For Research Use Only

NOX4 Monoclonal antibody

Catalog Number:67681-1-Ig 12 Publications

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Basic Information

Catalog Number:
67681-1-Ig

Concentration:
3520 ug/ml

Source:
Mouse

Isotype:
IgG1

Immunogen Catalog Number:
AG6176

GenBank Accession Number:
BC040105

GeneID (NCBI):
50507

UNIPROT ID:
Q9NPH5

Full Name:
NADPH oxidase 4

Calculated MW:
67 kDa

Observed MW:
58-67 kDa

Purification Method:
Protein G purification

CloneNo.:
4E5F1

Recommended Dilutions:
WB: 1:1000-1:4000
IHC: 1:50-1:500
IF/ICC: 1:200-1:800

Applications

Tested Applications:
WB, IHC, IF/ICC, ELISA

Cited Applications:
WB, IF, IP

Species Specificity:
human, rat

Cited Species:
human, mouse, rat

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : HEK-293 cells, Jurkat cells, U-87 MG cells, HSC-T6 cells, HepG2 cells, HeLa cells

IHC : human kidney tissue,

IF/ICC : HUVEC cells,

Background Information

NOX4 (NADPH oxidase 4) is a phagocyte-type oxidase, similar to that responsible for the production of large amounts of reactive oxygen species (ROS) in neutrophil granulocytes with resultant antimicrobial activity and it has been postulated to function in the kidney as an oxygen sensor that regulates the synthesis of erythropoietin in the renal cortex. Studies have reported molecular masses of Nox4 protein by western blot analysis ranging from 55 to 80 kDa. The truncated NOX4 splice variant D (28 kDa) lacks the majority of the transmembrane domain and has been shown to produce higher levels of ROS and DNA damage compared to its prototype. NOX4D has previously been shown to localise to the nucleus and nucleolus in various cell types and is implicated in the generation of reactive oxygen species (ROS) and DNA damage (PMID: 11728818, PMID: 29285262, PMID: 14670934). Nox4 in cardiac myocytes is primarily expressed in mitochondria, and upregulation of Nox4 induced by hypertrophic stimuli elicits mitochondrial dysfunction and cardiac failure. In breast or ovarian tumor cells, mitochondrial Nox4 contributes to oncogenesis. In vascular endothelial cells, however, Nox4 is expressed in the endoplasmic reticulum (ER) and plays a specific role in redox-mediated ER signaling (PMID: 24259511).

Notable Publications

Author	Pubmed ID	Journal	Application
Mazhar Pasha	35883766	Antioxidants (Basel)	WB
Xuejiao Liu	40040709	Front Immunol	WB,IF
Jiayuanyuan Fu	39962534	Cell Biosci	IF

Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
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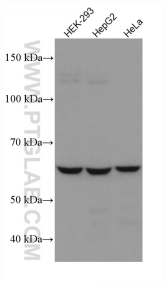
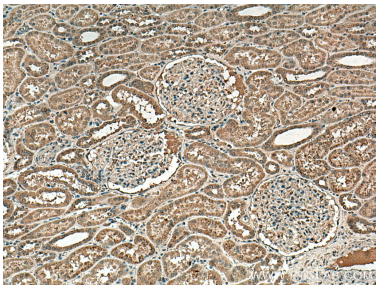
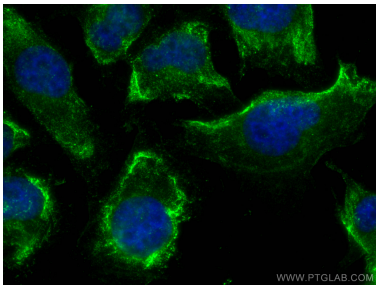
Selected Validation Data



Various lysates were subjected to SDS PAGE followed by western blot with 67681-1-Ig (NOX4 antibody) at dilution of 1:2000 incubated at room temperature for 1.5 hours.



Immunohistochemical analysis of paraffin-embedded human kidney tissue slide using 67681-1-Ig (NOX4 antibody) at dilution of 1:200 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed HUVEC cells using NOX4 antibody (67681-1-Ig, Clone: 4E5F1) at dilution of 1:400 and CoraLite®488-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L).