Human beta-III Spectrin Antibody

Recombinant Monoclonal Rabbit IgG Clone # 1287A
Catalog Number: MAB9394

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human beta-III Spectrin in direct ELISAs and Western blots.
Source	Recombinant Monoclonal Rabbit IgG Clone # 1287A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Synthetic peptide containing the C-terminal region of beta-III Spectrin Accession # NP_008877.1
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 as a 0.2 μm filtered solution in PBS.

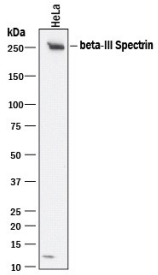
APPLICATIONS

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
Western Blot	2 µg/mL	See Below
Immunocytochemistry	8-25 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below

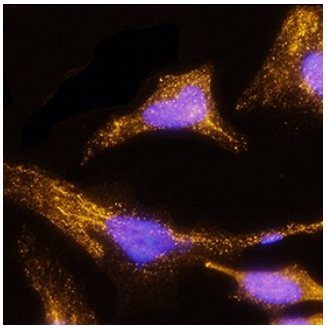
DATA

Western Blot



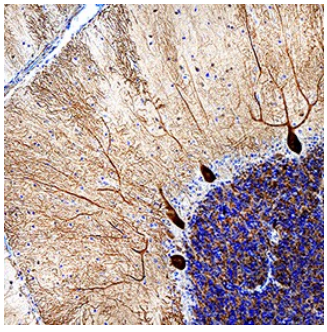
Detection of Human beta-III Spectrin by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line. PVDF membrane was probed with 2 µg/mL of Rabbit Anti-Human beta-III Spectrin Monoclonal Antibody (Catalog # MAB9394) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for beta-III Spectrin at approximately 250 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



beta-III Spectrin in HeLa Human Cell Line. beta-III Spectrin was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Rabbit Anti-Human beta-III Spectrin Monoclonal Antibody (Catalog # MAB9394) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (yellow; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunohistochemistry



beta-III Spectrin in Human Brain. beta-III Spectrin was detected in immersion fixed paraffin-embedded sections of human brain (cerebellum) using Rabbit Anti-Human beta-III Spectrin Monoclonal Antibody (Catalog # MAB9394) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in Purkinje neurons. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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.** ● 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.

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BACKGROUND

Spectrin beta-III (SPTBN2) belongs to spectrins family of proteins which are essential to mechanical support/structural membrane integrity maintenance in erythrocytes, stabilizing cell-cell contacts, and localizing ion channels as well as cell adhesion molecules within specific subdomains of plasma membranes. Vertebrate spectrins have two alpha-subunits (alpha-I/alpha-II), four beta-subunits (beta-I-beta-IV) and a beta-H subunit creating diversity and specialization of function. Spectrin beta 3 is primarily expressed in nervous tissues with highest expression levels in the cerebellum, where it is found in Purkinje cell soma and dendrites. Spectrin beta-III interacts with EAAT4, the glutamate transporter predominately expressed in Purkinje cells, and stabilizes it at the plasma membrane leading to glutamate clearance from the synaptic cleft, and resulting in both modulation of glutamatergic neurotransmission as well as prevention of glutamate-mediated neurotoxicity.

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