

# Neutrophil Elastase (201): sc-59335

## 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, Neutrophil Elastase contributes largely to the proteolysis of phagocytosed proteins, the migration of neutrophils and the remodeling of tissues following injury. Neutrophil Elastase, 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. Neutrophil Elastase also mediates proteolysis by cleaving proteins that are associated with the complement system, such as antithrombin and Fibrinogen. Additionally, Neutrophil Elastase 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. Pulford, K.A., et al. 1988. Use of monoclonal antibody against human Neutrophil Elastase in normal and leukaemic myeloid cells. *J. Clin. Pathol.* 41: 853-860.
3. Ralfkiaer, E., et al. 1989. Diagnosis of acute myeloid leukaemia with the use of monoclonal anti-Neutrophil Elastase (NP57) reactive with routinely processed biopsy samples. *Histopathology* 14: 637-643.
4. Selak, M.A. 1992. Neutrophil Elastase potentiates cathepsin G-induced platelet activation. *Thromb. Haemost.* 68: 570-576.
5. Abbinante-Nissen, J.M., et al. 1993. Neutrophil Elastase increases secretory leukocyte protease inhibitor transcript levels in airway epithelial cells. *Am. J. Physiol.* 265: L286-L292.
6. Selak, M.A. 1994. Neutrophil-platelet interactions in inflammation. *Receptor* 4: 3-7.
7. Selak, M.A. 1994. Cathepsin G and Thrombin: evidence for two different platelet receptors. *Biochem. J.* 297: 269-275.
8. Doring, G. 1994. The role of Neutrophil Elastase in chronic inflammation. *Am. J. Respir. Crit. Care Med.* 150: S114-S117.
9. Sadallah, S., et al. 1999. Elastase and metalloproteinase activities regulate soluble complement receptor 1 release. *Eur. J. Immunol.* 29: 3754-3761.

## CHROMOSOMAL LOCATION

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

## SOURCE

Neutrophil Elastase (201) is a mouse monoclonal antibody raised against full length native Neutrophil Elastase of human origin.

## PRODUCT

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

## APPLICATIONS

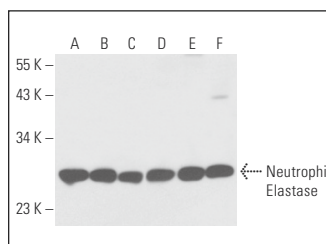
Neutrophil Elastase (201) is recommended for detection of Neutrophil Elastase of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution 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 AML-193 whole cell lysate: sc-364182.

## DATA



Neutrophil Elastase (201): sc-59335. Western blot analysis of Neutrophil Elastase expression in HL-60 (A), U-937 (B), LADMAC (C), human PBL (D), AML-193 (E) and NCI-H1688 (F) whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.



See **Neutrophil Elastase (G-2): sc-55549** for Neutrophil Elastase antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.