

CAPON (S-17): sc-8532

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 α 1-syntrophin in rat brain. *J. Biol. Chem.* 274: 11736-11741.
5. Oshkinat, 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 (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CAPON of rat origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8532 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

CAPON (S-17) is recommended for detection of CAPON of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CAPON (S-17) is also recommended for detection of CAPON in additional species, including canine, bovine and avian.

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.

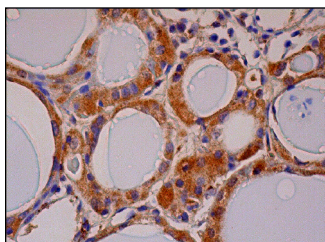
Molecular Weight of CAPON: 55 kDa.

Molecular Weight of CAPON short form: 30 kDa.

Molecular Weight of CAPON phosphorylated long form: 75 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, rat heart extract: sc-2393 or mouse heart extract: sc-2254.

DATA



CAPON (S-17): sc-8532. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Carrel, D., et al. 2009. NOS1AP regulates dendrite patterning of hippocampal neurons through a carboxypeptidase E-mediated pathway. *J. Neurosci.* 29: 8248-8258.
2. Zou, L., et al. 2011. Aurora-A interacts with AP-2 α and down regulates its transcription activity. *PLoS ONE* 6: e23110.

STORAGE

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



Try **CAPON (C-9): sc-374504**, our highly recommended monoclonal alternative to CAPON (S-17).