

ASIC1 Polyclonal Antibody

Catalog # AP63621

Product Information

Application	WB, IHC-P
Primary Accession	P78348
Reactivity	Human, Rat, Mouse
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~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications. IHC-P~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications.
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20°C

Protein Information

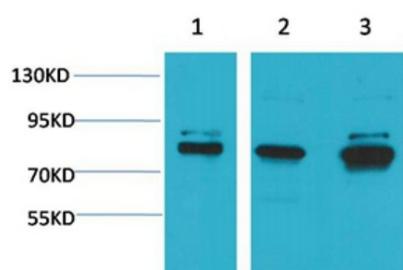
Name	ASIC1 (HGNC:100)
Function	Forms voltage-independent, pH-gated trimeric sodium channels that act as postsynaptic excitatory receptors in the nervous system, playing a crucial role in regulating synaptic plasticity, learning, and memory (PubMed: 21036899 , PubMed: 32915133 , PubMed: 34319232). Upon 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:Q6NXX8}. Cell projection, dendrite {ECO:0000250 UniProtKB:Q6NXX8}. Note=Isolated in synaptosomes from the dendritic synapses of neurons {ECO:0000250 UniProtKB:Q6NXX8}

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 1) 293T, 2) Mouse Brain Tissue, 3) Rat Brain Tissue with ASIC1 Rabbit pAb diluted at 1:2,000



Immunohistochemical analysis of paraffin-embedded Rat Brain Tissue using ASIC1 Rabbit pAb diluted at 1:200.

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