

# Elastase-3A (14-3): sc-100527

## 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.

## REFERENCES

1. Shirasu, Y., Takemura, K., Yoshida, H., Sato, Y., Iijima, H., Shimada, Y., Mikayama, T., Ozawa, T., Ikeda, N. and Ishida, A. 1988. Molecular cloning of complementary DNA encoding one of the human pancreatic protease E isozymes. *J. Biochem.* 104: 259-264.
2. Tani, T., Ohsumi, J., Mita, K. and Takiguchi, Y. 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., Yamaguchi, K., Takahashi, M. and Ogawa, M. 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., Olsen, M., Hao, Y., Lee, S.P., Taek Lee, K., Chen, X., van de Rijn, M. and Brown, P.O. 2007. Gene expression patterns in pancreatic tumors, cells and tissues. *PLoS ONE* 2: e323.

## CHROMOSOMAL LOCATION

Genetic locus: ELA3A (human) mapping to 1p36.12.

## SOURCE

Elastase-3A (14-3) is a mouse monoclonal antibody raised against recombinant Elastase-3A of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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) for detailed protocols and support products.

## APPLICATIONS

Elastase-3A (14-3) is recommended for detection of Elastase-3A of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

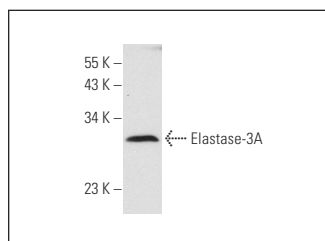
Suitable for use as control antibody for Elastase-3A siRNA (h): sc-88377, Elastase-3A shRNA Plasmid (h): sc-88377-SH and Elastase-3A shRNA (h) Lentiviral Particles: sc-88377-V.

Molecular Weight of Elastase-3A: 29 kDa.

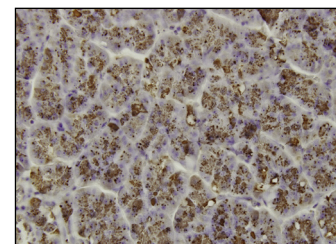
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Elastase-3A (14-3): sc-100527. Western blot analysis of Elastase-3A expression in mouse pancreas tissue extract.



Elastase-3A (14-3): sc-100527. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human pancreas tissue showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Wu, W., Yong, W.W. and Chung, M.C. 2016. A simple biomarker scoring matrix for early gastric cancer detection. *Proteomics* 16: 2921-2930.

## RESEARCH USE

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