

## Product datasheet for **TA328940**

### Kcnn2 Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)ETQMENYDKHVTYNAERS, corresponding to amino acid residues 542-559 of rat KCa2.2. Intracellular, C-terminal part.
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, 0.05% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	potassium calcium-activated channel subfamily N member 2
Database Link:	<a href="#">NP_062187</a> <a href="#">Entrez Gene 3781 Human</a> <a href="#">Entrez Gene 140492 Mouse</a> <a href="#">Entrez Gene 54262 Rat</a> <a href="#">P70604</a>

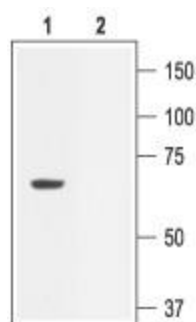
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**Background:**

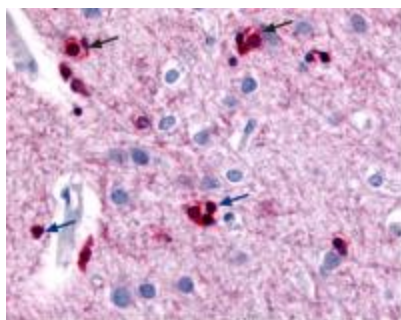
KCa2.2 is a member of the Ca<sup>2+</sup>-activated K<sup>+</sup> channels family with small conductance that includes KCa2.1 (SK1) and KCa2.3 (SK3). The channel is voltage insensitive and is activated by intracellular Ca<sup>2+</sup> in the submicromolar range. It has, though, a similar topology to that of voltage-dependent K<sup>+</sup> channels (KV channels), that is six transmembrane domains and intracellular N- and C-termini. The functional channel of all the KCa2 family members is a multimeric protein composed of four pore-forming subunits. KCa2 channels are extremely sensitive to the levels of intracellular Ca<sup>2+</sup> and concentrations as low as 300-700 nM can open the channels very rapidly (5-15 ms). Hence, the KCa2 channels are highly sensitive and fast Ca<sup>2+</sup> sensors resembling other known Ca<sup>2+</sup>-binding proteins. This type of Ca<sup>2+</sup>-dependent activation is achieved by the constitutive binding of the KCa2 channels to calmodulin, a highly expressed Ca<sup>2+</sup>-binding protein via a calmodulin-binding domain situated at the cytoplasmic C-terminus. Pharmacologically, the KCa2 channels are the only known targets of the bee venom toxin Apamin, with KCa2.1 being the less sensitive, KCa2.2 the most sensitive and KCa2.3 showing intermediate sensitivity. KCa2.2 is predominantly expressed in the nervous system although expression in endothelial cells, heart and liver has been described. KCa2.2 is known to be involved in the regulation of neuronal excitability. They do so mainly via a phenomenon known as after hyperpolarization in which KCa2 channels open in response to increased intracellular Ca<sup>2+</sup> concentrations that result from the entry of extracellular Ca<sup>2+</sup> through voltage-dependent Ca<sup>2+</sup> channels during action potentials. In this way, KCa2 channels effectively form a Ca<sup>2+</sup>-mediated feedback loop.

**Synonyms:**

hSK2; KCa2.2; SK2; SKCA2

**Product images:**


Western blot analysis of rat brain membranes: 1. Anti-KCa2.2 (SK2) antibody, (1:200). 2. Anti-KCa2.2 (SK2) antibody, preincubated with the control peptide antigen.



Expression of KCa2.2 in rat cerebral cortex. Immunohistochemical staining of KCa2.2 channels using Anti-KCa2.2 (SK2) antibody in rat cerebral cortex. Picture showing the the third layer. Note that both neural (black arrows) and glial cells (green arrows) show intense staining. Reaction product is red and counterstain is H&E.