

Neutrophil Elastase (H-57): sc-25621

BACKGROUND

Neutrophil Elastase (NE) is a serine protease that is expressed in bone marrow precursor cells, stored in peripheral blood granulocytes and implicated in the progression of a variety of inflammatory diseases, including idiopathic pulmonary fibrosis, rheumatoid arthritis, adult respiratory distress syndrome and cystic fibrosis. In neutrophils, NE contributes largely to the proteolysis of phagocytosed proteins, the migration of neutrophils and the remodeling of tissues following injury. NE, which is also designated medullasin, is secreted into the extracellular matrix, where it is then capable of destroying connective tissue proteins, including elastin, proteoglycans and Type IV Collagens. NE also mediates proteolysis by cleaving proteins that are associated with the complement system, such as antithrombin and fibrinogen. Additionally, NE functions as a potent platelet agonist, where it potentiates the aggregation, secretion and mobilization of calcium in response to cathepsin G binding to platelet surface receptors.

REFERENCES

1. Farley, D., et al. 1988. Molecular cloning of human neutrophil elastase. *Biol. Chem. Hoppe-Seyler* 369: 3-7.
2. Selak, M.A. 1992. Neutrophil elastase potentiates cathepsin G-induced platelet activation. *Thromb. Haemost.* 68: 570-576.
3. Abbinante-Nissen, J.M., et al. 1993. Neutrophil elastase increases secretory leukocyte protease inhibitor transcript levels in airway epithelial cells. *Am. J. Physiol.* 265: 286-292.

CHROMOSOMAL LOCATION

Genetic locus: ELA2 (human) mapping to 19p13.3.

SOURCE

Neutrophil Elastase (H-57) is a rabbit polyclonal antibody raised against amino acids 211-267 of Neutrophil Elastase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Neutrophil Elastase (H-57) is recommended for detection of Neutrophil Elastase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Neutrophil Elastase siRNA (h): sc-36042, Neutrophil Elastase shRNA Plasmid (h): sc-36042-SH and Neutrophil Elastase shRNA (h) Lentiviral Particles: sc-36042-V.

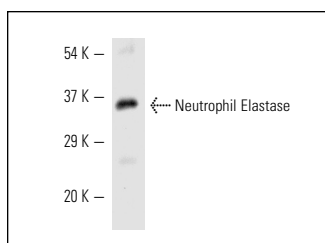
Molecular Weight of Neutrophil Elastase: 29 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, U-937 cell lysate: sc-2239 or MCP-5 whole cell lysate.

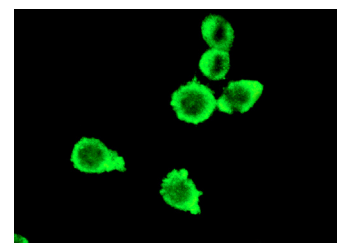
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Neutrophil Elastase (H-57): sc-25621. Western blot analysis of human recombinant Neutrophil Elastase.



Neutrophil Elastase (H-57): sc-25621. Immunofluorescence staining of methanol-fixed U-937 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Allen, C., et al. 2006. Retargeted oncolytic measles strains entering via the EGFRvIII receptor maintain significant antitumor activity against gliomas with increased tumor specificity. *Cancer Res.* 66: 11840-11850.
2. Ishii, T., et al. 2010. Neutrophil elastase contributes to acute lung injury induced by bilateral nephrectomy. *Am. J. Pathol.* 177: 1665-1673.

STORAGE

Store at 4° C, **DO NOT FREEZE** Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Neutrophil Elastase (G-2): sc-55549** or **Neutrophil Elastase (F-1): sc-55548**, our highly recommended monoclonal alternatives to Neutrophil Elastase (H-57). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Neutrophil Elastase (G-2): sc-55549**.