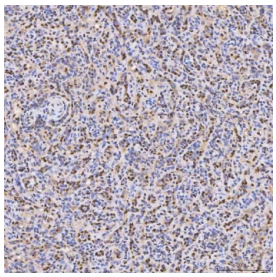
PAO-1 Antibody / Polyamine oxidase 1 / SMOX (RQ7725)

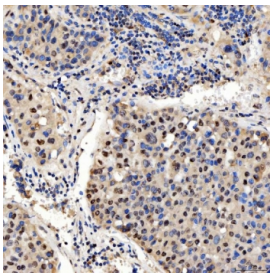
Catalog No.	Formulation	Size
RQ7725	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

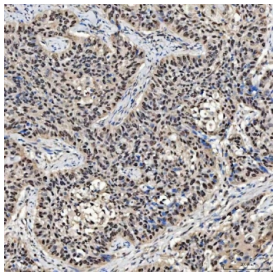
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9NWM0
Localization	Cytoplasmic, nuclear
Applications	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.



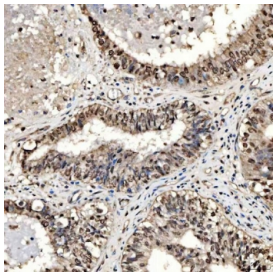
IHC staining of FFPE human spleen tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



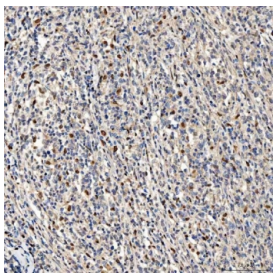
IHC staining of FFPE human liver cancer tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



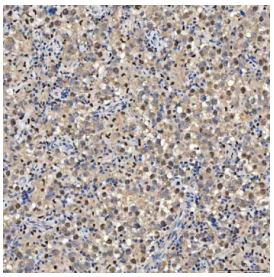
IHC staining of FFPE human larynx squamous cell carcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



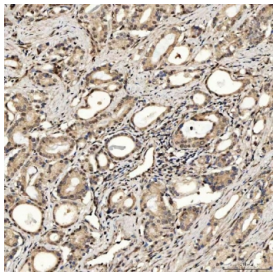
IHC staining of FFPE human endometrioid adenocarcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



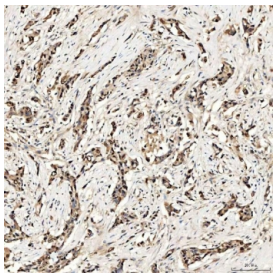
IHC staining of FFPE human diffuse large B cell lymphoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



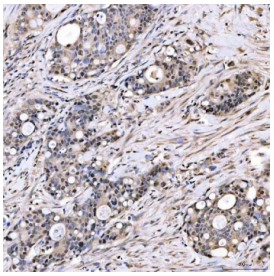
IHC staining of FFPE human testicular seminoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



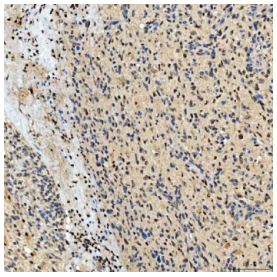
IHC staining of FFPE human prostate adenocarcinoma tissue with PAO-1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



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.

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.