

PR3 (D-1): sc-74534

BACKGROUND

The major features of Wegener granulomatosis are necrotizing granulomatous lesions, which most often affect the upper and lower airways and are associated with vasculitis, necrotizing glomerulonephritis and pulmonary capillaritis. The antigen responsible for this disease is Proteinase 3 (PR3, P29 or myeloblastin), which is one of the antibiotic proteins of neutrophilic granules belonging to the serine protease family. It is closely related to two others: Neutrophil Elastase and azurocidin. All three genes are expressed coordinately and their protein products are packaged together into azurophilic granules during neutrophil differentiation. PR3 is a neutrophil protein which is able to cleave elastin and is involved in proliferation of human leukemia cells. PR3 is expressed specifically in immature myeloid cells and is a G-CSF-responsive protein critical to factor-independent growth. The genes for all three of the related serine protease family members are located in a cluster on the tip of the short arm of human chromosome 19.

CHROMOSOMAL LOCATION

Genetic locus: PRTN3 (human) mapping to 19p13.3; Prtn3 (mouse) mapping to 10 C1.

SOURCE

PR3 (D-1) is a mouse monoclonal antibody raised against amino acids 89-148 mapping within an internal region of PR3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PR3 (D-1) is available conjugated to agarose (sc-74534 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to IP; to HRP (sc-74534 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74534 PE), fluorescein (sc-74534 FITC), Alexa Fluor® 488 (sc-74534 AF488), Alexa Fluor® 546 (sc-74534 AF546), Alexa Fluor® 594 (sc-74534 AF594) or Alexa Fluor® 647 (sc-74534 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74534 AF680) or Alexa Fluor® 790 (sc-74534 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PR3 (D-1) is recommended for detection of precursor and mature forms of PR3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 PR3 siRNA (h): sc-42968, PR3 siRNA (m): sc-42969, PR3 shRNA Plasmid (h): sc-42968-SH, PR3 shRNA Plasmid (m): sc-42969-SH, PR3 shRNA (h) Lentiviral Particles: sc-42968-V and PR3 shRNA (m) Lentiviral Particles: sc-42969-V.

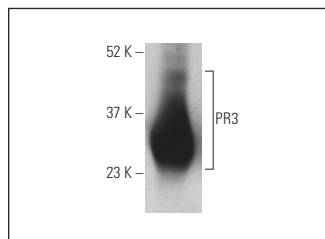
Molecular Weight of PR3: 29 kDa.

Positive Controls: human spleen extract: sc-363779.

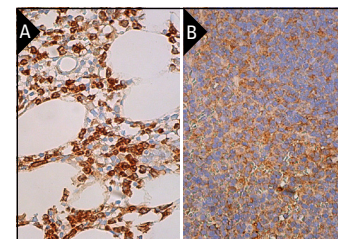
STORAGE

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

DATA



PR3 (D-1): sc-74534. Western blot analysis of PR3 expression in human spleen tissue extract. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



PR3 (D-1): sc-74534. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of hematopoietic cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp (B).

SELECT PRODUCT CITATIONS

- Romero, V., et al. 2013. Immune-mediated pore-forming pathways induce cellular hypercitrullination and generate citrullinated autoantigens in rheumatoid arthritis. *Sci. Transl. Med.* 5: 209ra150.
- Carmona-Rivera, C., et al. 2017. A role for muscarinic receptors in neutrophil extracellular trap formation and levamisole-induced autoimmunity. *JCI Insight* 2: e89780.
- Nowak, K., et al. 2022. Investigation of estrogen-like effects of parabens on human neutrophils. *Environ. Res.* 214: 113893.
- Zhou, X., et al. 2022. Dusp6 deficiency attenuates neutrophil-mediated cardiac damage in the acute inflammatory phase of myocardial infarction. *Nat. Commun.* 13: 6672.
- Nguyen, S.D., et al. 2022. Neutrophil proteinase 3-an LDL- and HDL- proteolyzing enzyme with a potential to contribute to cholesterol accumulation in human atherosclerotic lesions. *Biochim. Biophys. Acta Mol. Cell Biol. Lipids* 1867: 159225.
- Zhang, Z.H., et al. 2024. Casting NETs on psoriasis: the modulation of inflammatory feedback targeting IL-36/IL-36R axis. *Int. Immunopharmacol.* 142: 113190.
- Yi, Z., et al. 2024. Chinese medicine Linggui Zhugan formula protects against diabetic kidney disease in close association with inhibition of proteinase 3-mediated podocyte apoptosis in mice. *J. Ethnopharmacol.* 335: 118650.

RESEARCH USE

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

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