

# Tryptase $\epsilon$ (S-13): sc-107314

## BACKGROUND

Tryptase  $\epsilon$ , also known as brain-specific serine protease 4 (BSSP-4) or serine protease 22, is a member of the human 16p13.3 family of serine proteases. It is expressed in a developmentally regulated manner in esophagus, trachea and lung. Tryptase  $\epsilon$  is a major product of the normal pulmonary epithelial cells. It is secreted as an active enzyme and, unlike other family members, Tryptase  $\epsilon$  can autoactivate. Tryptase  $\epsilon$ , once activated, cannot effectively be inhibited by the protease inhibitors that are found in normal plasma. It is a potent activator of uPA (urokinase-type plasminogen activator precursor), a serine protease that is responsible for cleaving plasminogen. Tryptase  $\epsilon$  converts uPA into its mature, enzymatically active form and therefore plays an important role in fibrinolysis, connective tissue remodeling and innate immunity.

## REFERENCES

- Riccio, A., et al. 1985. The human urokinase-plasminogen activator gene and its promoter. *Nucleic Acids Res.* 13: 2759-2771.
- Wong, G.W., et al. 2001. Human tryptase epsilon (PRSS22), a new member of the chromosome 16p13.3 family of human serine proteases expressed in airway epithelial cells. *J. Biol. Chem.* 276: 49169-49182.
- Netzel-Arnett, S., et al. 2003. Membrane anchored serine proteases: a rapidly expanding group of cell surface proteolytic enzymes with potential roles in cancer. *Cancer Metastasis Rev.* 22: 237-258.
- Wong, G.W., et al. 2004. Mouse chromosome 17A3.3 contains 13 genes that encode functional tryptic-like serine proteases with distinct tissue and cell expression patterns. *J. Biol. Chem.* 279: 2438-2452.
- Vergheze, G.M., et al. 2004. Mouse prostaticin gene structure, promoter analysis, and restricted expression in lung and kidney. *Am. J. Respir. Cell Mol. Biol.* 30: 519-529.
- Yasuda, S., et al. 2005. Urokinase-type plasminogen activator is a preferred substrate of the human epithelium serine protease Tryptase  $\epsilon$ /PRSS22. *Blood* 105: 3893-3901.

## CHROMOSOMAL LOCATION

Genetic locus: PRSS22 (human) mapping to 16p13.3; Prss22 (mouse) mapping to 17 A3.3.

## SOURCE

Tryptase  $\epsilon$  (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Tryptase  $\epsilon$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107314 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Tryptase  $\epsilon$  (S-13) is recommended for detection of Tryptase  $\epsilon$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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); non cross-reactive with family member Tryptase  $\gamma$ .

Suitable for use as control antibody for Tryptase  $\epsilon$  siRNA (h): sc-93094, Tryptase  $\epsilon$  siRNA (m): sc-108026, Tryptase  $\epsilon$  shRNA Plasmid (h): sc-93094-SH, Tryptase  $\epsilon$  shRNA Plasmid (m): sc-108026-SH, Tryptase  $\epsilon$  shRNA (h) Lentiviral Particles: sc-93094-V and Tryptase  $\epsilon$  shRNA (m) Lentiviral Particles: sc-108026-V.

Molecular Weight of Tryptase  $\epsilon$  zymogen: 36 kDa.

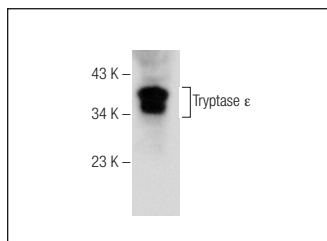
Molecular Weight of Tryptase  $\epsilon$  active form: 31 kDa.

Positive Controls: Mv 1 Lu cell lysate: sc-3810 or TT 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Tryptase  $\epsilon$  (S-13): sc-107314. Western blot analysis of Tryptase  $\epsilon$  expression in Mv 1 Lu whole cell lysate.

## STORAGE

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



Try **Tryptase  $\epsilon$  (G-9): sc-377427**, our highly recommended monoclonal alternative to Tryptase  $\epsilon$  (S-13).