

SerpinB1/B1a (K-17): sc-34304

BACKGROUND

The serine proteinase inhibitors (serpins) compose a superfamily of proteins with a diverse set of functions, including the control of blood coagulation, complement activation, programmed cell death and development. Serpins are secreted glycoproteins that contain a stretch of peptide that mimics a true substrate for a corresponding serine protease. The monocyte/neutrophil elastase inhibitor gene, SERPINB1, belongs to the Ov-serpin family (ovalbumin-related serpins). Human SerpinB1, also designated monocyte/neutrophil elastase inhibitor (M/NEI) or leukocyte elastase inhibitor (LEI), is a cytoplasmic protein which acts as a fast-acting stoichiometric proteinase inhibitor that regulates the activity of neutrophil elastase (NE), cathepsin-G and proteinase-3. There are four homologous genes in mouse designated SerpinB1a, SerpinB1b, SerpinB1c and the pseudogene, Serpinb1-ps1. The three protein-coding genes share significant sequence identity, however SerpinB1a (also designated EIA) has been characterized as the functional ortholog of human SerpinB1.

REFERENCES

1. Packard, B.Z., et al. 1995. A serpin from human tumor cells with direct lymphoid immunomodulatory activity: mitogenic stimulation of human tumor-infiltrating lymphocytes. *Biochim. Biophys. Acta* 1269: 41-50.
2. Zeng, W., et al. 1998. Structure and sequence of human M/NEI (monocyte/neutrophil elastase inhibitor), an Ov-serpin family gene. *Gene* 213: 179-187.
3. Cooley, J., et al. 1998. Production of recombinant human monocyte/neutrophil elastase inhibitor (rM/NEI). *Protein Expr. Purif.* 14: 38-44.
4. Sun, J., et al. 1998. A serpin gene cluster on human chromosome 6p25 contains PI6, PI9 and ELANH2 which have a common structure almost identical to the 18q21 ovalbumin serpin genes. *Cytogenet. Cell Genet.* 82: 273-277.
5. Rees, D.D., et al. 1999. Recombinant human monocyte/neutrophil elastase inhibitor protects rat lungs against injury from cystic fibrosis airway secretions. *Am. J. Respir. Cell Mol. Biol.* 20: 69-78.
6. Benarafa, C., et al. 2002. Characterization of four murine homologs of the human Ov-serpin monocyte neutrophil elastase inhibitor M/NEI (SerpinB1). *J. Biol. Chem.* 277: 42028-42033.

CHROMOSOMAL LOCATION

Genetic locus: SERPINB1 (human) mapping to 6p25; Serpinb1-ps1 (mouse) mapping to 13 A3.2.

SOURCE

SerpinB1/B1a (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SerpinB1 of human origin.

STORAGE

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

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-34304 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SerpinB1/B1a (K-17) is recommended for detection of SerpinB1 of human origin and, to a lesser extent, SerpinB1a 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 SerpinB1 siRNA (h): sc-45371, SerpinB1a siRNA (m): sc-45372, SerpinB1 shRNA Plasmid (h): sc-45371-SH, SerpinB1a shRNA Plasmid (m): sc-45372-SH, SerpinB1 shRNA (h) Lentiviral Particles: sc-45371-V and SerpinB1a shRNA (m) Lentiviral Particles: sc-45372-V.

Molecular Weight of SerpinB1/B1a: 42 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.

RESEARCH USE

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

PROTOCOLS

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



Try **SerpinB1 (4D7): sc-293462**, our highly recommended monoclonal alternative to SerpinB1/B1a (K-17).