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CLCN2 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16730a

Product Information

Application	WB, E
Primary Accession	P51788
Other Accession	P35525, P51789, NP_001164559.1
Reactivity	Human, Mouse
Predicted	Rabbit, Rat, Bovine, Canine, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36261
Calculated MW	98535
Antigen Region	209-237

Additional Information

Gene ID	1181
Other Names	Chloride channel protein 2, ClC-2, CLCN2
Target/Specificity	This CLCN2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 209-237 amino acids from the N-terminal region of human CLCN2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CLCN2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CLCN2 {ECO:0000303|PubMed:29403011, ECO:0000312|HGNC:HGNC:2020}
Function	Voltage-gated and osmosensitive chloride channel. Forms a homodimeric channel where each subunit has its own ion conduction pathway. Conducts double-barreled currents controlled by two types of gates, two fast glutamate

	gates that control each subunit independently and a slow common gate that opens and shuts off both subunits simultaneously. Displays inward rectification currents activated upon membrane hyperpolarization and extracellular hypotonicity (PubMed:16155254, PubMed:17567819, PubMed:19191339, PubMed:23632988, PubMed:29403011, PubMed:29403012, PubMed:36964785, PubMed:38345841). Contributes to chloride conductance involved in neuron excitability. In hippocampal neurons, generates a significant part of resting membrane conductance and provides an additional chloride efflux pathway to prevent chloride accumulation in dendrites upon GABA receptor activation. In glia, associates with the auxiliary subunit HEPACAM/GlialCAM at astrocytic processes and myelinated fiber tracts where it may regulate transcellular chloride flux buffering extracellular chloride and potassium concentrations (PubMed:19191339, PubMed:22405205, PubMed:23707145). Regulates aldosterone production in adrenal glands. The opening of CLCN2 channels at hyperpolarized membrane potentials in the glomerulosa causes cell membrane depolarization, activation of voltage-gated calcium channels and increased expression of aldosterone synthase, the rate-limiting enzyme for aldosterone biosynthesis (PubMed:29403011, PubMed:29403012). Contributes to chloride conductance in retinal pigment epithelium involved in phagocytosis of shed photoreceptor outer segments and photoreceptor renewal (PubMed:36964785). Conducts chloride currents at the basolateral membrane of epithelial cells with a role in chloride reabsorption rather than secretion (By similarity) (PubMed:16155254). Permeable to small monovalent anions with chloride > thiocyanate > bromide > nitrate > iodide ion selectivity (By similarity) (PubMed:29403012).
Cellular Location	Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Cell projection, dendritic spine membrane {ECO:0000250|UniProtKB:P35525}; Multi-pass membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:P35525} Note=Sorting to the basolateral membrane is mediated by AP-1 clathrin adapter (PubMed:16155254). Localizes at axon initial segments and dendritic shaft and spikes. Colocalizes with HEPACAM and GFAP at astrocyte end-foot in contact with brain capillaries and other glial cells (By similarity) (PubMed:22405205, PubMed:23707145) {ECO:0000250|UniProtKB:P35525, ECO:0000250|UniProtKB:Q9R0A1, ECO:0000269|PubMed:16155254, ECO:0000269|PubMed:22405205, ECO:0000269|PubMed:23707145}
Tissue Location	Ubiquitously expressed. Moderately expressed in aortic and coronary vascular smooth muscle cells and expressed at a low level in aortic endothelial cells. Expressed in the adrenal gland, predominantly in the zona glomerulosa (PubMed:29403011). Expressed in white mater perivascular astrocytes and ependymal cells (at protein level).

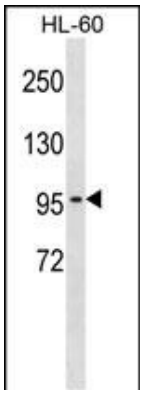
Background

The transmembrane protein encoded by this gene is a voltage-gated chloride channel that maintains chloride ion homeostasis in various cells. Defects in this gene may be a cause of certain epilepsies. Four transcript variants encoding different isoforms have been found for this gene.

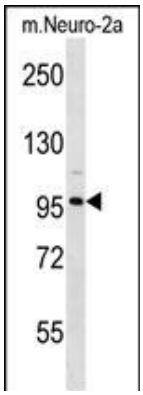
References

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Images



CLCN2 Antibody (N-term) (Cat. #AP16730a) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the CLCN2 antibody detected the CLCN2 protein (arrow).



CLCN2 Antibody (N-term) (Cat. #AP16730a) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane).This demonstrates the CLCN2 antibody detected the CLCN2 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.