SANTA CRUZ BIOTECHNOLOGY, INC.

PR3 (P-20): sc-19748

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 azurophil 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.

REFERENCES

1. Kao, R.C., et al. 1988. Proteinase 3. A distinct human polymorphonuclear leukocyte proteinase that produces emphysema in hamsters. J. Clin. Invest. 82: 1963-1973.
2. Niles, J.L., et al. 1989. Wegener's granulomatosis autoantigen is a novel neutrophil serine proteinase. Blood 74: 1888-1893.
3. Zimmer, M., et al. 1992. Three human elastase-like genes coordinately expressed in the myelomonocyte lineage are organized as a single genetic locus on 19pter. Proc. Natl. Acad. Sci. USA 89: 8215-8219.
4. Lutz, P.G., et al. 2000. Myeloblastin is a granulocyte colony-stimulating factor-responsive gene conferring factor-independent growth to hematopoietic cells. Proc. Natl. Acad. Sci. USA 97: 1601-1606.
5. LocusLink Report (LocusID: 177020). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Prtn3 (mouse) mapping to 10 C1.

SOURCE

PR3 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PR3 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-19748 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.

RESEARCH USE

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

APPLICATIONS

PR3 (P-20) is recommended for detection of PR3 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 PR3 siRNA (m): sc-42969, PR3 shRNA Plasmid (m): sc-42969-SH and PR3 shRNA (m) Lentiviral Particles: sc-42969-V.

Molecular Weight of PR3: 29 kDa.

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. Ghanem, L., et al. 2006. p21Waf1 inhibits granulocytic differentiation of 32Dcl3 cells. Leuk. Res. 30: 1285-1292.
2. Greten, F.R., et al. 2007. NFκB is a negative regulator of IL-1β secretion as revealed by genetic and pharmacological inhibition of IKKβ. Cell 130: 918-931.
3. Primo, V.C., et al. 2010. Anti-PR3 immune responses induce segmental and necrotizing glomerulonephritis. Clin. Exp. Immunol. 159: 327-337.
4. Mankan, A.K., et al. 2012. The NLRP3/ASC/Caspase-1 axis regulates IL-1β processing in neutrophils. Eur. J. Immunol. 42: 710-715.

PROTOCOLS

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