

# CAPON (C-9): sc-374504

## BACKGROUND

CAPON (carboxy-terminal PDZ ligand of nNOS) selectively binds within the 100 amino acid PDZ domain of the neuronal nitric oxide synthase (nNOS), but not to endothelial NOS or inducible NOS, and sequesters nNOS in the cytosol. Biosynthesis of the neurotransmitter nitric oxide (NO) requires the association of nNOS with various synaptic proteins, including syntrophin, postsynaptic density (PSD)95 and PSD93 through a scaffolding PDZ domain. These proteins facilitate the transport of nNOS to the plasma membrane, where it is catalytically activated by NMDA-receptor mediated calcium channels. The association of nNOS with PSD95 or PSD93 is regulated by CAPON. The carboxy terminus of CAPON binds to the PDZ domain, competes with PSD95 and PSD93 for binding to nNOS and in turn prevents the translocation and catalytic activation of nNOS.

## REFERENCES

1. Kornau, H.C., et al. 1995. Domain interaction between NMDA receptor subunits and the postsynaptic density protein PSD-95. *Science* 269: 1737-1740.
2. Stricker, N.L., et al. 1997. PDZ domain of neuronal nitric oxide synthase recognizes novel C-terminal peptide sequences. *Nat. Biotechnol.* 15: 336-342.
3. Jaffrey, S.R., et al. 1998. CAPON: a protein associated with neuronal nitric oxide synthase that regulates its interactions with PSD95. *Neuron* 20: 115-124.
4. Hashida-Okumura, A., et al. 1999. Interaction of neuronal nitric-oxide synthase with  $\alpha$ 1-syntrophin in rat brain. *J. Biol. Chem.* 274: 11736-11741.
5. Oschkinat, H. 1999. A new type of PDZ domain recognition. *Nat. Struct. Biol.* 6: 408-410.
6. Tochio, H., et al. 1999. Solution structure of the extended neuronal nitric oxide synthase PDZ domain complexed with an associated peptide. *Nat. Struct. Biol.* 6: 417-421.

## CHROMOSOMAL LOCATION

Genetic locus: NOS1AP (human) mapping to 1q23.3; Nos1ap (mouse) mapping to 1 H3.

## SOURCE

CAPON (C-9) is a mouse monoclonal antibody raised against amino acids 304-503 mapping at the C-terminus of CAPON of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CAPON (C-9) is available conjugated to agarose (sc-374504 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374504 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374504 PE), fluorescein (sc-374504 FITC), Alexa Fluor® 488 (sc-374504 AF488), Alexa Fluor® 546 (sc-374504 AF546), Alexa Fluor® 594 (sc-374504 AF594) or Alexa Fluor® 647 (sc-374504 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374504 AF680) or Alexa Fluor® 790 (sc-374504 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

CAPON (C-9) is recommended for detection of CAPON of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CAPON siRNA (h): sc-43660, CAPON siRNA (m): sc-142003, CAPON shRNA Plasmid (h): sc-43660-SH, CAPON shRNA Plasmid (m): sc-142003-SH, CAPON shRNA (h) Lentiviral Particles: sc-43660-V and CAPON shRNA (m) Lentiviral Particles: sc-142003-V.

Molecular Weight of CAPON: 55 kDa.

Molecular Weight of CAPON short form: 30 kDa.

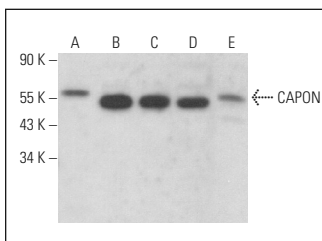
Molecular Weight of phosphorylated CAPON long form: 75 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, HeLa whole cell lysate: sc-2200 or 3T3-L1 cell lysate: sc-2243.

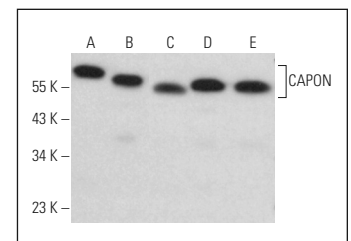
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



CAPON (C-9): sc-374504. Western blot analysis of CAPON expression in 3T3-L1 (A), MCF7 (B), HeLa (C), HL-60 (D) and PC-12 (E) whole cell lysates.



CAPON (C-9): sc-374504. Western blot analysis of CAPON expression in NIH/3T3 (A), Sol8 (B), A-673 (C), A-10 (D) and L6 (E) whole cell lysates.

## 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.

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