

CAPON Rabbit pAb

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Catalog # AP54699

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O75052
Predicted	Rat, Human, Mouse, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56150
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CAPON
Epitope Specificity	128-170/506
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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.

Additional Information

Gene ID	9722
Other Names	Carboxyl-terminal PDZ ligand of neuronal nitric oxide synthase protein, C-terminal PDZ ligand of neuronal nitric oxide synthase protein, Nitric oxide synthase 1 adaptor protein, NOS1AP (HGNC:16859), CAPON, KIAA0464
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	NOS1AP (HGNC:16859)
Synonyms	CAPON, KIAA0464
Function	Adapter protein involved in neuronal nitric-oxide (NO) synthesis regulation via its association with nNOS/NOS1. The complex formed with NOS1 and synapsins is necessary for specific NO and synapsin functions at a presynaptic level. Mediates an indirect interaction between NOS1 and RASD1 leading to enhance the ability of NOS1 to activate RASD1. Competes with DLG4 for interaction with NOS1, possibly affecting NOS1 activity by regulating the interaction between NOS1 and DLG4 (By similarity). In kidney podocytes, plays a role in podosomes and filopodia formation through CDC42 activation (PubMed: 33523862).
Cellular Location	Cell projection, filopodium {ECO:0000250 UniProtKB:O54960}. Cell projection, podosome {ECO:0000250 UniProtKB:O54960}
Tissue Location	Expressed in kidney glomeruli podocytes.

Background

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Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.