

Anti-NADPH oxidase organizer 1 NOXO1 Antibody

Catalog Number: A05047

About NOXO1

This antibody is suitable for Cancer, Immunology and Nuclear Signaling research. The enzymes NADPH oxidase (NOX) and dual oxidase (DUOX) generate ROS in a regulated manner, producing reactive oxygen in various cells and tissues in response to growth factors, cytokines and calcium signals. The oxidase consists of the catalytic subunit gp91phox (otherwise known as NOX2), together with the regulatory subunits p22phox, p47phox, p40phox, p67phox and the small GTPase RAC. The enzyme activity of gp91phox is regulated by the assembly of these regulatory subunits with gp91phox to form an active complex. In 1999, the first of the NOX homologues of gp91phox was described as NOX1. The enzyme was cloned from a colon epithelial cell complementary DNA library. When expressed in cells, NOX1 generated low amounts of ROS, but high-level ROS production by NOX1 was subsequently achieved by co-expression with novel regulatory subunits (described later). Subsequently, NOX3 and NOX4 were cloned, and the latter was shown to generate high levels of ROS when expressed in cells. NOX organizer 1 (NOXO1) is a homologue of p47phox and has an almost identical domain organization, except that it lacks the auto-inhibitory region. NOX activator 1 (NOXA1) is a homologue of p67phox and similarly shares the same domain organization, except that it lacks one of the two SH3 domains that are present in p67phox. Co-transfection of NOX1, NOXO1 and NOXA1 results in marked ROS generation. Similar to p47phox, NOXO1 binds to p22phox, which is required for NOX1-dependent activity. NOXA1 has a well-conserved activation domain, implying a conserved mechanism for regulating the activity of the target NOX enzyme.

Overview

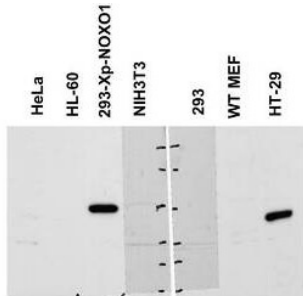
Product Name	Anti-NADPH oxidase organizer 1 NOXO1 Antibody
Reactive Species	Human
Description	Boster Bio Anti-NADPH oxidase organizer 1 NOXO1 Antibody (Catalog # A05047). Tested in ELISA, IHC, WB applications. This antibody reacts with Human.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	Store vial at -20°C prior to opening. Aliquot contents and freeze at -20°C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening. (Ship on dry ice.)
Host	Rabbit
Uniprot ID	Q8NFA2

Technical Details

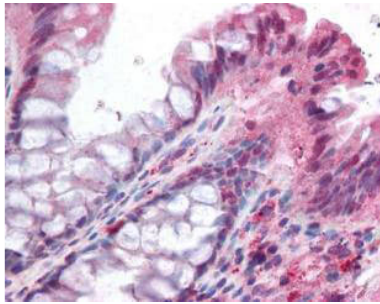
Immunogen	NOXO1 affinity purified antibody was prepared from whole rabbit serum produced by repeated
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	immunizations with a synthetic peptide corresponding to amino acids 238-252 of human NOXO1 protein.
Predicted Reactive Species	Bovine, Chicken, Chimpanzee
Isotype	IgG
Form	Liquid (sterile filtered)
Concentration	1.0mg/ml by UV absorbance at 280 nm
Purification	Anti-NOXO-1 antibody is directed against human NOXO1 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest cross-reactivity with NOXO1 protein from human and chimpanzee (100% homology). Expect reactivity with alpha, delta and gamma isoforms of NOXO1. Also expect partial reactivity against NOXO1 homologues from dog and guinea pig (87%), as well as rat (75%) and mouse (68%). Reactivity against homologues from other sources is not known.
Suggested Dilutions	ELISA: 1:20,000 - 1:100,000 IHC: 5-10 µg/ml WB: 1:1,000 - 1:10,000 Anti-NOXO1 antibody has been tested for use in ELISA, immunohistochemistry and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 50 kDa in size corresponding to NOXO1 protein by western blotting in the appropriate cell lysate or extract.

Anti-NADPH oxidase organizer 1 NOXO1 Antibody (A05047) Images



Western blot using Boster's Affinity Purified anti-NOXO1 antibody shows detection of a band ~50 kDa corresponding to human NOXO1. Reactivity was observed in transfected human 293 cells and human HT-29 colon carcinoma cells (endogenous). Under these conditions endogenous NOXO1 detection was not observed in HeLa, HL-60, 3T3, untransfected 293 or WT MEF cells. A 1:1,000 dilution of the primary antibody was used for detection followed by secondary antibody reactivity. Specific band reactivity was competed away when the antibody was pre-incubated with the peptide immunogen (data not shown). Personal Communication, Zhenggang Liu, NIH, CCR, Bethesda, MD.



Boster's affinity purified anti-NOXO1 antibody was used at 5 ug/ml to detect signal in a variety of tissues including multi-human, multi-brain and multi-cancer slides. This image shows moderate positive staining of the lamina propria in human colon epithelium and macrophages at 40X. Tissue was formalin-fixed and paraffin embedded. The image shows localization of the antibody as the precipitated red signal, with a hematoxylin purple nuclear counterstain. Personal Communication, Tina Roush, LifeSpan Biosciences, Seattle, WA.

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