Anti-KCNA5 / KV1-5 Antibody [PSH12-30]

HA723455

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB
Molecular Wt:	Predicted band size: 67 kDa
Clone number:	PSH12-30

Description: KCNA5 is a voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes. It forms tetrameric, potassium-selective channels, allowing potassium ions to pass according to their electrochemical gradient. The channel alternates between open and closed states in response to changes in membrane voltage, contributing to the regulation of electrical activity in cells. KCNA5 can form functional homotetrameric channels or heterotetrameric channels with other KCNA family members, such as KCNA1, KCNA2, KCNA4, and KCNA5, which influence channel properties. This channel is critical for normal electrical conduction, including the formation of the ventricular conduction system and action potential configuration. It may also play a role in regulating insulin secretion in pancreatic islets. KCNA5 is associated with delayed rectifier potassium currents, which help restore the resting membrane potential after depolarization, particularly in beta cells. Defects in KCNA5 are linked to familial atrial fibrillation (ATFB7), a condition characterized by irregular heart rhythms that can lead to stroke or heart failure. Additionally, KCNA5 is implicated in pulmonary vascular function, where it helps set the resting membrane potential and participates in hypoxic pulmonary vasoconstriction.

Immunogen: Synthetic peptide within rat KCNA5 aa 249-298 / 602.

Positive control: PANC-1 cell lysate, Mouse hippocampus tissue lysate, Mouse heart tissue lysate, Rat hippocampus tissue lysate, Rat heart tissue lysate.

Subcellular location: Cell membrane.

Database links: SwissProt: P22460 Human | Q61762 Mouse | P19024 Rat

Recommended Dilutions:

WB 1:2,000

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

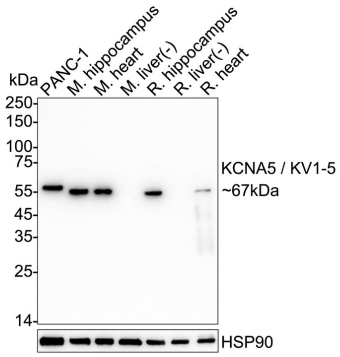

Fig1: Western blot analysis of KCNA5 / KV1-5 on different lysates with Rabbit anti-KCNA5 / KV1-5 antibody (HA723455) at 1/1,000 dilution.

Lane 1: PANC-1 cell lysate(no heat) (15 µg/Lane)
Lane 2: Mouse hippocampus tissue lysate (no heat) (20 µg/Lane)
Lane 3: Mouse heart tissue lysate (no heat) (20 µg/Lane)
Lane 4: Mouse liver tissue lysate (negative) (20 µg/Lane)
Lane 5: Rat hippocampus tissue lysate (20 µg/Lane)
Lane 6: Rat liver tissue lysate (negative) (20 µg/Lane)
Lane 7: Rat heart tissue lysate (20 µg/Lane)

Notice: no heat means the lysate is not boiled.

Predicted band size: 67 kDa
Observed band size: 67 kDa

Exposure time: 1 minute 18 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA723455) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Background References

1. Williams CP, et al. Modulation of the human Kv1.5 channel by protein kinase C activation: role of the Kvbeta1.2 subunit. J Pharmacol Exp Ther. 2002 Aug.
2. Olson TM, et al. Kv1.5 channelopathy due to KCNA5 loss-of-function mutation causes human atrial fibrillation. Hum Mol Genet. 2006 Jul.