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# KVβ1 Polyclonal Antibody

Catalog # AP63700

## Product Information

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| **Application** | IHC-P |
| **Primary Accession** | Q14722 |
| **Reactivity** | Human, Rat, Mouse |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 46563 |

## Additional Information

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| **Gene ID** | 7881 |
| **Other Names** | Voltage-gated potassium channel subunit beta-1 (K(+) channel subunit beta-1) (Kv-beta-1) |
| **Dilution** | IHC-P~~IHC 1:100-200 |
| **Format** | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide. |
| **Storage Conditions** | -20℃ |

## Protein Information

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| **Name** | KCNAB1 ( HGNC:6228) |
| **Synonyms** | KCNA1B |
| **Function** | Regulatory subunit of the voltage-gated potassium (Kv) Shaker channels composed of pore-forming and potassium-conducting alpha subunits and of regulatory beta subunits (PubMed:17156368, PubMed:17540341, PubMed:19713757, PubMed:7499366, PubMed:7603988). The beta-1/KCNAB1 cytoplasmic subunit mediates closure of delayed rectifier potassium channels by physically obstructing the pore via its N- terminal domain and increases the speed of channel closure for other family members (PubMed:9763623). Promotes the inactivation of Kv1.1/KCNA1, Kv1.2/KCNA2, Kv1.4/KCNA4, Kv1.5/KCNA5 and Kv1.6/KCNA6 alpha subunit-containing channels (PubMed:12077175, PubMed:12130714, PubMed:15361858, PubMed:17156368, PubMed:17540341, PubMed:19713757, PubMed:7499366, PubMed:7603988, PubMed:7649300, PubMed:7890764, PubMed:9763623). Displays nicotinamide adenine dinucleotide phosphate (NADPH)-dependent aldoketoreductase activity by catalyzing the NADPH- dependent reduction of a variety of endogenous aldehydes and ketones (By similarity). The binding of NADPH is required for efficient down- regulation of potassium channel |

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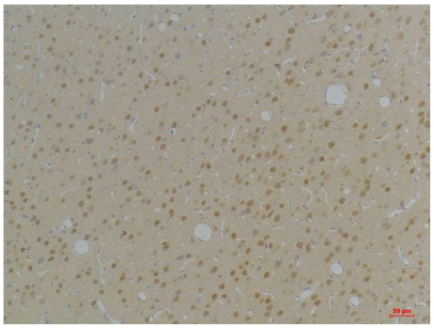
| | activity (PubMed:17540341). Oxidation of the bound NADPH restrains N-terminal domain from blocking the channel, thereby decreasing N-type inactivation of potassium channel activity (By similarity). |
| **Cellular Location** | Cytoplasm. Membrane {ECO:0000250\|UniProtKB:P63144}; Peripheral membrane protein; Cytoplasmic side. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Note=Recruited to the cytoplasmic side of the cell membrane via its interaction with pore-forming potassium channel alpha subunits. |
| **Tissue Location** | In brain, expression is most prominent in caudate nucleus, hippocampus and thalamus. Significant expression also detected in amygdala and subthalamic nucleus. Also expressed in both healthy and cardiomyopathic heart. Up to four times more abundant in left ventricle than left atrium. |

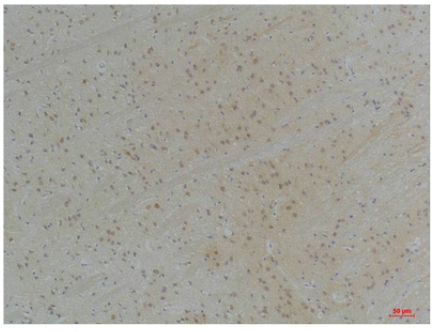
## Background

Cytoplasmic potassium channel subunit that modulates the characteristics of the channel-forming alpha-subunits (PubMed:7499366, PubMed:7603988, PubMed:17156368,PubMed:17540341, PubMed:19713757). Modulates action potentials via its effect on the pore-forming alpha subunits (By similarity). Promotes expression of the pore-forming alpha subunits at the cell membrane, and thereby increases channel activity (By similarity). Mediates closure of delayed rectifier potassium channels by physically obstructing the pore via its N-terminal domain and increases the speed of channel closure for other family members (PubMed:9763623). Promotes the closure of KCNA1, KCNA2 and KCNA5 channels (PubMed:7499366, PubMed:7890032, PubMed:7603988, PubMed:7649300, PubMed:8938711, PubMed:12077175, PubMed:12130714, PubMed:15361858, PubMed:17540341, PubMed:19713757). Accelerates KCNA4 channel closure (PubMed:7890032, PubMed:7649300, PubMed:7890764, PubMed:9763623). Accelerates the closure of heteromeric channels formed by KCNA1 and KCNA4 (PubMed:17156368). Accelerates the closure of heteromeric channels formed by KCNA2, KCNA5 and KCNA6 (By similarity). Isoform KvB1.2 has no effect on KCNA1, KCNA2 or KCNB1 (PubMed:7890032, PubMed:7890764). Enhances KCNB1 and KCNB2 channel activity (By similarity). Binds NADPH; this is required for efficient down-regulation of potassium channel activity (PubMed:17540341). Has NADPH-dependent aldoketoreductase activity (By similarity). Oxidation of the bound NADPH strongly decreases N-type inactivation of potassium channel activity (By similarity).

## Images



Immunohistochemical analysis of paraffin-embedded Rat BrainTissue using Kvb1 Rabbit pAb diluted at 1:200.



Immunohistochemical analysis of paraffin-embedded Mouse BrainTissue using Kvb1 Rabbit pAb diluted at 1:200.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.