**Product Information**

**K$_{ir}$ 2.3 Potassium Channel Monoclonal Antibody (Clone S25-35)**

**Item No. 13716**

**Contents:** This vial contains 100 µg of protein G-purified IgG in 100 µl PBS, pH 7.4, containing 50% glycerol and 0.09% sodium azide.

**Antigen:** Fusion protein amino acids 390-445 of human K$_{ir}$2.3

**Isotype:** IgG1

**Host:** Mouse, clone S25-35

**Cross Reactivity:** (+)Human, mouse, and rat K$_{ir}$2.3

**Stability:** ≥1 year at -20°C

**Applications:** Western blot (WB) and immunohistochemistry (IHC). The recommended starting dilution for WB is 1-10 µg/ml and IHC/ICC is 0.1-1.0 µg/ml (HRP detection), and 1-10 µg/ml (IF).

Ion channels are integral membrane proteins that help establish and control the small voltage gradient across the plasma membrane of living cells by allowing the flow of ions down their electrochemical gradient. They are present in the membranes that surround all biological cells and their main function is to regulate the flow of ions across this membrane. Whereas some ion channels permit the passage of ions based on charge, others conduct based on a ionic species, such as sodium or potassium. Furthermore, in some ion channels, the passage is governed by a gate which is controlled by chemical or electrical signals, such as voltage or mechanical forces.

There are a few main classifications of gated ion channels. There are voltage-gated ion channels, ligand-gated, other gating systems, and finally those that are classified differently, having more exotic characteristics. The first are voltage-gated ion channels which open and close in response to membrane potential. These are then separated into sodium, calcium, potassium, proton, transient receptor, and cyclic nucleotide-gated channels, each of which is responsible for a unique role. Ligand-gated ion channels are also known as ionotropic receptors and they open in response to specific ligand molecules binding to the extracellular domain of the receptor protein. The other gated classifications include activation and inactivation by second messengers, inward-rectifier potassium channels, calcium-activated potassium channels, two-pore-domain potassium channels, light-gated channels, mechano-sensitive ion channels, and cyclic nucleotide-gated channels. Finally, the other classifications are based on less normal characteristics such as two-pore channels and transient receptor potential channels.

Several different potassium channels are known to be involved with electrical signaling in the nervous system. One class is activated by depolarization whereas a second class is not. The latter are referred to as inwardly rectifying potassium ion channels, and they have a greater tendency to allow potassium to flow into the cell rather than out of it. This asymmetry in potassium ion conductance plays a key role in the excitability of muscle cells and neurons. K$_{ir}$2.3 is an integral membrane protein and member of the inward rectifier potassium channel family. The encoded protein has a small unitary conductance compared to other members of this protein family. Two transcript variants encoding the same protein have been found for this gene.

**References**


**Related Products**

For a list of related products please visit: www.caymanchem.com/catalog/13716

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**WARNING:** This product is for laboratory research only; not for administration to humans. Not for human or veterinary diagnostic or therapeutic use.

**MATERIAL SAFETY DATA**

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent to your institution.

**WARRANTY AND LIMITATION OF REMEDY**

Cayman makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications. Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to the Buyer, of all material that does not meet our specifications.

Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or as Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Cayman will carry out in delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed of their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.