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Nicastrin Antibody

Catalog # ASC10477

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q92542
Other Accession	NP_056146, 24638433
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	78411
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Nicastrin antibody can be used for detection of Nicastrin by Western blot at 0.5 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	23385
Other Names	Nicastrin Antibody: ATAG1874, KIAA0253, UNQ1874/PRO4317, Nicastrin, nicastrin
Target/Specificity	NCSTN;
Reconstitution & Storage	Nicastrin antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Nicastrin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NCSTN
Synonyms	KIAA0253
Function	Essential subunit of the gamma-secretase complex, an endoprotease complex that catalyzes the intramembrane cleavage of integral membrane proteins such as Notch receptors and APP (amyloid- beta precursor protein) (PubMed:10993067, PubMed:12679784, PubMed:25043039, PubMed:26280335, PubMed:30598546, PubMed:30630874). The gamma-secretase complex plays a role in Notch and Wnt signaling cascades and regulation of downstream processes via its role in processing key

	regulatory proteins, and by regulating cytosolic CTNNB1 levels.
Cellular Location	Membrane; Single-pass type I membrane protein. Cytoplasmic vesicle membrane; Single-pass type I membrane protein. Melanosome. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV
Tissue Location	Detected in brain (at protein level) (PubMed:10993067). Widely expressed (PubMed:11396676)

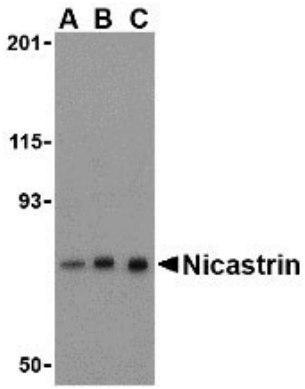
Background

Nicastrin Antibody: Nicastrin, in addition to presenilin, PEN2, and APH-1 forms the gamma-secretase protein complex, a membrane-bound aspartyl protease that can cleave certain proteins at peptide bonds buried within the hydrophobic environment of the lipid bilayer. This cleavage is responsible for a key step in signaling from several cell-surface receptors and is thought to be required for the generation of the neurotoxic amyloid peptides that are central to the pathogenesis of Alzheimer's disease. Like the tumor necrosis factor-a-converting enzyme (TACE) and the b-site cleavage enzyme (BACE) protease families, gamma-secretase will cleave the amyloid precursor protein (APP), but within the intramembrane region of APP, resulting in either the non-toxic p3 (from the alpha and gamma cleavage site) or the toxic Abeta amyloid peptide (from the beta and gamma cleavage site). It is thought that accumulation of the Abeta peptide is the precursor to Alzheimer's disease. Nicastrin is also thought to be involved in cell proliferation and signaling, especially in regards to activation of Notch receptors as loss of Nicastrin expression results in mouse embryonic lethality.

References

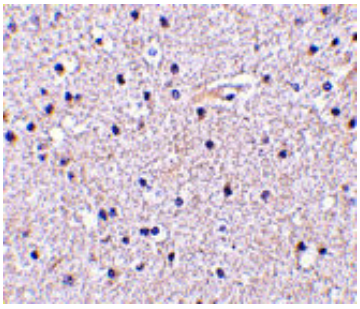
Weihofen A and Martoglio B. Intramembrane-cleaving proteases: controlled liberation of proteins and bioactive peptides. Trends Cell Biol. 2003; 13:71-8.
Periz G and Fortini ME. Functional reconstitution of g-secretase through coordinated expression of presenilin, nicastrin, aph-1, and pen-2. J. Neurosci. Res. 2004; 77:309-22.
Selkoe DJ. The cell biology of b-amyloid precursor protein and presenilin in Alzheimer’s disease. Trends Cell Biol. 1998; 8:447-53.
Nguyen V, Hawkins C, Bergeron C, et al. Loss of nicastrin elicits an apoptotic phenotype in mouse embryos. Brain Res. 2006; 1086:76-84.

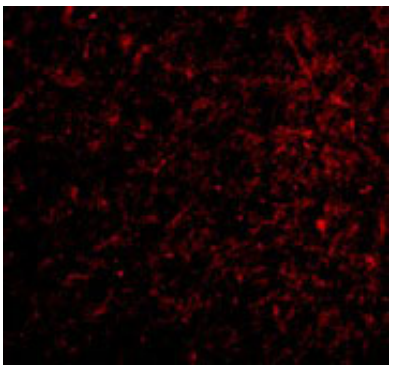
Images



Western blot analysis of Nicastrin in mouse brain tissue lysate with Nicastrin antibody at (A) 0.5, (B) 1, and (C) 2 µg/mL.

Immunohistochemistry of Nicastrin in human brain tissue with Nicastrin antibody at 5 µg/mL.





Immunofluorescence of Nicastrin in Human Brain cells with Nicastrin antibody at 20 µg/mL.

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