SANTA CRUZ BIOTECHNOLOGY, INC.

VAMP-1/2/3 (F-11): sc-133129

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Syntaxins were originally thought to be docking proteins, but have more recently been categorized as anchoring proteins that anchor themselves to the cytoplasmic surfaces of cellular membranes. Syntaxins have been shown to bind to various proteins involved in exocytosis, including VAMPs (vesicle-associated membrane proteins), NSF (N-ethylmaleimide-sensitive factor), SNAP 25 (synaptosomal-associated protein of 25 kDa), SNAPs (soluble NSF attachment proteins) and synaptotagmin. VAMPs, also designated synaptobrevins, including VAMP-1 and VAMP-2, and synaptotagmin, a protein that may function as an inhibitor of exocytosis, are vesicular proteins. SNAPs, including α- and γ-SNAP, are cytoplasmic proteins that bind to a membrane receptor complex composed of VAMP, SNAP 25 and Syntaxin. SNAPs mediate the membrane binding of NSF, which is essential for membrane fusion reactions. An additional protein designated synaptophysin may regulate exocytosis by competing with SNAP 25 and syntaxins for VAMP binding.

REFERENCES

1. Elferink, L.A., et al. 1993. A role for Synapto-tagmin (p65) in regulated exocytosis. Cell 72: 153-159.
2. Bennett, M.K., et al. 1993. The syntaxin family of vesicular transport receptors. Cell 74: 863-873.

SOURCE

VAMP-1/2/3 (F-11) is a mouse monoclonal antibody raised against amino acids 1-118 representing full length VAMP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VAMP-1/2/3 (F-11) is available conjugated to agarose (sc-133129 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133129 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133129 PE), fluorescein (sc-133129 FITC), Alexa Fluor® 488 (sc-133129 AF488), Alexa Fluor® 546 (sc-133129 AF546), Alexa Fluor® 594 (sc-133129 AF594) or Alexa Fluor® 647 (sc-133129 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133129 AF680) or Alexa Fluor® 790 (sc-133129 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

VAMP-1/2/3 (F-11) is recommended for detection of VAMP-1, VAMP-2 and VAMP-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

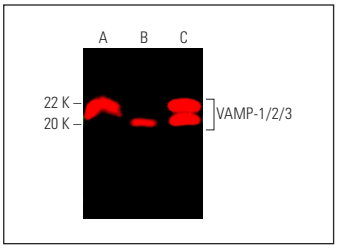
Molecular Weight of VAMP-1/2/3: 18 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or human brain extract: sc-364375.

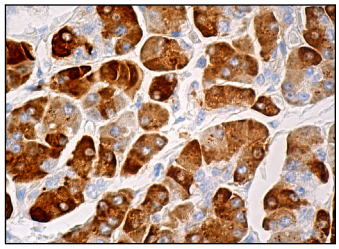
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



VAMP-1/2/3 (F-11): sc-133129. Near-infrared western blot analysis of VAMP-1/2/3 expression in human brain (**A**), mouse brain (**B**) and rat brain (**C**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



VAMP-1/2/3 (F-11): sc-133129. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Yadirgi, G., et al. 2017. Immuno-detection of cleaved SNAP-25 from differentiated mouse embryonic stem cells provides a sensitive assay for determination of botulinum A toxin and antitoxin potency. J. Immunol. Methods. 451: 90-99.
2. Wassouf, Z., et al. 2018. Environmental enrichment prevents transcriptional disturbances induced by α-synuclein overexpression. Front. Cell. Neurosci. 12: 112.
3. Pathe-Neuschäfer-Rube, A., et al. 2018. Cell-based reporter release assay to determine the potency of proteolytic bacterial neurotoxins. Toxins 10 pii: E360.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.