abcam

ab315901

Anti-Neutrophil Elastase antibody [EPR28386-175]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR28386-175
Purification technique	Affinity purification Protein A
Concentration	0.51 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Transfected cell line - Mouse
Dilution info	1/100
Notes	-

Species	Mouse

Dilution info	1/100
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human, Transfected cell line - Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat, Transfected cell line - Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Transfected cell line - Mouse, Human
Dilution info	-
Notes	-

Target data

See full target information Elane

Function	Serine protease that modifies the functions of natural killer cells, monocytes and granulocytes. Inhibits C5a-dependent neutrophil enzyme release and chemotaxis (By similarity). Promotes blood coagulation (PubMed:20676107). Through the activation of the platelet fibrinogen receptor integrin alpha-IIb/beta-3, potentiates platelet aggregation induced by a threshold concentration of cathepsin G (CTSG) (By similarity). Cleaves and thus inactivates tissue factor pathway inhibitor (TFPI) (By similarity). Capable of killing E.coli; probably digests outer membrane protein A (ompA) in E.coli (PubMed:10947984).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Neutrophil Elastase also known as neutrophil proteinase 3 has a molecular mass of approximately 30 kDa. It is a serine protease expressed mainly in azurophilic granules of neutrophils. This enzyme breaks down various proteins including elastin at sites of inflammation. Neutrophil Elastase releases during degranulation or through neutrophil extracellular traps (NETs) to combat pathogens.
Biological function summary	The target plays a significant role in neutrophil-mediated tissue remodeling and host defense. It leads to the breaking down of extracellular matrix components contributing to tissue remodeling and repair. Neutrophil Elastase is part of a complex interplay with other proteases like matrix metalloproteinases (MMPs). Its activity is regulated by endogenous inhibitors such as alpha-1 antitrypsin to prevent excessive tissue damage.
Pathways	This protease is important in inflammation and immune response pathways. It plays a role in the complement system by activating C5 a component of the complement cascade. It also acts in conjunction with other proteases such as cathepsin G to modulate immune and inflammatory responses. Neutrophil Elastase's role within these pathways is pivotal for the regulation of inflammation and destruction of pathogens.
Associated diseases and disorders	Individuals with conditions such as chronic obstructive pulmonary disease (COPD) and cystic fibrosis often exhibit dysregulation or excessive activity of Neutrophil Elastase. This excessive activity leads to tissue damage and exacerbates disease progression. The enzyme also interacts with proteins like elastin and collagen in these diseases further contributing to pathological tissue remodeling and damage.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

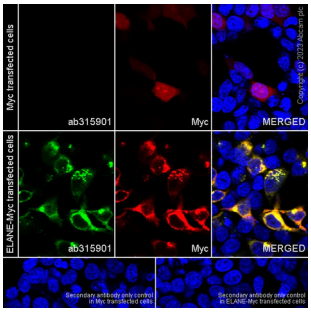
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

8 product images



Immunocytochemistry/ Immunofluorescence - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

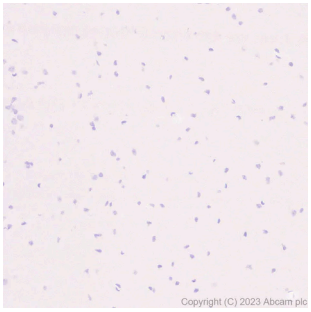
Neutrophil Elastase Immunocytochemistry/ Immunofluorescence staining of 293T (human embryonic kidney epithelial cell) transfected with a mouse ELANE expression vector containing a myc tag. using rabbit Anti-Neutrophil Elastase antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) cells labelling Neutrophil Elastase with ab315901 at 1/100 (5.23 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green).

Confocal image showing cytoplasmic staining in 293T cells transfected with a mouse ELANE expression vector containing a myc tag.
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab223895 Anti-Myc tag Mouse monoclonal antibody (Alexa Fluor® 647) was used to counterstain at 1/200 (2.5 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/mL) dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

Neutrophil Elastase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cerebrum using rabbit Anti-Neutrophil Elastase antibody

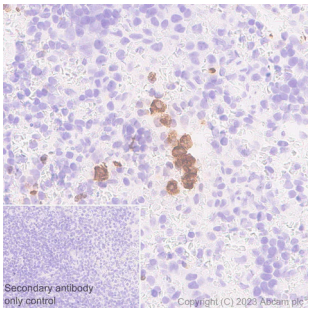
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling Neutrophil Elastase with ab315901 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: No staining on mouse cerebrum.
The section was incubated with ab315901 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

Immunohistochemical analysis of paraffin-embedded Rat spleen tissue labeling Neutrophil Elastase with ab315901 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

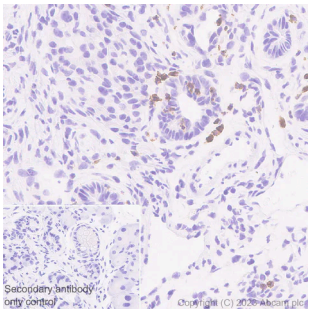
Positive staining on neutrophils in rat spleen.
The section was incubated with ab315901 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

---



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

Immunohistochemical analysis of paraffin-embedded Mouse pancreatic cancer tissue labeling Neutrophil Elastase with ab315901 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

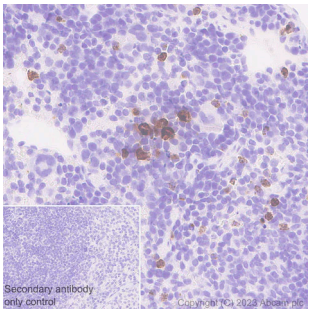
Positive staining on neutrophils in mouse pancreatic cancer (PMID: 25373490).
The section was incubated with ab315901 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

---



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

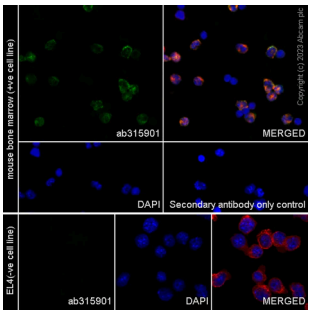
Immunohistochemical analysis of paraffin-embedded Mouse spleen tissue labeling Neutrophil Elastase with ab315901 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on neutrophils in mouse spleen.
The section was incubated with ab315901 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



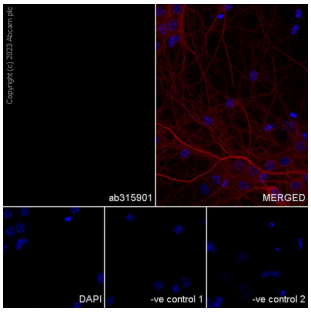
Immunocytochemistry/ Immunofluorescence - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Mouse bone marrow cells labelling Neutrophil Elastase with ab315901 at 1/100 (5.23 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green).

Confocal image showing cytoplasmic staining in subsets of mouse bone marrow.
Negative control: EL4.
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/mL) dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

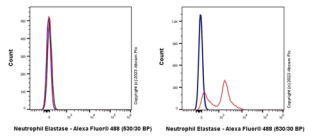
Neutrophil Elastase Immunocytochemistry/ Immunofluorescence staining of mouse primary neuron using rabbit Anti-Neutrophil Elastase antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neuron cells labelling Neutrophil Elastase with ab315901 at 1/100 (5.23 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green).

Negative control: Confocal image showing no staining in mouse primary neuron.
Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.
The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain at 1/500 (4 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/mL) dilution.



Flow Cytometry (Intracellular) - Anti-Neutrophil Elastase antibody [EPR28386-175] (ab315901)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized EL4 (mouse lymphoma T lymphocyte, Left) / Mouse bone marrow (Right) cells labelling Neutrophil Elastase with ab315901 at 1/500 dilution (0.1 ug)/Red compared with a Rabbit monoclonal IgG (ab172730)

(Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Negative control: EL4.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.