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γ Secretase Antibody Sampler Kit

1 Kit (4 x 20 microliters)

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Nicastrin (D38F9) Rabbit mAb	5665	20 μ l	110, 120 kDa	Rabbit IgG
PEN2 (D6G8) Rabbit mAb	8598	20 μ l	13 kDa	Rabbit IgG
Presenilin 1 (D39D1) Rabbit mAb	5643	20 μ l	22 (CTF) kDa	Rabbit IgG
Presenilin 2 (D30G3) Rabbit mAb	9979	20 μ l	23 (CTF) kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 μ l		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The γ Secretase Antibody Sampler Kit provides an economical means of evaluating components of the gamma secretase complex. The kit contains enough primary and secondary antibodies to perform two western miniblots experiments.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C . Do not aliquot the antibody.

Background

The γ secretase protease complex interacts with and cleaves intramembrane substrates as an essential function for regulation of intracellular signaling and cell-cell interactions. This multiprotein complex is comprised of four integral membrane proteins, Presenilin, Nicastrin, Aph-1, and PEN2, all of which are essential for complete proteolytic activity (1). Presenilin 1 and presenilin 2 are transmembrane proteins belonging to the presenilin family. Mutation of presenilin genes has been linked to early onset of Alzheimer disease, probably due to presenilin's associated γ -secretase activity for amyloid- β protein processing (2,3). Endogenous presenilin mainly exists in a heterodimeric complex formed from the endoproteolytically processed amino-terminal (34 kDa) and carboxy-terminal (~20, 22, 23 kDa) fragments (CTF) (3,4). Nicastrin is a transmembrane glycoprotein serving as an essential component of the γ -secretase complex (5,6). Nicastrin protein is physically associated with presenilin and plays an important role in stabilization and correct localization of presenilin to the membrane-bound γ -secretase complex (7). Nicastrin also serves as a docking site for γ -secretase substrates such as APP and Notch, directly binding to them and presenting them properly to γ -secretase to ensure the correct cleavage process (6,8). Presenilin Enhancer 2 (PEN2) is a small integral membrane glycoprotein that contains two recognized transmembrane domains. Both the N- and C-terminal domains are oriented into the lumen of the endoplasmic reticulum (9). PEN2 is an important part of the γ -secretase complex as its knock down results in reduced amounts of the complex, resulting in a loss of γ -secretase activity (10).

Background References

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