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Product datasheet for TA328602

KCNH2 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	FC, IF, IHC, IP, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3,000; FC: 1:50-1:600
Reactivity:	Human, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide AFLLKETEEGPPATEC corresponding to residues 430-445 of human KV11.1 (HERG). Extracellular, between S1 and S2 domains.
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 voltage-gated channel subfamily H member 2
Database Link:	NP_000229 Entrez Gene 117018 RatEntrez Gene 3757 Human Q12809

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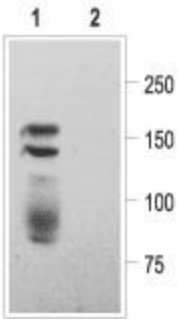
Background: The KV11.1 (HERG) channel is a member of the ether-a-go-go (EAG) subfamily of voltage-dependent K+ channels that includes the related proteins KV11.2 and KV11.3 (erg2 and erg3). KV11.1 possess the signature structure of the voltage-dependent K+ channels: six membrane-spanning domains and intracellular N and C termini. The KV11.1 current is characterized by strong inward rectification with slow activation and very rapid inactivation kinetics. The channel is expressed in the brain and heart (where it underlies the IKr current) and has a central role in mediating repolarization of action potentials. Mutations in the KV11.1 channel cause inherited long QT syndrome (LQTS) or abnormalities in the repolarization of the heart that are associated with life-threatening arrhythmias and sudden death. All the identified KV11.1 mutations produce loss of function of the channel via several cellular mechanisms ranging from alterations of gating properties, alterations of channel permeability/selectivity and alterations in intracellular channel trafficking that decreases the number of channels that reach the cell membrane. Lately drug-induced forms of LQTS have been reported for a wide range of non-cardiac drugs including antIHCistamines, psychoactive agents and antimicrobials. All these drugs potently block the KV11.1 channel as an unintended side effect, prompting regulatory drug agencies to issue recommendations for the testing of new drugs for their potential KV11.1 blocking effect. In addition, KV11.1 expression was found to be upregulated in several tumor cell lines of different histogenesis suggesting that it confers the cells some advantage in cell proliferation. Indeed, in several studies it has been shown that inhibition of the KV11.1 current leads to a decrease in tumor cell proliferation.

Synonyms: ERG-1; ERG1; H-ERG; HERG; HERG1; Kv11.1; LQT2; SQT1

Note: This antibody was tested in live cell imaging. Please see IF/ICC data for detail.

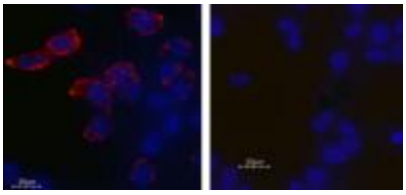
Protein Families: Druggable Genome, Ion Channels: Potassium, Transcription Factors, Transmembrane

Product images:

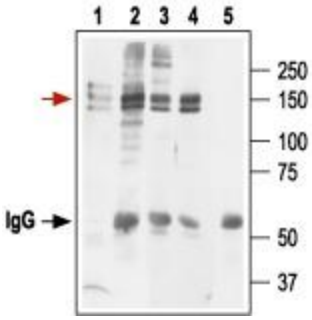


Western blot analysis of Kv11.1 transfected HEK-293 cells: 1. Anti-Kv11.1 (HERG) (extracellular) antibody, (1:200). 2. Anti-Kv11.1 (HERG) (extracellular) antibody, preincubated with the control peptide antigen.

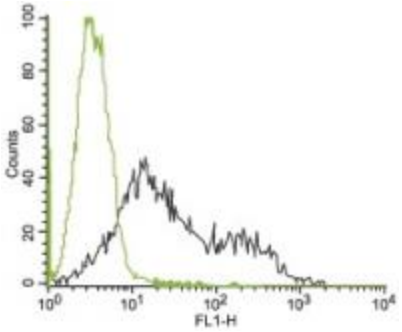
Expression of Kv11.1 in rat heart
Immunohistochemical staining of rat heart using Anti-Kv11.1 (HERG) (extracellular) antibody. A. Transversal section of the atrium wall; note that arterial smooth muscle fibers were not stained (green arrow). B. Longitudinal section of the myocardium. C. Section showing myocardium and endocardium (red arrow). DAB product is brown and the counterstain is cresyl violet.



ICC staining of live intact HEK-293 transfected cells.Cells were stained with Anti-Kv11.1 (HERG) (extracellular) antibody, (1:25) (left panel) or with Kv11.1 (HERG) (extracellular) antibody preincubated with the control peptide antigen (right panel), followed by goat anti-rabbit-AlexaFluor-555 secondary antibody (red). Nuclei of the living cells were stained with the cell permeable dye Hoechst 33342 (blue).



Immunoprecipitation of Kv11.1 expressing HEK-293 cells: Cell lysate. Lysate + protein A beads + Anti-Kv11.1 (HERG) (extracellular) antibody. Lysate + protein A beads + Anti-Kv11.1 (erg1) antibody. Lysate + protein A beads + Anti-hKv11.1 (HERG) antibody. Lysate + protein A beads + pre-immune rabbit serum. Red arrow indicates Kv11.1 while the black arrow shows the IgG heavy chain. Immunoblot was performed with Anti-Kv11.1 (HERG) (extracellular) antibody.



Indirect flow cytometry analysis of human chronic myelogenous leukemia (K562) cells: green line, Unstained cells + goat-anti-rabbit-FITC. black line, Cells + Anti-KV11.1 (HERG) (extracellular) antibody + goat-anti-rabbit-FITC.