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PION Antibody

Catalog # ASC11271

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	A4D1B5
Other Accession	NP_059135, 148612805
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	97802
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PION antibody can be used for detection of PION by Western blot at 0.25 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	54103
Other Names	Gamma-secretase-activating protein, GSAP, Protein pigeon homolog, Gamma-secretase-activating protein 16 kDa C-terminal form, GSAP-16K, GSAP, PION
Target/Specificity	PION; Multiple isoforms of PION are known to exist. PION antibody is predicted to not cross-react with other F-box protein family members.
Reconstitution & Storage	PION 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	PION Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GSAP
Synonyms	PION
Function	Regulator of gamma-secretase activity, which specifically activates the production of amyloid-beta protein (amyloid-beta protein 40 and amyloid-beta protein 42), without affecting the cleavage of other gamma-secretase targets such has Notch. The gamma-secretase complex is an endoprotease complex that catalyzes the intramembrane cleavage of

	integral membrane proteins such as Notch receptors and APP (amyloid-beta precursor protein). Specifically promotes the gamma- cleavage of APP CTF-alpha (also named APP-CTF) by the gamma-secretase complex to generate amyloid-beta, while it reduces the epsilon-cleavage of APP CTF-alpha, leading to a low production of AICD.
Cellular Location	Golgi apparatus, trans-Golgi network
Tissue Location	Widely expressed..

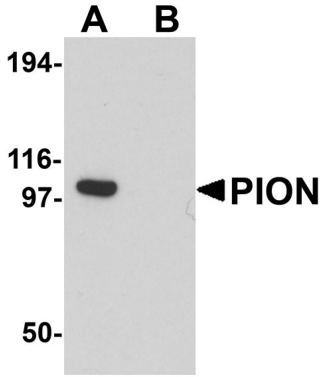
Background

PION Antibody: Accumulation of the amyloid-beta peptide (Abeta) in the cerebral cortex is a critical event in the pathogenesis of Alzheimer's disease. The beta-amyloid protein precursor (APP) is cleaved by one of two beta-secretases (BACE and BACE2), producing a soluble derivative of the protein and a membrane anchored 99 -amino acid carboxy-terminal fragment (C99). The C99 fragment serves as substrate for gamma-secretase to generate the 4 kDa amyloid-beta peptide (Abeta), which is deposited in the Alzheimer's disease patient's brains. PION, or GSAP, selectively increases amyloid-beta production through a mechanism involving its interaction with both gamma-secretase and the APP C-terminal fragment, suggesting that PION may be a potential therapeutic target for the treatment of Alzheimer's disease.

References

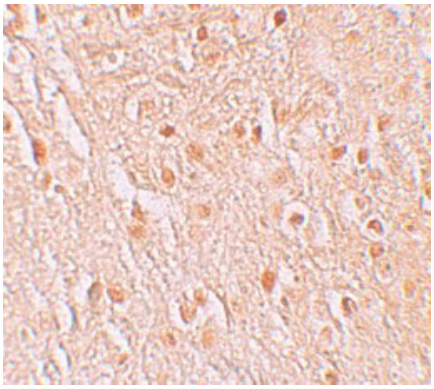
Ponte P, Gonzalez-DeWhitt P, Schilling J, et al. A new A4 amyloid mRNA contains a domain homologous to serine proteinase inhibitors. Nature1988; 331:525-77.
Selkoe DJ. Cell biology of the amyloid beta-protein precursor and the mechanism of Alzheimer's disease. Annu. Rev. Cell Biol.1994; 10:373-403.
He G, Luo W, Li P, et al. Gamma-secretase activating protein is a therapeutic target for Alzheimer’s diease. Nature2010; 467:95-9.

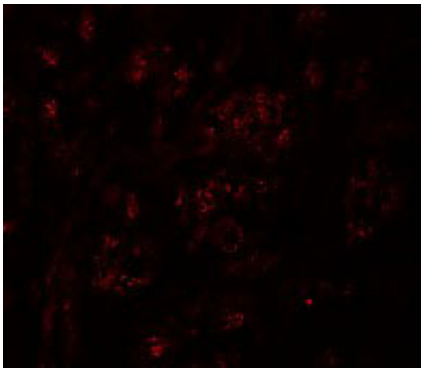
Images



Western blot analysis of PION in EL4 cell lysate with PION antibody at 0.25 µg/mL in (A) the absence and (B) the presence of blocking peptide.

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





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