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ASIC1 Polyclonal Antibody

Catalog # AP74058

Product Information

Application	WB, IHC-P
Primary Accession	P78348
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	59909

Additional Information

Gene ID	41
Other Names	Acid-sensing ion channel 1 (ASIC1) (Amiloride-sensitive cation channel 2, neuronal) (Brain sodium channel 2) (BNaC2)
Dilution	WB~~WB 1:500-2000,IHC-p 1:500-200, ELISA 1:10000-20000 IHC-P~~WB 1:500-2000,IHC-p 1:500-200, ELISA 1:10000-20000
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

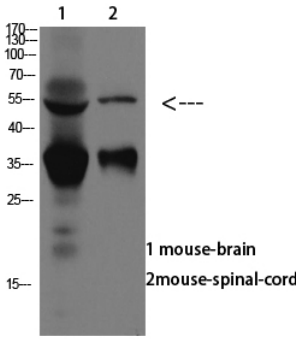
Protein Information

Name	ASIC1 (HGNC:100)
Function	Forms voltage-independent, pH-gated trimeric sodium channels that act as postsynaptic excitatory receptors in the nervous system, playing a crucial role in regulating synaptic plasticity, learning, and memory (PubMed:21036899, PubMed:32915133, PubMed:34319232). Upon extracellular pH drop this channel elicits transient, fast activating, and completely desensitizing inward currents (PubMed:21036899). Displays high selectivity for sodium ions but can also permit the permeation of other cations (PubMed:21036899). Regulates more or less directly intracellular calcium concentration and CaMKII phosphorylation, and thereby the density of dendritic spines. Modulates neuronal activity in the circuits underlying innate fear (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q6NXK8}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q6NXK8}. Note=Isolated in synaptosomes from the dendritic synapses of neurons {ECO:0000250|UniProtKB:Q6NXK8}
Tissue Location	Expressed in neurons throughout the central and peripheral nervous system.

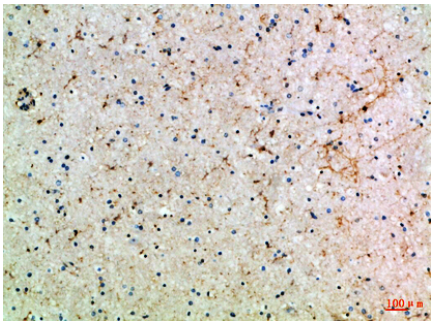
Background

Isoform 2 and isoform 3 function as proton-gated sodium channels; they are activated by a drop of the extracellular pH and then become rapidly desensitized. The channel generates a biphasic current with a fast inactivating and a slow sustained phase. Has high selectivity for sodium ions and can also transport lithium ions with high efficiency. Isoform 2 can also transport potassium, but with lower efficiency. It is nearly impermeable to the larger rubidium and cesium ions. Isoform 3 can also transport calcium ions. Mediates glutamate-independent Ca(2+) entry into neurons upon acidosis. This Ca(2+) overloading is toxic for cortical neurons and may be in part responsible for ischemic brain injury. Heteromeric channel assembly seems to modulate channel properties. Functions as a postsynaptic proton receptor that influences intracellular Ca(2+) concentration and calmodulin-dependent protein kinase II phosphorylation and thereby the density of dendritic spines. Modulates activity in the circuits underlying innate fear.

Images



Western blot analysis of SW480 lysate, antibody was diluted at 1000. Secondary antibody was diluted at 1:20000



Immunohistochemical analysis of paraffin-embedded Human-brain, antibody was diluted at 1:100