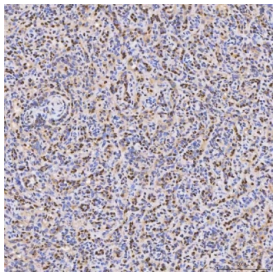
PAO-1 Antibody / Polyamine oxidase 1 / SMOX (RQ7725)

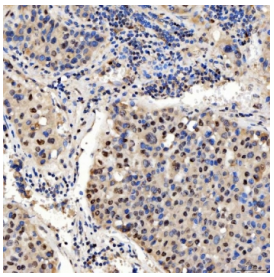
Catalog No.	Formulation	Size
RQ7725	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

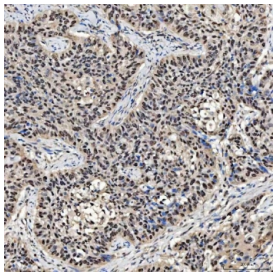
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9NWM0
Localization	Cytoplasmic, nuclear
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This PAO-1 antibody is available for research use only.



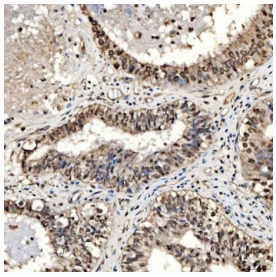
IHC staining of FFPE human spleen tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



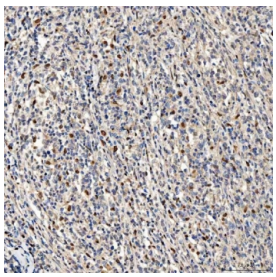
IHC staining of FFPE human liver cancer tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



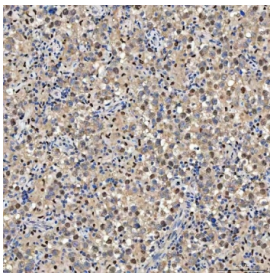
IHC staining of FFPE human larynx squamous cell carcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



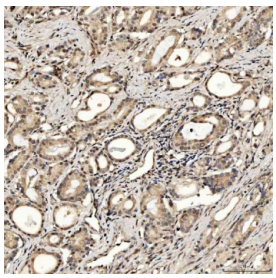
IHC staining of FFPE human endometrioid adenocarcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



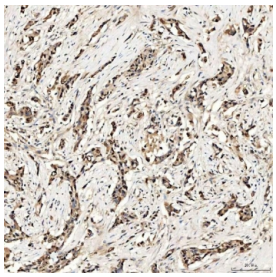
IHC staining of FFPE human diffuse large B cell lymphoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



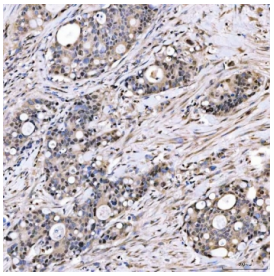
IHC staining of FFPE human testicular seminoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



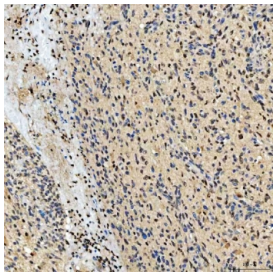
IHC staining of FFPE human prostate adenocarcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



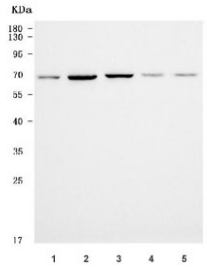
IHC staining of FFPE human lung adenocarcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



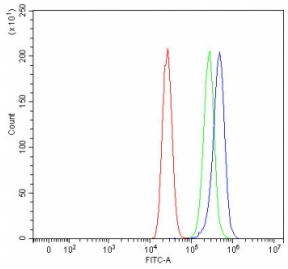
IHC staining of FFPE human duodenal papilla adenocarcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



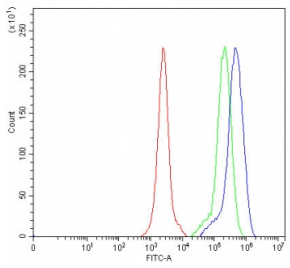
IHC staining of FFPE human glioblastoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



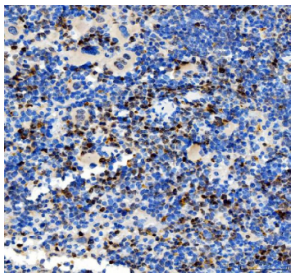
Western blot testing of 1) human A549, 2) human MCF7, 3) human HepG2, 4) rat spleen and 5) rat brain tissue lysate with PAO-1 antibody. Predicted molecular weight ~62 kDa.



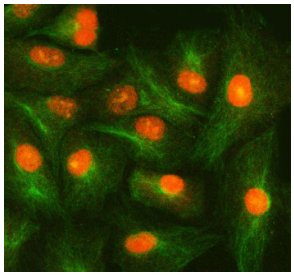
Flow cytometry testing of human MCF7 cells with PAO-1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PAO-1 antibody.



Flow cytometry testing of human HL-60 cells with PAO-1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PAO-1 antibody.



IHC staining of FFPE mouse spleen tissue with PAO-1 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Immunofluorescent staining of FFPE human A549 cells with PAO-1 antibody (red) and Beta Tubulin mAb (green). HIER: steam section in pH6 citrate buffer for 20 min.

Description

PAO-1 (Polyamine oxidase 1), also known as SMOX (Spermine oxidase), is a key enzyme involved in the catabolism of polyamines, which are small aliphatic amines essential for cell growth, differentiation, and survival. PAO-1 specifically oxidizes spermine to produce spermidine, hydrogen peroxide, and 3-aminopropanal. Through this activity, the protein plays a central role in regulating intracellular polyamine concentrations and maintaining cellular homeostasis. Researchers often rely on a PAO-1 antibody to examine its role in metabolism, oxidative stress, and disease.

Polyamine metabolism is tightly controlled, and PAO-1 activity is associated with multiple biological processes including DNA stabilization, protein synthesis, and cell signaling. Dysregulation of PAO-1 has been linked to cancer, inflammation, and neurodegenerative conditions, primarily due to the generation of hydrogen peroxide and other reactive oxygen species during enzymatic activity. Employing a PAO-1 antibody provides a powerful approach to studying how polyamine turnover contributes to cellular stress and pathology.

In addition to disease-related functions, PAO-1 is also studied in normal physiology, where it contributes to tissue remodeling, immune responses, and the regulation of cellular proliferation. Given its importance in both normal and pathological conditions, PAO-1 is increasingly recognized as a potential therapeutic target. A PAO-1 antibody is useful across a variety of applications, including western blot, immunohistochemistry, and immunofluorescence, to evaluate protein expression and localization.

NSJ Bioreagents provides a high-quality PAO-1 antibody that ensures reproducibility and sensitivity in experimental assays. By using a validated PAO-1 antibody, researchers can confidently explore polyamine metabolism, oxidative stress pathways, and disease mechanisms.

Application Notes

Optimal dilution of the PAO-1 antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids E45-Q454) was used as the immunogen for the PAO-1 antibody.

Storage

After reconstitution, the PAO-1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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