SANTA CRUZ BIOTECHNOLOGY, INC.

Nox5 (A-3): sc-518114

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The superoxide-generating NADPH oxidase includes a membrane-bound flavocytochrome containing two subunits (gp91 phox and p22 phox) and the cytosolic proteins p47 phox and p67 phox. During activation of the NADPH oxidase, p47 phox and p67 phox migrate to the plasma membrane, where they associate with the flavocytochrome cytochrome b558 to form the active enzyme complex. The p22 and gp91 phox subunits also function as surface O_2 sensors that initiate cellular signaling in response to hypoxic conditions. NADPH oxidase 5 (Nox5) is a homolog of the gp91 phox subunit of the phagocyte NADPH oxidase. Nox5 is expressed in lymphoid organs and testis and is distinguished from the other NADPH oxidases by its unique N-terminus, which contains three canonical EF-hands, Ca^{2+}-binding domains. Upon heterologous expression, Nox5 generates superoxide in response to intracellular Ca^{2+} elevations.

REFERENCES

1. Ushio-Fukai, M., et al. 1996. p22phox is a critical component of the superoxide-generating NADH/NADPH oxidase system and regulates angiotensin II-induced hypertrophy in vascular smooth muscle cells. J. Biol. Chem. 271: 23317-23321.
2. Nisimoto, Y., et al. 1999. The $p67^{phox}$ activation domain regulates electron flow from NADPH to flavin in flavocytochrome b_{558}. J. Biol. Chem. 274: 22999-23005.
3. Archer, S.L., et al. 1999. O_2 sensing is preserved in mice lacking the gp91 phox subunit of NADPH oxidase. Proc. Natl. Acad. Sci. USA 96: 7944-7949.
4. Geiszt, M., et al. 2000. Identification of renox, an NAD(P)H oxidase in kidney. Proc. Natl. Acad. Sci. USA 97: 8010-8014.
5. Cheng, G., et al. 2001. Homologs of gp91 phox: cloning and tissue expression of Nox3, Nox4, and Nox5. Gene 269: 131-140.

CHROMOSOMAL LOCATION

Genetic locus: NOX5 (human) mapping to 15q23.

SOURCE

Nox5 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 31-54 within an N-terminal cytoplasmic domain of Nox5 of human origin.

PRODUCT

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

Nox5 (A-3) is available conjugated to agarose (sc-518114 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518114 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518114 PE), fluorescein (sc-518114 FITC), Alexa Fluor® 488 (sc-518114 AF488), Alexa Fluor® 546 (sc-518114 AF546), Alexa Fluor® 594 (sc-518114 AF594) or Alexa Fluor® 647 (sc-518114 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518114 AF680) or Alexa Fluor® 790 (sc-518114 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Nox5 (A-3) is recommended for detection of Nox5 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Nox5 siRNA (h): sc-45486, Nox5 shRNA Plasmid (h): sc-45486-SH and Nox5 shRNA (h) Lentiviral Particles: sc-45486-V.

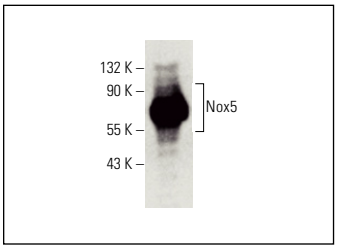
Molecular Weight of Nox5: 86 kDa.

Positive Controls: human testis extract: sc-363781.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



Nox5 (A-3): sc-518114. Western blot analysis of Nox5 expression in human testis tissue extract. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

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.

PROTOCOLS

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