

Product datasheet for **TA328862**

Hvcn1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	FC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3,000; FC: 1:50-1:600
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)GDDYHTWNVNYKK, corresponding to amino acid residues 32-44 of mouse HVCN1. Intracellular, N-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	hydrogen voltage-gated channel 1
Database Link:	NP_083028 Entrez Gene 84329 Human Entrez Gene 304485 Rat Entrez Gene 74096 Mouse Q3U2S8



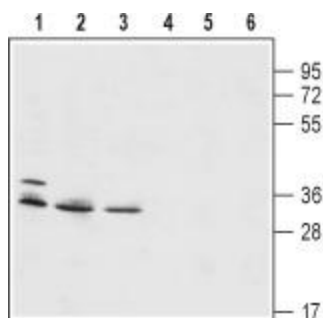
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Background:

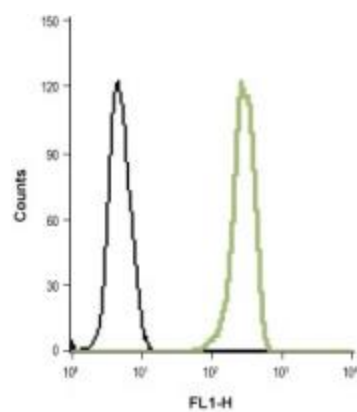
Currents measured from voltage-gated proton channels were detected long before the channel (HVCN1, also known as Hv1 and VSOP) was cloned. HVCN1 has four membrane spanning domains and intracellular N- and C-termini. Interesting aspects of HVCN1 is that unlike its voltage-gated ion channel counterparts, it has no pore domain. Also, functional HVCN1 channels are formed by dimers where each monomer has its own conducting pore, each with its own voltage sensor (voltage sensing occurs similarly to other voltage-gated ion channels). The fundamental role of HVCN1 is to pump out protons, thereby increasing the intracellular pH. The channel is exclusively selective for H⁺ and opens upon membrane depolarization, although its open state hugely depends on the pH on both sides of the membrane. Its role is best described in leukocytes where phosphorylation via PKC on a Thr residue potentiates the activity of the channel and increases its open state, thereby increasing the H⁺ current across the membrane, in this manner mediating optimal NADPH-oxidase (whose optimal activity is at pH 7.5) required for the production of reactive oxygen species (ROS) necessary for phagocytosis to occur. Apart from leukocytes, HVCN1 is also expressed in basophils where its activation mediates histamine release. In B cells, it maintains optimal signaling, such that ROS production is maintained high. HVCN1 was found to regulate human spermatozoa activation. Finally, in the airway mucosa, where it regulates pH, channel gating there, is mostly mediated by differences in pH across the membrane as opposed to the membrane potential.

Synonyms:

HV1; MGC15619; VSOP

Product images:

Western blot analysis of mouse WEHI B-cell lymphoma (lanes 1 and 4), human HL-60 promyelocytic leukemia (lanes 2 and 5) and human THP-1 acute monocytic leukemia (lanes 3 and 6) cell lysates: 1-3. Anti-HVCN1 antibody, (1:200). 4-6. Anti-HVCN1 antibody, preincubated with the control peptide antigen.



Indirect flow cytometry analysis of fixed and permeabilized HL-60 (human promyelocytic leukemia cells) cell line: black line, Unstained cells + goat-anti-rabbit-FITC. green line, Cells + Anti-HVCN1 antibody, (1:25) + goat-anti-rabbit-FITC.