SANTA CRUZ BIOTECHNOLOGY, INC.

NOSTRIN (B-9): sc-373954

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NOSTRIN (nitric oxide synthase trafficker isoform 1), also known as endothelial nitric oxide synthase traffic inducer, is a member of the Pombe Cdc15 homology (PCH) family of proteins. NOSTRIN is expressed in the vascular endothelial cells of highly vascularized tissues such as placenta, lung, kidney and heart. It consists of an N-terminal Cdc15 domain with an FCH (Fes/CIP homology) region, two coiled coil domains and a C-terminal SH3 domain. NOSTRIN typically exists as a trimer. It functions as an adaptor protein binding to caveolin-1 via an internal domain and NOS3 via its SH3 domain, forming a ternary complex which facilitates caveolar transport of NOS3. The NOS3 protein is responsible for the production of nitric oxide (NO), a potent mediator in various biological processes. The translocation of NOS3 from the plasma membrane to intracellular vesicle-like structures diminishes NO production. NOSTRIN also interacts with Dynamin and N-WASP via its SH3 domain.

REFERENCES

1. Zimmermann, K., et al. 2002. NOSTRIN: a protein modulating nitric oxide release and subcellular distribution of endothelial nitric oxide synthase. Proc. Natl. Acad. Sci. USA 99: 17167-17172.
2. Choi, Y.J., et al. 2005. Cloning and characterization of mouse disabled 2 interacting protein 2, a mouse orthologue of human NOSTRIN. Biochem. Biophys. Res. Commun. 326: 594-599.
3. Icking, A., et al. 2005. NOSTRIN functions as a homotrimeric adaptor protein facilitating internalization of eNOS. J. Cell Sci. 118: 5059-5069.

CHROMOSOMAL LOCATION

Genetic locus: NOSTRIN (human) mapping to 2q24.3; Nostrin (mouse) mapping to 2 C2.

SOURCE

NOSTRIN (B-9) is a mouse monoclonal antibody raised against amino acids 207-506 mapping at the C-terminus of NOSTRIN of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NOSTRIN (B-9) is available conjugated to agarose (sc-373954 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373954 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373954 PE), fluorescein (sc-373954 FITC), Alexa Fluor® 488 (sc-373954 AF488), Alexa Fluor® 546 (sc-373954 AF546), Alexa Fluor® 594 (sc-373954 AF594) or Alexa Fluor® 647 (sc-373954 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373954 AF680) or Alexa Fluor® 790 (sc-373954 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

NOSTRIN (B-9) is recommended for detection of NOSTRIN of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 NOSTRIN siRNA (h): sc-72295, NOSTRIN siRNA (m): sc-72296, NOSTRIN shRNA Plasmid (h): sc-72295-SH, NOSTRIN shRNA Plasmid (m): sc-72296-SH, NOSTRIN shRNA (h) Lentiviral Particles: sc-72295-V and NOSTRIN shRNA (m) Lentiviral Particles: sc-72296-V.

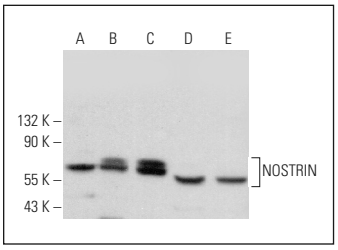
Molecular Weight of NOSTRIN: 58 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or HeLa whole cell lysate: sc-2200.

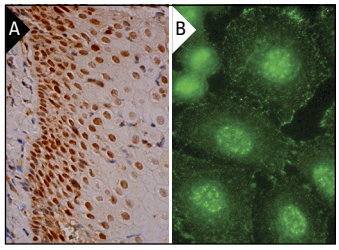
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGλ BP-HRP: sc-516132 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NOSTRIN (B-9): sc-373954. Western blot analysis of NOSTRIN expression in K-562 (**A**), HeLa (**B**), NCI-H460 (**C**), HEL 92.1.7 (**D**) and SW480 (**E**) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



NOSTRIN (B-9): sc-373954. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of squamous epithelial cells (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Sauler, M., et al. 2022. Characterization of the COPD alveolar niche using single-cell RNA sequencing. Nat. Commun. 13: 494.

RESEARCH USE

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