SANTA CRUZ BIOTECHNOLOGY, INC.

Elastase-3A/B (E-14): sc-167741

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. and Sahin-Tóth, M. 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; Cela3b (mouse) mapping to 4 D3.

SOURCE

Elastase-3A/B (E-14) 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-167741 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.

APPLICATIONS

Elastase-3A/B (E-14) is recommended for detection of Elastase-3 of mouse origin, Elastase-3A of human origin and Elastase-3B of human 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); non cross-reactive with other Elastase family members.

Elastase-3A/B (E-14) is also recommended for detection of Elastase-3A and Elastase-3B in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Elastase-3 siRNA (m): sc-144629, Elastase-3 shRNA Plasmid (m): sc-144629-SH and Elastase-3 shRNA (m) Lentiviral Particles: sc-144629-V.

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.

PROTOCOLS

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