SANTA CRUZ BIOTECHNOLOGY, INC.

Neutrophil Elastase (M-18): sc-9521

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The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: Ela2 (mouse) mapping to 10 C1.

SOURCE

Neutrophil Elastase (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Neutrophil Elastase of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-9521 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.

PROTOCOLS

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

APPLICATIONS

Neutrophil Elastase (M-18) is recommended for detection of Neutrophil Elastase of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-42967, Neutrophil Elastase shRNA Plasmid (m): sc-42967-SH and Neutrophil Elastase shRNA (m) Lentiviral Particles: sc-42967-V.

Molecular Weight of Neutrophil Elastase: 29 kDa.

Positive Controls: MCP-5 whole cell lysate.

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) 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.

SELECT PRODUCT CITATIONS

1. Tamura, S., et al. 2002. Expression of oncostatin M in hematopoietic organs. Dev. Dyn. 225: 327-331.
2. Saraff, K., et al. 2003. Aortic dissection precedes formation of aneurysms and atherosclerosis in angiotensin II-infused, apolipoprotein E-deficient mice. Arterioscler. Thromb. Vasc. Biol. 23: 1621-1626.
3. Hamamoto, M., et al. 2006. Suppressive effect of phosphodiesterase type 4 inhibition on systemic inflammatory responses after cardio-pulmonary bypass. J. Artif. Organs 9: 144-148.
4. Liu, F., et al. 2007. Insight into the host-parasite interplay by proteomic study of host proteins copurified with the human parasite, *Schistosoma japonicum*. Proteomics 7: 450-462.
5. Morimoto, T., et al. 2008. The expression of macrophage and neutrophil elastases in rat periradicular lesions. J. Endod. 34: 1072-1076.
6. Tsuji, M., et al. 2009. Histochemical localization of neutral proteases released during development of rat periradicular lesion. Arch. Oral Biol. 54: 1128-1135.
7. Li, Y.J., et al. 2009. A possible suppressive role of galectin-3 in upregulated osteoclastogenesis accompanying adjuvant-induced arthritis in rats. Lab. Invest. 89: 26-37.
8. Saffarzadeh, M., et al. 2012. Neutrophil extracellular traps directly induce epithelial and endothelial cell death: a predominant role of histones. PLoS ONE 7: e32366.
9. Shchors, K., et al. 2012. Increased invasiveness of MMP-9-deficient tumors in two mouse models of neuroendocrine tumorigenesis. Oncogene 32: 502-513.
10. Uchiyama, K., et al. 2012. Serpin B1 protects colonic epithelial cell via blockage of neutrophil elastase activity and its expression is enhanced in patients with ulcerative colitis. Am. J. Physiol. Gastrointest. Liver Physiol. 302: G1163-G1170.
11. Parlee, S.D., et al. 2012. Elastase and tryptase govern TNFα-mediated production of active chemerin by adipocytes. PLoS ONE 7: e51072.

RESEARCH USE

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