

Neutrophil Elastase (C-17): sc-9520

BACKGROUND

Neutrophil elastase (NE) is a 29 kDa 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.

CHROMOSOMAL LOCATION

Genetic locus: ELA2 (human) mapping to 19p13.3; Ela2 (mouse) mapping to 10 E1.

SOURCE

Neutrophil Elastase (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Neutrophil Elastase of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Neutrophil Elastase (C-17) 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.

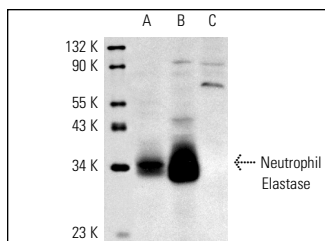
Molecular Weight of Neutrophil Elastase: 29 kDa.

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

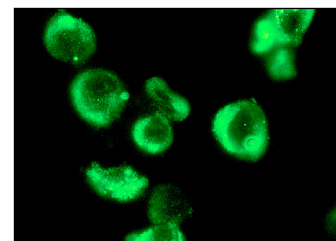
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Neutrophil Elastase (C-17): sc-9520. Western blot analysis of Neutrophil Elastase expression in HL-60 (A), U-937 (B) and MCP-5 (C) whole cell lysates.



Neutrophil Elastase (C-17): sc-9520. Immunofluorescence staining of methanol-fixed U-937 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Ishikawa, S. 2003. Induction of neutrophil elastase by TNF- α in human cancer cell lines. *The Biological Response to Planned and Unplanned Injuries*.
- Kollner, I., et al. 2006. Mutations in neutrophil elastase causing congenital neutropenia lead to cytoplasmic protein accumulation and induction of the unfolded protein response. *Blood* 108: 493-500.
- Schönfelder, J., et al. 2007. Neutrophil elastase gene variation and coronary heart disease. *Pharmacogenet. Genomics* 17: 629-637.
- De La Luz Sierra, M., et al. 2007. Transcription factor Gfi-1 induced by G-CSF is a negative regulator of CXCR-4 in myeloid cells. *Blood* 110: 2276-2285.
- Achilli, C., et al. 2008. Neutrophil granulocytes uniquely express, among human blood cells, high levels of Methionine-sulfoxide-reductase enzymes. *J. Leukoc. Biol.* 83: 181-189.

RESEARCH USE

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



Try **Neutrophil Elastase (G-2): sc-55549** or **Neutrophil Elastase (F-1): sc-55548**, our highly recommended monoclonal alternatives to Neutrophil Elastase (C-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Neutrophil Elastase (G-2): sc-55549**.