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Product datasheet for TA328632

KCND1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)KRRAIRLANSTAS, corresponding to amino acid residues 538-550 of human Kv4.1. Intracellular, C-terminal domain.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.025% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized peptide.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	potassium voltage-gated channel subfamily D member 1
Database Link:	NP_004970 Entrez Gene 16506 MouseEntrez Gene 116695 RatEntrez Gene 3750 Human Q9NSA2

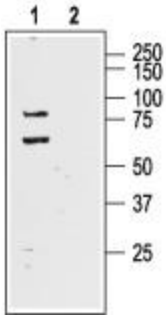
View online »

Background: Kv4.1 is a voltage-dependent K+ channel that belongs to the Shal channel subfamily and includes two other members: Kv4.2 and Kv4.3. Kv4.1 possesses the signature structure of the voltage-dependent K+ channels: six membrane-spanning domains with intracellular N and C termini. As with other members of the voltage-gated K+ channel superfamily, the functional channel is a tetramer that can be composed of more than one member of the Shal subfamily, i.e. heterotetramers of Kv4.1 and Kv4.2. The Kv4 channels are characterized by activation at subthreshold membrane potentials, inactivate rapidly and recover from inactivation quickly compared with other voltage-dependent K+ channels. This type of current is known as transient A-type K+ currents. For example, depolarization-activated K+ currents in rat neostriatal cholinergic interneurons are predominantly of the A-type and attributable to coexpression of Kv4.1 and Kv4.2 subunits. The biophysical properties of the Kv4.1 subunit can be modified by its association with auxiliary b subunits such as KChIP1 that increase Kv4.1 current densities and accelerates both the inactivation and the recovery time. Kv4.1 is highly expressed in brain but is also expressed in peripheral tissues such as colon, heart and lung. The pharmacology of Kv4.1 has been less well studied than that of the other Kv4 members. Kv4.1 is sensitive to the classical K+ channel blockers, 4-aminopyridine and tetraethylammonium. Recently HmTx1 a peptide blocker derived from the venom of the African tarantula Heteroscodra maculata has been shown to be a potent inhibitor of Kv4.1.

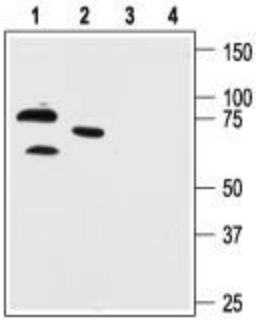
Synonyms: KV4.1

Protein Families: Druggable Genome, Ion Channels: Potassium, Transmembrane

Product images:



Western blot analysis of rat brain lysate: 1. Anti-KV4.1 antibody, (1:400). 2. Anti-KV4.1 antibody, preincubated with the control peptide antigen.



Western blot analysis of human neuroblastoma cell line SH-SY5Y (lanes 1 and 3) and mouse brain lysate (lanes 2 and 4): 1, 2. Anti-KV4.1 antibody, (1:400). 3, 4. Anti-KV4.1 antibody, preincubated with the control peptide antigen.