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Anti-Kir4.1 Antibody

Catalog # AP51735

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P78508
Reactivity	Human, Mouse, Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42508

Additional Information

Gene ID	3766
Other Names	ATP-sensitive inward rectifier potassium channel 10; ATP-dependent inwardly rectifying potassium channel Kir4.1; Inward rectifier K(+) channel Kir1.2; Potassium channel, inwardly rectifying subfamily J member 10
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human Kir4.1. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	KCNJ10 (HGNC:6256)
Function	May be responsible for potassium buffering action of glial cells in the brain (By similarity). Inward rectifier potassium channels are characterized by a greater tendency to allow potassium to flow into the cell rather than out of it (PubMed:8995301). Their voltage dependence is regulated by the concentration of extracellular potassium; as external potassium is raised, the voltage range of the channel opening shifts to more positive voltages (PubMed:8995301). The inward rectification is mainly due to the blockage of outward current by internal magnesium. Can be blocked by extracellular barium and cesium (PubMed:8995301). In the kidney, together with KCNJ16, mediates basolateral K(+) recycling in distal tubules; this process is critical for Na(+) reabsorption at the tubules (PubMed:24561201).
Cellular Location	Membrane; Multi- pass membrane protein. Basolateral cell membrane. Note=In kidney distal convoluted tubules, located in the basolateral

membrane where it colocalizes with KCNJ16.

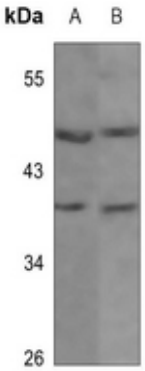
Tissue Location

Expressed in kidney (at protein level) (PubMed:24561201). In the nephron, expressed in the distal convoluted tubule, the connecting tubule, the collecting duct and cortical thick ascending limbs (PubMed:20651251).

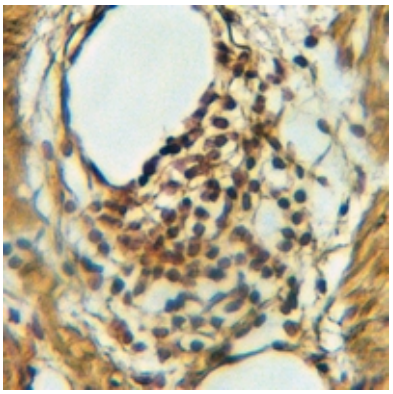
References

Shuck M.E.,et al.J. Biol. Chem. 272:586-593(1997).
Schoots O.,et al.Cell. Signal. 11:871-883(1999).
Gregory S.G.,et al.Nature 441:315-321(2006).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Bockenhauer D.,et al.N. Engl. J. Med. 360:1960-1970(2009).

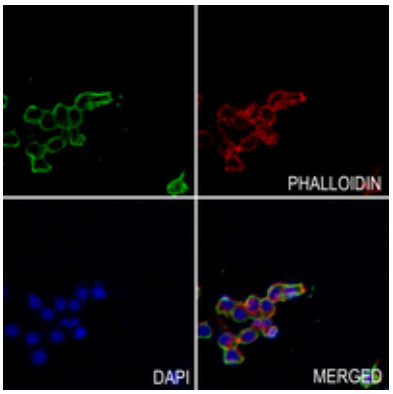
Images



Western blot analysis of Kir4.1 expression in Hela (A), rat kidney (B) whole cell lysates. (Predicted band size: 42 kD; Observed band size: 42 kD)



Immunohistochemical analysis of Kir4.1 staining in human stomach cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of Kir4.1 staining in RAW264.7 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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