatal epilepsy type 1 (EBN1) [MIM:121200]. Benign neonatal epilepsy is characterized by clusters of seizures occurring in the first days of life. Most patients have spontaneous remission by 12 months of age and show normal psychomotor development. The disorder is distinguished from benign familial infantile seizures by an earlier age at onset.,Disease:Defects in KCNQ2 are the cause of benign neonatal epilepsy with myokymia (EBNMK) [MIM:606437]. EBNMK is a syndrome characterized by benign neonatal convulsions followed later in life by myokymia.,Disease:Defects in KCNQ2 are the cause of myokymia isolated type 2 (MK2) [MIM:606437]. Myokymia is a condition characterized by spontaneous involuntary contraction of muscle fiber groups that can be observed as vermiform movement of the overlying skin. Electromyography typically shows continuous motor unit activity with spontaneous oligo- and multiplet-discharges of high intraburst frequency (myokymic discharges). Isolated spontaneous muscle twitches occur in many persons and have no grave significance.,Domain:The segment S4 is probably the voltage-sensor and is characterized by a series of positively charged amino acids at every third position.,Function:Probably important in the regulation of neuronal excitability. Associates with KCNQ3 to form a potassium channel with essentially identical properties to the channel underlying the native M-current, a slowly activating and deactivating potassium conductance which plays a critical role in determining the subthreshold electrical excitability of neurons as well as the responsiveness to synaptic inputs. KCNQ2/KCNQ3 current is blocked by linopirdine and XE991, and activated by the anticonvulsant retigabine. Muscarinic agonist oxotremorine-M strongly suppress KCNQ2/KCNQ3 current in cells in which cloned KCNQ2/KCNQ3 channels were coexpressed with M1 muscarinic receptors.,miscellaneous:Inclusion of isoform 6 in heteromultimers results in attenuation of potassium current. Prominent expression of isoform 6 in the developing brain may alter firing repertoires of immature neurons excitability to provide cues for proliferation rather than differentiation.,miscellaneous:Mutagenesis experiments were carried out in Xenopus oocytes by coexpression of either KCNQ2(mut) and KCNQ3 at the ratio of 1:1, or of KCNQ2(mut), KCNQ2(wt) and KCNQ3 at the ratio of 1:1:2, to mimic the situation in a heterozygous patient with BFNC1 disease.,PTM:In Xenopus oocytes KCNQ2/KCNQ3 heteromeric current can be increased by intracellular cyclic AMP, an effect that depends on phosphorylation of Ser-52 in the N-terminus region.,similarity:Belongs to the potassium channel family. KQT subfamily.,subunit:Heteromultimer with KCNQ3. May associate with KCNE2.,tissue specificity:In adult and fetal brain. Highly expressed in areas containing neuronal cell bodies, low in spinal chord and corpus callosum. Isoform 2 is preferentially expressed in differentiated neurons, whereas isoform 6 is prominent in fetal brain, undifferentiated neuroblastoma cells, and brain tumors.,

Validation Data



Immunohistochemistry analysis of paraffin-embedded human brain tissue, using Kv7.3/KCNQ3 Antibody. The picture on the right is blocked with the synthesized peptide.

Contact information

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Please scan the QR code to access additional product information:
KCNQ2/3/4/5 Rabbit pAb

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