Kv2.1 (Phospho Ser567) Rabbit pAb

CatalogNo: YP1156

Key Features

Host Species	Reactivity	Applications
• Rabbit	• Human,Mouse,Rat	• IHC,IF,ELISA

MW	Isotype
• 96kD (Calculated)	• IgG

Recommended Dilution Ratios

IHC 1:100-1:300
IF 1:200-1:1000
ELISA 1:10000
Not yet tested in other applications.

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.

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	The antiserum was produced against synthesized peptide derived from human Kv2.1/KCNB1 around the phosphorylation site of Ser567. AA range:533-582
Specificity	Phospho-Kv2.1 (S567) Polyclonal Antibody detects endogenous levels of Kv2.1 protein only when phosphorylated at S567.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):PsPVA

Target Information

Gene name KCNB1

Protein Name Potassium voltage-gated channel subfamily B member 1

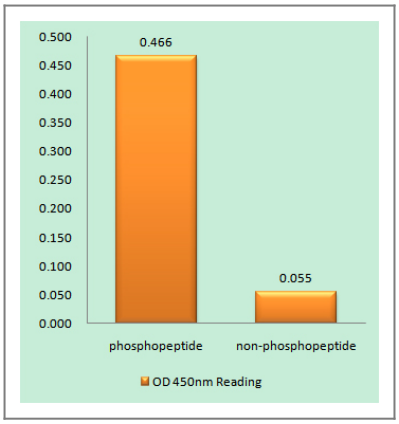
Organism	Gene ID	UniProt ID
Human	3745;	Q14721;
Mouse	16500;	Q03717;
Rat	25736;	P15387;

Cellular Localization Cell membrane . Perikaryon . Cell projection, axon . Cell projection, dendrite . Membrane; Multi-pass membrane protein. Cell junction, synapse, postsynaptic cell membrane . Cell junction, synapse . Cell junction, synapse, synaptosome . Lateral cell membrane . Cell membrane, sarcolemma . Localizes to high-density somatodendritic clusters and non-clustered sites on the surface of neocortical and hippocampal pyramidal neurons in a cortical actin cytoskeleton-dependent manner (PubMed:24477962). Localizes also to high-density clusters in the axon initial segment (AIS), at ankyrin-G-deficient sites, on the surface of neocortical and hippocampal pyramidal neurons (PubMed:24477962). KCNB1-containing AIS clusters localize either in close apposition to smooth endoplasmic reticulum cisternal organelles or with GABA-A receptor-containing synapses of hippocampal and cortical pyramidal neurons, respectively (PubMed:24477962). Localizes to high-density clusters on the cell surface of atrial and ventricular myocytes and at the lateral plasma membrane in epithelial cells. Localizes both to the axial and transverse tubules (T tubule) and sarcolemma in ventricular myocytes. Associated with lipid raft domains. In cortical neurons, apoptotic injuries induce de novo plasma membrane insertion in a SNARE-dependent manner causing an apoptotic potassium current surge. .

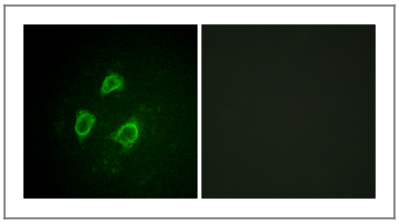
Tissue specificity Expressed in neocortical pyramidal cells (PubMed:24477962). Expressed in pancreatic beta cells (at protein level) (PubMed:12403834, PubMed:14988243). Expressed in brain, heart, lung, liver, colon, kidney and adrenal gland (PubMed:19074135). Expressed in the cortex, amygdala, cerebellum, pons, thalamus, hypothalamus, hippocampus and substantia nigra (PubMed:19074135).

Function Domain:The segment S4 is probably the voltage-sensor and is characterized by a series of positively charged amino acids at every third position.,Domain:The tail may be important in modulation of channel activity and/or targeting of the channel to specific subcellular compartments.,Function:Mediates the voltage-dependent potassium ion permeability of excitable membranes. Channels open or close in response to the voltage difference across the membrane, letting potassium ions pass in accordance with their electrochemical gradient.,PTM:Highly phosphorylated on serine residues in the C-terminal. Differential phosphorylation on a subset of serines allows graded activity-dependent regulation of channel gating. Phosphorylation on Ser-457, Ser-541, Ser-567, Ser-607, Ser-656 and Ser-720 as well as the N-terminal Ser-15 are all regulated by calcineurin-mediated dephosphorylation. Particularly, Ser-607 and Tyr-128 are significant sites of voltage-gated regulation through phosphorylation/ dephosphorylation activities. Tyr-128 can be dephosphorylated by PTPalpha and cyt-PTPepsilon. Phosphorylation levels on Ser-607 are supersensitive to neuronal activity. Phosphorylation on Ser-567 is reduced during postnatal development with low levels at P2 and P5. Levels then increase to reach adult levels by P14. Phosphorylation levels on Ser-564 and Ser-607 are greatly reduced during seizures, by 40% and 85% respectively.,similarity:Belongs to the potassium channel family. B (Shab) subfamily.,subunit:Heteromultimer with KCNG2, KCNG3, KCNG4, KCNS1, KCNS2, KCNS3 and KCNV2.,

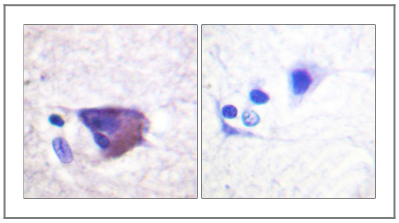
Validation Data



Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using Kv2.1/KCNB1 (Phospho-Ser567) Antibody



Immunofluorescence analysis of HepG2 cells, using Kv2.1/KCNB1 (Phospho-Ser567) Antibody. The picture on the right is blocked with the phospho peptide.



Immunohistochemistry analysis of paraffin-embedded human brain, using Kv2.1/KCNB1 (Phospho-Ser567) Antibody. The picture on the right is blocked with the phospho peptide.

Contact information

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Please scan the QR code to access additional product information:
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