abcam

ab131260

Anti-Neutrophil Elastase antibody [EPR7479]

Anti-Neutrophil Elastase antibody [EPR7479] (ab131260) is a rabbit monoclonal antibody detecting Neutrophil Elastase in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 30 publications

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	EPR7479
Purification technique	Affinity purification Protein A
Dissociation constant	6 x 10^{-12} M
Concentration	0.077 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/70
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	1/5000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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 (PubMed:15140022). Promotes cleavage of GSDMB, thereby inhibiting pyroptosis (PubMed:36899106). 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) (PubMed:25211214, PubMed:9111081). Cleaves and thus inactivates tissue factor pathway inhibitor (TFPI) (PubMed:20676107, PubMed:25211214). Capable of killing E.coli but not S.aureus in vitro; digests outer membrane protein A (ompA) in E.coli and K.pneumoniae (PubMed:10947984).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

What is this antibody validated in?
Anti-Neutrophil Elastase antibody [EPR7479] (ab131260) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of Neutrophil Elastase?
Anti-Neutrophil Elastase [EPR7479] (ab131260) specifically detects a band for Neutrophil Elastase (UniProt: P08246) at a molecular weight of 29kDa.

Trusted by the scientific community
Anti-Neutrophil Elastase [EPR7479] (ab131260) was first used in a scientific publication in 2012 and has been cited over 30 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR7479] also available for your convenience: ab131260, Carrier free - ab219585, PE - ab305680, APC - ab305681, HRP - ab305682, Alkaline Phosphatase - ab308811, Alexa Fluor® 647 - ab310127, Alexa Fluor® 594 - ab310543, Alexa Fluor® 555 - ab312073, Alexa Fluor® 568 - ab312550, Alexa Fluor® 488 - ab317069

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size 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.

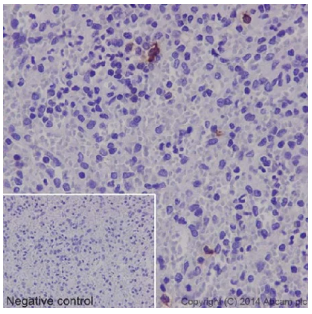
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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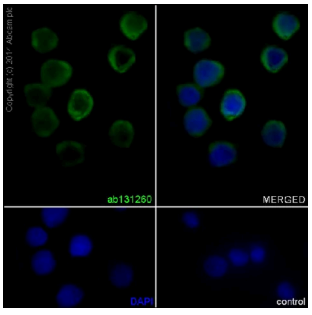
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260)

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

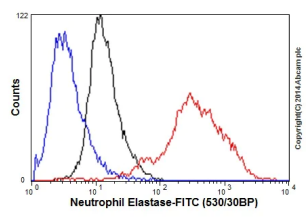
ab131260 staining Neutrophil Elastase in Human spleen tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed and paraffin-embedded, antigen retrieval was by heat mediation in Tris/EDTA buffer pH9. Samples were incubated with primary antibody (1/5000). An undiluted HRP-conjugated mouse anti-rabbit IgG was used as the secondary antibody. Tissue counterstained with Hematoxylin. PBS was used in the negative control rather than the Primary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260)

Neutrophil Elastase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Neutrophil Elastase antibody

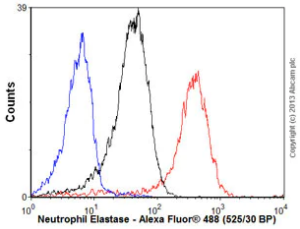
ab131260 staining Neutrophil Elastase in the HL-60 cell line by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody (1/70). ab150120(1/500) an Alexa Fluor®594-conjugated Goat anti-rabbit IgG was used as the secondary antibody. Nuclei were counterstained with DAPI.



Flow Cytometry (Intracellular) - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260)

Neutrophil Elastase Flow Cytometry (Intracellular) staining using rabbit Anti-Neutrophil Elastase antibody

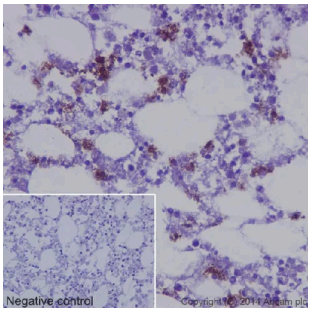
Overlay histogram showingHL-60 cells stained with ab131260 (red line) at 1/20 dilution. The cells were fixed with 80% methanol. The secondary antibody used wasa FITC conjugatedgoat anti-rabbit IgG at 1/150 dilution. Isotype control antibody (black line) wasrabbit monoclonal IgG used under the same conditions. Cells also incubated without primary antibody and secondary antibody (blue line)



Flow Cytometry (Intracellular) - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260)

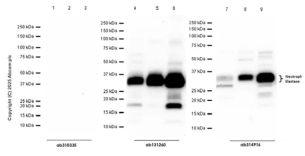
Neutrophil Elastase Flow Cytometry (Intracellular) staining using rabbit Anti-Neutrophil Elastase antibody

Overlay histogram showing HL60 cells stained with unpurified ab131260 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab131260, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was goat anti-rabbit Alexa Fluor® 488 (IgG H+L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260)

ab131260 staining Neutrophil Elastase in Human bone marrow tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed and paraffin-embedded, antigen retrieval was by heat mediation in Tris/EDTA buffer pH9. Samples were incubated with primary antibody (1/5000). An undiluted HRP-conjugated mouse anti-rabbit IgG was used as the secondary antibody. Tissue counterstained with Hematoxylin. PBS was used in the negative control rather than the Primary antibody.



Western blot - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260)

Neutrophil Elastase Western blot staining using rabbit Anti-Neutrophil Elastase antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

ab310335 is not suitable for detecting human cell lines in western blot assay. ab131260 and ab314916 are alternatives for detecting human cell lines.

Neutrophil elastase undergoes proteolytic cleavage to generate fragments (PMID: 25857284).

Lanes 1 - 3:
Western blot - Anti-Neutrophil Elastase antibody [EPR28386-66] (ab310335) at 1/1000 dilution

Lanes 4 - 6:
Western blot - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260) at 1/1000 dilution

Lanes 7 - 9:
Western blot - Anti-Neutrophil Elastase antibody [RM1077] (ab314916) at 1/1000 dilution

Lanes 1, 4 and 7:

HL-60 (human Acute Promyelocytic Leukemia promyeloblast) whole cell lysate at 20 µg

Lanes 2, 5 and 8:
THP-1 (human monocytic leukemia monocyte) whole cell lysate at 20 µg

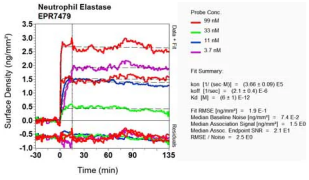
Lanes 3, 6 and 9:
U937 (human histiocytic lymphoma monocyte) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 30 kDa, 26 kDa

Exposure time: 40s



OI-RD Scanning - Anti-Neutrophil Elastase antibody [EPR7479] (ab131260)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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