

# SNAP 25 (4E203): sc-73044

## BACKGROUND

Syntaxins were originally thought to be docking proteins, but have now 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, 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  $\alpha$ - and  $\gamma$ -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.

## CHROMOSOMAL LOCATION

Genetic locus: SNAP25 (human) mapping to 20p12.2; Snap25 (mouse) mapping to 2 F3.

## SOURCE

SNAP 25 (4E203) is a mouse monoclonal antibody raised against synaptic vesicle-containing fractions immunoprecipitated from human brain homogenates using anti-human synaptophysin monoclonal antibodies.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $\kappa$  light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

SNAP 25 (4E203) is recommended for detection of SNAP 25 of mouse, rat, human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)]; non cross-reactive with ~27 kDa proteins in mouse liver extracts. May cross-react with higher molecular weight proteins in some tissue extracts.

SNAP 25 (4E203) is also recommended for detection of SNAP 25 in additional species, including bovine, porcine and canine.

Suitable for use as control antibody for SNAP 25 siRNA (h): sc-36517, SNAP 25 siRNA (m): sc-36516, SNAP 25 shRNA Plasmid (h): sc-36517-SH, SNAP 25 shRNA Plasmid (m): sc-36516-SH, SNAP 25 shRNA (h) Lentiviral Particles: sc-36517-V and SNAP 25 shRNA (m) Lentiviral Particles: sc-36516-V.

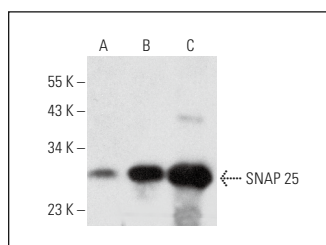
Molecular Weight of SNAP 25: 25 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, SNAP 25 (h): 293 Lysate: sc-111113 or Neuro-2A whole cell lysate: sc-364185.

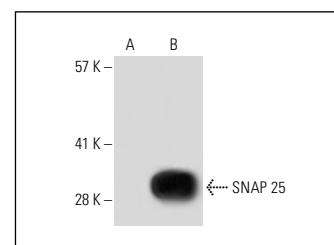
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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).

## DATA



SNAP 25 (4E203): sc-73044. Western blot analysis of SNAP 25 expression in Neuro-2A (A), PC-12 (B) and MDCK (C) whole cell lysates.



SNAP 25 (4E203): sc-73044. Western blot analysis of SNAP 25 expression in non-transfected: sc-110760 (A) and human SNAP 25 transfected: sc-111113 (B) 293 whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Kolesnikov, A.V., et al. 2011. G-protein  $\beta\gamma$ -complex is crucial for efficient signal amplification in vision. *J. Neurosci.* 31: 8067-8077.
2. Li, Q., et al. 2017. Klotho regulates CA1 hippocampal synaptic plasticity. *Neuroscience* 347: 123-133.
3. Gerzson, M.F.B., et al. 2020. Tannic acid ameliorates STZ-induced Alzheimer's disease-like impairment of memory, neuroinflammation, neuronal death and modulates Akt expression. *Neurotox. Res.* 37: 1009-1017.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.