

CAPON (R-300): sc-9138

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.

CHROMOSOMAL LOCATION

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

SOURCE

CAPON (R-300) is a rabbit polyclonal antibody raised against amino acids 304-503 mapping at the C-terminus of CAPON of rat origin.

PRODUCT

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

APPLICATIONS

CAPON (R-300) 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), 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).

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.

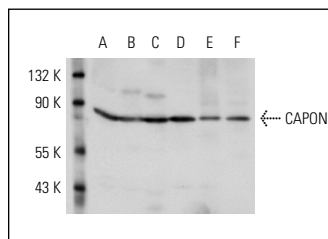
Molecular Weight of CAPON short form: 30 kDa.

Molecular Weight of phosphorylated CAPON long form: 75 kDa.

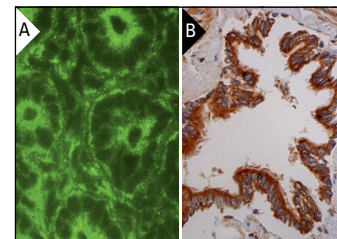
STORAGE

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

DATA



CAPON (R-300): sc-9138. Western blot analysis of CAPON expression in L8 (A), 3T3-L1 (B), MCF7 (C) and PC-12 (D) whole cell lysates and rat heart (E) and mouse brain (F) tissue extracts.



CAPON (R-300): sc-9138. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Xu, B., et al. 2005. Increased expression in dorsolateral prefrontal cortex of CAPON in schizophrenia and bipolar disorder. *PLoS Medicine* 2: e263.
2. Ségalat, L., et al. 2005. CAPON expression in skeletal muscle is regulated by position, repair, NOS activity, and dystrophy. *Exp. Cell Res.* 302: 170-179.
3. Chen, M., et al. 2008. Involvement of CAPON and nitric oxide synthases in rat muscle regeneration after peripheral nerve injury. *J. Mol. Neurosci.* 34: 89-100.
4. Li, X., et al. 2008. Spatiotemporal expression of Dexas1 after spinal cord transection in rats. *Cell. Mol. Neurobiol.* 28: 371-388.
5. Carrel, D., et al. 2009. NOS1AP regulates dendrite patterning of hippocampal neurons through a carboxypeptidase E-mediated pathway. *J. Neurosci.* 29: 8248-8258.
6. Cui, Z., et al. 2011. Elevated expression of CAPON and neuronal nitric oxide synthase in the sciatic nerve of rats following constriction injury. *Vet. J.* 187: 374-380.

RESEARCH USE

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

PROTOCOLS

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



Try **CAPON (C-9): sc-374504**, our highly recommended monoclonal alternative to CAPON (R-300).