

## Product datasheet for **TA328611**

### KCNK2 Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	WB: 1:200-1:2000
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide DPKSAAQNSKPRLSFSTK(C), corresponding to residues 8-25 of human K2P2.1 (TREK-1). Intracellular, N-terminus.
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% NaN <sub>3</sub> .
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 two pore domain channel subfamily K member 2
Database Link:	<a href="#">NP_001017424</a> <a href="#">Entrez Gene 170899 Rat</a> <a href="#">O95069</a>



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**Background:**

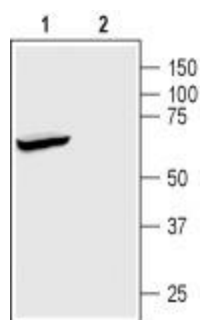
K2P2.1 (also named TWIK-Related K<sup>+</sup> channel, TREK-1 or KCNK2) is a member of the 2-pore (2P) domain K<sup>+</sup> channels family that includes at least 16 members. These channels show little time or voltage dependence and are considered to be "leak" or "background" K<sup>+</sup> channels, thereby generating background currents which help set the membrane resting potential and cell excitation. The K2P channels have a signature topology that includes four transmembrane domains and two pore domains with intracellular N- and C termini. K2P channels are regulated by diverse physical and chemical stimuli including temperature, changes in intracellular pH, mechanical stretch, inhalation anesthetics, etc. The channels can then be subclassified based in their specific activators. K2P2.1 can be integrated to a K2P subfamily that includes K2P4.1 (TRAAK) and K2P10.1 (TREK2) that are activated by intracellular unsaturated fatty acids such as arachidonic acid, lysophosphatidic acid and mechanical stretch. In addition, K2P2.1 can also be activated by general anesthetics such as halothane and chloroform and intracellular acidification. K2P2.1 expression in humans is largely restricted to the brain with some expression in ovary and small intestine while K2P2.1 expression in rodents is more widespread. K2P2.1 has an important role in mood regulation, as knockout mice show resistance to depression, suggesting that K2P2.1 may be a potential target for anti-depressants. K2P2.1 is involved in the fast release of glutamate from astrocytes. It requires the activation of G<sub>ai</sub>, dissociation of G $\beta\gamma$ , followed by the opening of the glutamate permeable K2P2.1 (TREK-1) K<sup>+</sup> channel through its interaction with G $\beta\gamma$ . For this purpose, TREK-1 is localized at the cell surface of the cell body and processes of astrocytes.

**Synonyms:**

hTREK-1c; hTREK-1e; K2p2.1; TPKC1; TREK; TREK-1; TREK1

**Protein Families:**

Druggable Genome, Ion Channels: Potassium, Transmembrane

**Product images:**

Western blot analysis of rat brain membranes: 1. Anti-K2P2.1 (TREK-1) antibody, (1:200). 2. Anti-K2P2.1 (TREK-1) antibody, preincubated with the control peptide antigen.