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[Primary Antibody]

Rabbit Anti-CAIV/Carbonic Anhydrase IV antibody

Catalog Number: SL8722R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	CAIV/Carbonic Anhydrase IV
Immunogen:	KLH conjugated synthetic peptide derived from human CAIV/Carbonic Anhydrase IV: 81-150/312
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	ELISA=1:5000-10000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	(predicted: Human, Mouse, Rat)
Predicted MW.:	35kDa
Subcellular Location:	The cell membrane
Background:	Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. They show extensive diversity in tissue distribution and in their subcellular localization. This gene encodes a glycosylphosphatidyl-inositol-anchored membrane isozyme expressed on the luminal surfaces of pulmonary (and certain other) capillaries and proximal renal tubules. Its exact function is not known; however, it may have a role in inherited renal abnormalities of bicarbonate transport. [provided by RefSeq, Jul 2008] **Function:** Reversible hydration of carbon dioxide. May stimulate the sodium/bicarbonate transporter activity of SLC4A4 that acts in pH homeostasis. It is essential for acid overload removal from the retina and retina

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	epithelium, and acid release in the choriocapillaris in the choroid. **Subunit:** Interacts with SLC4A4. **Subcellular Location:** Cell membrane; Lipid-anchor › GPI-anchor **Tissue Specificity:** Expressed in the endothelium of the choriocapillaris in eyes (at protein level). Not expressed in the retinal epithelium at detectable levels. DISEASE: The disease is caused by mutations affecting the gene represented in this entry. Defective acid overload removal from retina and retinal epithelium, due to mutant CA4, is responsible for photoreceptor degeneration, indicating that impaired pH homeostasis is the most likely cause underlying the RP17 phenotype. Disease description:A retinal dystrophy belonging to the group of pigmentary retinopathies. Retinitis pigmentosa is characterized by retinal pigment deposits visible on fundus examination and primary loss of rod photoreceptor cells followed by secondary loss of cone photoreceptors. Patients typically have night vision blindness and loss of midperipheral visual field. As their condition progresses, they lose their far peripheral visual field and eventually central vision as well. **Similarity:** Belongs to the alpha-carbonic anhydrase family. **Database links:** **Entrez Gene:** 762 Human **Entrez Gene:** 12351 Mouse Omim: 114760 Human **SwissProt:** P22748 Human **SwissProt:** Q64444 Mouse **Unigene:** 89485 Human **Unigene:** 1641 Mouse

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