10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HVCN1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5042A

Product Information

Application	WB, FC, E
Primary Accession	Q96D96
Reactivity	Human
Predicted	Bovine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB26069
Calculated MW	31683
Antigen Region	1-30

Additional Information

Gene ID	84329
Other Names	Voltage-gated hydrogen channel 1, Hydrogen voltage-gated channel 1, HV1, Voltage sensor domain-only protein, HVCN1, VSOP
Target/Specificity	This HVCN1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human HVCN1.
Dilution	WB~~1:1000 FC~~1:10~50 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	HVCN1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HVCN1 {ECO:0000303|PubMed:20037153, ECO:0000312|HGNC:HGNC:28240}
Function	Voltage-gated proton-selective channel that conducts outward proton currents in response to intracellular acidification. Lacks a canonical

	ion-channel pore domain and mediates proton permeability via its voltage sensor domain (PubMed:16554753, PubMed:20037153, PubMed:20548053, PubMed:22020278, PubMed:27859356, PubMed:30478045, PubMed:37669933). Appears to play a dominant role in regulation of CO2/HCO3(-)/H(+) equilibrium in sperm flagellum. Prevents the acidification resulting from HCO3(-) synthesis and thus sustains high HCO3(-) levels inside sperm for capacitation (PubMed:20144758, PubMed:30478045, PubMed:37669933). Provides for proton efflux that compensates for electron charge generated by NADPH oxidase activity either in the extracellular or phagosomal compartments, thus enabling the production of high levels of bactericidal reactive oxygen species during the respiratory burst (PubMed:20037153, PubMed:30478045). Opens when the pH of airway surface liquid exceeds 7 and contributes to respiratory epithelial acid secretion to maintain pH in the mucosa (PubMed:20548053).
Cellular Location	Cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Cytoplasmic vesicle, phagosome membrane; Multi-pass membrane protein. Cell projection, cilium, flagellum membrane; Multi-pass membrane protein. Note=Detected within the principal piece of the sperm flagellum (PubMed:20144758). Detected mainly at intracellular membranes upon overexpression in HeLa cells (PubMed:20147290)
Tissue Location	Enriched in immune tissues, such as lymph nodes, B- lymphocytes, monocytes and spleen (PubMed:16554753). Expressed in spermatozoa (PubMed:37669933). Expressed in respiratory epithelial cells (PubMed:20548053).

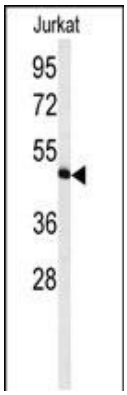
Background

HVCN1 is a voltage-gated proton channel highly expressed in immune tissues. Channels like HVCN1 mediate the proton conductances required by phagocytic leukocytes for the oxidative burst that underlies microbial killing.

References

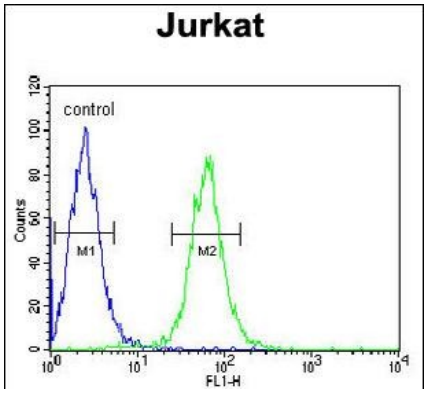
Musset, B., et al. J. Biol. Chem. 285(8):5117-5121(2010)
Lishko, P.V., et al. Cell 140(3):327-337(2010)
Sakata, S., et al. Proc. Natl. Acad. Sci. U.S.A. 107(5):2313-2318(2010)

Images



Western blot analysis of HVCN1 Antibody (N-term)(Cat. #AP5042a) in Jurkat cell line lysates (35ug/lane).HVCN1 (arrow) was detected using the purified Pab.

HVCN1 Antibody (N-term) (Cat. #AP5042a) flow cytometric analysis of Jurkat cells (right histogram)



compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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