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ProductInformation

Anti-Potassium Channel $K_v1.7$
produced in rabbit, affinity isolated antibody

Catalog Number **K4639**

Product Description

Anti-Potassium Channel $K_v1.7$ (Voltage gated K^+ channel KV1.7; KCNA7) is developed in rabbit using as an immunogen peptideTTRKAQEIHGKAPG (C) corresponding to residues 2-15 of mouse $K_v1.7$. The antibody is directed against an epitope located in the intracellular loop near the N-terminus of mouse $K_v1.7$. The antibody is affinity purified on immobilized antigen.

Anti-$K_v1.7$antibody recognizes mouse Kv1.7 (gene Kcna7 ID: 16495). It does not cross-react with human Kv1.7. The antibody has been used in immunoblotting.

The $K_v1.7$ voltage-gated K^+ channel is a member of the *Shaker* family of K^+ channels that includes eight members ($K_v1.1$- $K_v1.8$). $K_v1.7$ possesses the signature structure of the voltage-dependent K^+ channels: six membrane-spanning domains and intracellular N- and C-termini. As with other channels of the *Shaker* subfamily, $K_v1.7$ can readily form heteromers with other members of the subfamily to compose the tetramer that forms the functional channel. $K_v1.7$ mRNA is expressed mainly in the heart with somewhat lower levels in pancreas and skeletal muscle.

The biophysical and pharmacological properties of the $K_v1.7$ channel closely resemble that of the ultra-rapidly activating delayed rectifier (I_{Kur}) in cardiac tissue. This current plays a central role in cardiac atria repolarization that was largely believed to correspond to the activity of the $K_v1.5$ channel. This raises the possibility that the I_{Kur} current is the result of a heteromeric $K_v1.5$/ $K_v1.7$ channel. A new, highly specific antibody directed against the intracellular N-terminus domain of the $K_v1.7$ protein shows activity in mouse samples. The antibody does not recognize the human $K_v1.7$ protein.

Reagent

Supplied as lyophilized powder from phosphate buffered saline, pH 7.4, containing 1% BSA and 0.05 % sodium azide

Reconstitution

Reconstitute the lyophilized vial with 50µL or 200 µL deionized water, depending on package size. Further dilutions should be made using a carrier protein, such as BSA (1-3%).

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

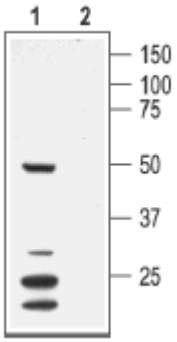
Storage/Stability

Lyophilized powder can be stored intact at room temperature for several weeks. For extended storage, it should be stored at -20 °C or below. The reconstituted solution can be stored at 2-8 °C for up to 2 weeks. For longer storage, freeze in working aliquots. Avoid repeated freezing and thawing. Storage in “frost-free” freezers is not recommended. Centrifuge before use. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 12 months when stored appropriately.

Product Profile

Immunoblotting: a recommended working dilution of 1:200 was determined using mouse heart membranes.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.



Immunoblot of mouse heart membranes

Lane 1. Anti-K_V1.7 antibody (1:200).
Lane 2. Anti-K_V1.7 antibody, preincubated with the control peptide antigen

References

1. Kalman, K. *et al. J. Biol. Chem.* **273,** 5851 (1997).
2. Kashuba, V.I. *et al. Gene* **268,** 115-122 (2001)
3. Bardien-Kruger, S. *et al. Eur. J. Hum. Genet.***10,** 36-43 (2002).

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