

# Complexin-1/2 (D-9): sc-365152

## BACKGROUND

Complexin-1 and Complexin-2, also designated Synaphin-1 and Synaphin-2, contain an  $\alpha$ -helical middle domain of approximately 58 amino acids. Complexin-1 and Complexin-2 are expressed in presynaptic terminals of inhibitory and excitatory hippocampal neurons, respectively, and in cytoplasmic pools during early stages of development. Complexins promote SNARE (soluble N-ethylmaleimide-sensitive factor attachment protein receptors) precomplex formation by binding to synapxin with its  $\alpha$ -helical domain. Complexins are important regulators of transmitter release at a late step in calcium dependent neurotransmitter release or immediately after the calcium-triggering step of fast synchronous transmitter release and preceding vesicle fusion. Neurons lacking complexins show reduced transmitter release efficiency due to decreased calcium sensitivity of the synaptic secretion process. Complexin-2 may play a role in only LTP (long term potentiation) following tetanic stimulation. A progressive loss of Complexin-2 occurs in the brains of mice carrying the Huntington disease mutation, an autosomal dominant neurodegenerative disorder. Changes in the neurotransmitter release might contribute to the motor, emotional and cognitive dysfunctions seen in these mice.

## REFERENCES

- McMahon, H.T., Missler, M., Li, C. and Südhof, T.C. 1995. Complexins: cytosolic proteins that regulate SNAP receptor function. *Cell* 83: 111-119.
- Pabst, S., Hazzard, J.W., Antonin, W., Südhof, T.C., Jahn, R., Rizo, J. and Fasshauer, D. 2000. Selective interaction of Complexin with the neuronal SNARE complex. *J. Biol. Chem.* 275: 19808-19818.
- Eastwood, S.L. and Harrison, P.J. 2000. Hippocampal synaptic pathology in schizophrenia, bipolar disorder and major depression: a study of Complexin mRNAs. *Mol. Psychiatry* 5: 425-432.

## CHROMOSOMAL LOCATION

Genetic locus: CPLX1 (human) mapping to 4p16.3, CPLX2 (human) mapping to 5q35.2; Cplx1 (mouse) mapping to 5 F, Cplx2 (mouse) mapping to 13 B1.

## SOURCE

Complexin-1/2 (D-9) is a mouse monoclonal antibody raised against amino acids 1-134 representing full length Complexin-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Complexin-1/2 (D-9) is available conjugated to agarose (sc-365152 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365152 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365152 PE), fluorescein (sc-365152 FITC), Alexa Fluor® 488 (sc-365152 AF488), Alexa Fluor® 546 (sc-365152 AF546), Alexa Fluor® 594 (sc-365152 AF594) or Alexa Fluor® 647 (sc-365152 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365152 AF680) or Alexa Fluor® 790 (sc-365152 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Complexin-1/2 (D-9) is recommended for detection of Complexin-1 and Complexin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

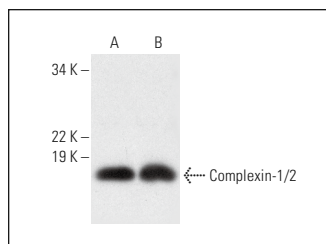
Molecular Weight of Complexin-1/2: 15 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or human hippocampus tissue extract.

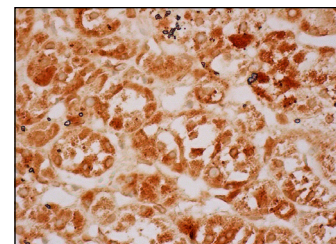
## RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Complexin-1/2 (D-9): sc-365152. Western blot analysis of Complexin-1/2 expression in IMR-32 whole cell lysate (A) and human hippocampus tissue extract (B).



Complexin-1/2 (D-9): sc-365152. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

## 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](http://www.scbt.com) for detailed protocols and support products.