SANTA CRUZ BIOTECHNOLOGY, INC.

DUOX1 (H-9): sc-393096

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Dual oxidase 1 (DUOX1), a homolog of glycoprotein p91Phox, is expressed in airway epithelium and generates reactive oxygen species (ROS). DUOX1, also designated NADPH thyroid oxidase or large NOX1, is a multi-pass membrane protein predominantly expressed in thyrocytes and tracheal surface epithelial cells, as well as thyroid, trachea and bronchium. DUOX1 generates hydrogen peroxide, which is crucial for thyroid peroxidase and lactoperoxidase. It is also involved in thyroid hormone synthesis and lactoperoxidase-mediated antimicrobial defense in mucosa. DUOX1, which also plays a role in mucin expression, is widely expressed in fetal tissues.

REFERENCES

1. De Deken, X., et al. 2002. Characterization of ThOX proteins as components of the thyroid H_2O_2-generating system. Exp. Cell Res. 273: 187-196.
2. Geiszt, M., et al. 2003. Dual oxidases represent novel hydrogen peroxide sources supporting mucosal surface host defense. FASEB J. 17: 1502-1504.

CHROMOSOMAL LOCATION

Genetic locus: DUOX1 (human) mapping to 15q21.1.

SOURCE

DUOX1 (H-9) is a mouse monoclonal antibody raised against amino acids 611-675 mapping within an internal region of DUOX1 of human origin.

PRODUCT

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

DUOX1 (H-9) is available conjugated to agarose (sc-393096 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393096 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393096 PE), fluorescein (sc-393096 FITC), Alexa Fluor® 488 (sc-393096 AF488), Alexa Fluor® 546 (sc-393096 AF546), Alexa Fluor® 594 (sc-393096 AF594) or Alexa Fluor® 647 (sc-393096 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393096 AF680) or Alexa Fluor® 790 (sc-393096 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DUOX1 (H-9) is recommended for detection of DUOX1 of human and mink 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 DUOX1 siRNA (h): sc-60550, DUOX1 shRNA Plasmid (h): sc-60550-SH and DUOX1 shRNA (h) Lentiviral Particles: sc-60550-V.

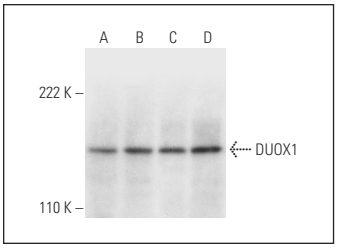
Molecular Weight of DUOX1: 150/165 kDa.

Positive Controls: Mv 1 Lu cell lysate: sc-3810, A549 cell lysate: sc-2413 or HCT-116 whole cell lysate: sc-364175.

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



DUOX1 (H-9): sc-393096. Western blot analysis of DUOX1 expression in H69AR (**A**), HCT-116 (**B**), A549 (**C**) and Mv 1 Lu (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Krick, S., et al. 2016. Dual oxidase 2 (DUOX2) regulates pannexin 1-mediated ATP release in primary human airway epithelial cells via changes in intracellular pH and not H_2O_2 production. J. Biol. Chem. 291: 6423-6432.
2. Kirkpatrick, C.T., et al. 2018. Inducible lung epithelial resistance requires multisource reactive oxygen species generation to protect against viral infections. mBio 9: e00696-18.
3. de Bari, L., et al. 2018. Aberrant GSH reductase and NOX activities concur with defective CFTR to pro-oxidative imbalance in cystic fibrosis airways. J. Bioenerg. Biomembr. 50: 117-129.
4. Zhang, Y., et al. 2019. TGF-β3 induces autophagic activity by increasing ROS generation in a Nox4-dependent pathway. Mediators Inflamm. 2019: 3153240.
5. Gibson, A.R., et al. 2020. Dual oxidase-induced sustained generation of hydrogen peroxide contributes to pharmacological ascorbate-induced cytotoxicity. Cancer Res. 80: 1401-1413.

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.