

# Elastase-3A/B (P-12): sc-167742

## BACKGROUND

Elastases belong to a subfamily of serine proteases that function to catalytically hydrolyze a wide variety of proteins. Elastase-3A, also known as ELA3A or ELA3, is a 270 amino acid protein that belongs to the Elastase family and acts as an alanine-specific protease. Secreted as a zymogen from the pancreas, Elastase-3A functions as a digestive enzyme in the intestine that participates in metabolic degradation pathways by preferentially cleaving proteins that have alanine residues. In addition, Elastase-3A is thought to play a role in the metabolism and transport of cholesterol molecules in the intestine. Altered expression of Elastase-3A may be associated with pancreatic ductal carcinoma, a highly fatal cancer of the pancreatic ducts. Elastase-3B also functions as an alanine-specific protease, though it possesses only a small amount of elastolytic activity.

## REFERENCES

1. Shirasu, Y., et al. 1988. Molecular cloning of complementary DNA encoding one of the human pancreatic protease E isozymes. *J. Biochem.* 104: 259-264.
2. Tani, T., et al. 1988. Identification of a novel class of elastase isozyme, human pancreatic elastase III, by cDNA and genomic gene cloning. *J. Biol. Chem.* 263: 1231-1239.
3. Shimada, S., et al. 2002. Pancreatic elastase IIIA and its variants are expressed in pancreatic carcinoma cells. *Int. J. Mol. Med.* 10: 599-603.
4. Nemoda, Z., et al. 2006. Chymotrypsin C (caldecrin) stimulates autoactivation of human cationic trypsinogen. *J. Biol. Chem.* 281: 11879-11886.
5. Lowe, A.W., et al. 2007. Gene expression patterns in pancreatic tumors, cells and tissues. *PLoS ONE* 2: e323-e323.

## CHROMOSOMAL LOCATION

Genetic locus: CELA3A/CELA3B (human) mapping to 1p36.12.

## SOURCE

Elastase-3A/B (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Elastase-3B of human 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-167742 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Elastase-3A/B (P-12) is recommended for detection of Elastase-3A and Elastase-3B of human 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); non cross-reactive with other Elastase family members.

Elastase-3A/B (P-12) is also recommended for detection of Elastase-3A and Elastase-3B in additional species, including equine.

Molecular Weight of Elastase-3A/B: 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.

## RESEARCH USE

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