

cystatin S/SA/SN (Z8983): sc-73884

BACKGROUND

The cystatin superfamily is a well-established family of cysteine protease inhibitors. Cystatins A and B (type 1) are mainly intracellular; cystatins C, D, E/M, F, G, S, SN and SA cystatins are extracellular (type 2); and the kininogens are type 3 cystatins which are intravascular proteins. All true cystatins inhibit cysteine peptidases of the Papain family, such as cathepsins, and some also inhibit legumain family enzymes. Cystatin SA, cystatin S and cystatin SN are found primarily in saliva. Cystatin S and SN can also be expressed in tears, urine and seminal fluid. Cystatin C is a related protein which is expressed in brain, thymus, ovary, epididymis and vas deferens. Cystatin D protects against proteinases in the oral cavity, while cystatin E/M and F moderate the inhibition of cathepsin proteins. The fetuins, part of the cystatin superfamily, are secretable proteins that influence osteogenesis and bone resorption, regulation of the Insulin and hepatocyte growth factor receptors and the response to systemic inflammation. High molecular weight kininogen (Kininogen HC) and low molecular weight kininogen (Kininogen LC) have varied roles, though they both inhibit the thrombin- and plasmin-induced aggregation of thrombocytes.

REFERENCES

1. Saitoh, E., et al. 1988. Cystatin superfamily. Evidence that family II cystatin genes are evolutionarily related to family III cystatin genes. *Biol. Chem. Hoppe Seyler* 369: 191-197.
2. Nishio, C., et al. 2000. Involvement of cystatin C in oxidative stress-induced apoptosis of cultured rat CNS neurons. *Brain Res.* 873: 252-262.
3. Manoury, B., et al. 2001. Bm-CPI-2, a cystatin homolog secreted by the filarial parasite *Brugia malayi*, inhibits class II MHC-restricted antigen processing. *Curr. Biol.* 11: 447-451.
4. Janowski, R., et al. 2001. Human cystatin C, an amyloidogenic protein, dimerizes through three-dimensional domain swapping. *Nat. Struct. Mol. Biol.* 8: 316-320.
5. Aras, O., et al. 2001. Cystatin C is an independent predictor of fasting and post-methionine load total homocysteine concentrations among stable renal transplant recipients. *Clin. Chem.* 47: 1263-1268.
6. Calero, M., et al. 2001. Distinct properties of wild-type and the amyloidogenic human cystatin C variant of hereditary cerebral hemorrhage with amyloidosis, Icelandic type. *J. Neurochem.* 77: 628-637.
7. Abrahamson, M., et al. 2003. Cystatins. *Biochem. Soc. Symp.* 70: 179-199.

CHROMOSOMAL LOCATION

Genetic locus: CST4/CST2/CST1 (human) mapping to 20p11.21.

SOURCE

cystatin S/SA/SN (Z8983) is a mouse monoclonal antibody raised against amino acids 21-141 of cystatin SA/SN of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

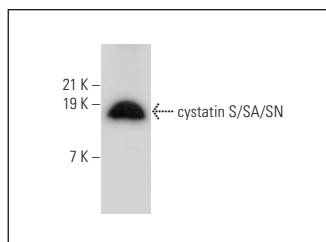
cystatin S/SA/SN (Z8983) is recommended for detection of cystatin SA, S and SN of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for cystatin S/SA/SN siRNA (h): sc-44521, cystatin S/SA/SN shRNA Plasmid (h): sc-44521-SH and cystatin S/SA/SN shRNA (h) Lentiviral Particles: sc-44521-V.

Molecular Weight of cystatin S/SA/SN: 16 kDa.

Positive Controls: human salivary gland extract: sc-363762.

DATA



cystatin S/SA/SN (Z8983): sc-73884. Western blot analysis of cystatin S/SA/SN expression in human salivary gland tissue extract.

SELECT PRODUCT CITATIONS

1. Eliyahu, E., et al. 2011. Identification of cystatin SA as a novel inhibitor of acid ceramidase. *J. Biol. Chem.* 286: 35624-35633.
2. Saeves, R., et al. 2012. Saliva in Prader-Willi syndrome: quantitative and qualitative characteristics. *Arch. Oral Biol.* 57: 1335-1341.
3. Morzel, M., et al. 2014. Salivary protein profiles are linked to bitter taste acceptance in infants. *Eur. J. Pediatr.* 173: 575-582.
4. Rodrigues, L., et al. 2017. Salivary proteome and glucose levels are related with sweet taste sensitivity in young adults. *Food Nutr. Res.* 61: 1389208.
5. Rodrigues, L., et al. 2018. Comparison of salivary proteome of children with different sensitivities for bitter and sweet tastes: association with body mass index. *Int. J. Obes.* 43: 701-712.
6. Sant'Anna, M.L., et al. 2019. Physical exercise stimulates salivary secretion of cystatins. *PLoS ONE* 14: e0224147.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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