

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ITM2B in direct ELISAs. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) ITM2A and rhITM2C is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human ITM2B Ala60-Ser266 Accession # Q9Y287
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

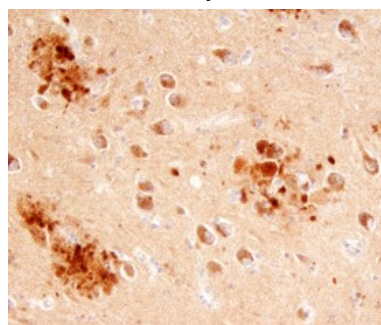
APPLICATIONS

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
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



ITM2B in Human Brain. ITM2B was detected in immersion fixed paraffin-embedded sections of human Alzheimer's brain using Sheep Anti-Human ITM2B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7015) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to neurons and plaques. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	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
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

ITM2B (Integral membrane protein 2B; also protein E25B and BRI/BRI2) is a 50 kDa member of the ITM2 family of proteins. It is widely expressed, and is involved in APP processing. ITM2B is expressed in the Golgi and on the cell surface, and forms a noncovalent complex with AβPP. Although both molecules are susceptible to secretase processing, ITM2B appears to block AβPP cleavage by α- and γ-secretase. Human ITM2B is a 266 amino acid (aa) type II transmembrane protein. The ECD (aa 76-266) contains a propeptide sequence (aa 244-266), one BRICHOS domain (aa 137-231), and a Cys at position 89 that participates in homodimerization. Multiple enzymes can cleave ITM2B. Cleavage of the propeptide by furin generates a 3-4 kDa soluble fragment and a 41-45 kDa transmembrane molecule. Further cleavage of the 44 kDa form in the juxtamembrane and intramembrane regions generates a soluble 24 kDa BRICHOS-containing protein, a 22 kDa N-terminal transmembrane peptide, and a soluble 10 kDa cytoplasmic fragment. There are multiple potential splice variants. Two add different 11 aa sequences to the propeptide, resulting in two different 4-5 kDa, 34 aa fragments being released by furin activity. There is also a deletion of aa 83-188, and a substitution of 21 aa for aa 116-266. Over aa 60-266, human ITM2B shares 96% aa identity with mouse ITM2B.