

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Nicastrin Isoform 1 in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human Nicastrin Isoform 1 Asn34-Glu669 Accession # Q92542
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below

## DATA

<p><b>Western Blot</b></p> <p><b>Detection of Human Nicastrin Isoform 1 by Western Blot.</b> Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line and human liver tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human Nicastrin Isoform 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5378) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Nicastrin Isoform 1 at approximately 150 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 8.</p>	<p><b>Immunohistochemistry</b></p> <p><b>Nicastrin in Human Alzheimer's Disease Brain.</b> Nicastrin was detected in immersion fixed paraffin-embedded sections of human Alzheimer's disease brain (cortex) using 1.7 µg/mL Sheep Anti-Human Nicastrin Isoform 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5378) overnight at 4 °C. Tissue was stained with the Anti-Sheep HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for <a href="#">Chromogenic IHC Staining of Paraffin-embedded Tissue Sections</a>.</p>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Nicastrin (NCT) is a 150-160 kDa member of the nicastrin family of proteins. It is a component of the aspartyl protease  $\gamma$ -secretase complex and serves to stabilize and direct  $\gamma$ -secretase components to proper positions in the plasma membrane. The  $\gamma$ -secretase complex mediates the cleavage of intramembrane proteins such as notch-1 and APP. Mature human nicastrin is a 676 amino acid type I transmembrane glycoprotein. It contains a 636 aa extracellular domain (aa 34-669) that shows a 58 aa sequence (aa 312-369) which interacts with  $\gamma$ -secretase substrates. There are multiple splice variants of NCT. One shows a deletion of aa 195-322 and 394-709, a second shows a 29 aa substitution for the C-terminal 604 aa and a third shows a deletion of aa 200-709 accompanied by an insertion of 33 aa after Leu30. Over aa 34-669, human NCT shares 90% aa identity with mouse NCT.