SANTA CRUZ BIOTECHNOLOGY, INC.

cystatin C (Cyst-13): sc-51857

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cystatin C is a cysteine (thiol) protease inhibitor that belongs to the type II cystatin gene superfamily and is the most abundant extracellular inhibitor of cysteine proteases. Cystatin C is a constitutively secreted, amyloidogenic protein, which forms a two-fold symmetric dimer and modulates both cysteine protease activity and the expression of class II MHC molecules. Expression of cystatin C is an indicator of kidney function and glomerular filtration rate. Mutations in the cystatin C gene can lead to protein aggregates, which are implicated in hereditary amyloid angiopathy (HCCAA) and cerebral hemorrhage. Although both wild-type and mutant cystatin C are capable of forming concentration dependent inactive dimers, mutant cystatin C dimerizes at lower concentrations and is more susceptible to serine proteases, which may facilitate aggregation. In neuronal cells, oxidative stress stimulates expression of cystatin C, which may positively regulate apoptosis.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604312. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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. Janowski, R., et al. 2001. Human cystatin C, an amyloidogenic protein, dimerizes through three-dimensional domain swapping. Nat. Struct. Biol. 8: 316-320.
4. 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.
5. 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.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: CST3 (human) mapping to 20p11.21.

SOURCE

cystatin C (Cyst-13) is a mouse monoclonal antibody raised against full length cystatin C purified from human urine.

PRODUCT

Each vial contains 100 µg IgG_1 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.

APPLICATIONS

cystatin C (Cyst-13) is recommended for detection of cystatin C 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).

Suitable for use as control antibody for cystatin C siRNA (h): sc-43714, cystatin C shRNA Plasmid (h): sc-43714-SH and cystatin C shRNA (h) Lentiviral Particles: sc-43714-V.

Molecular Weight of cystatin C: 13 kDa.

SELECT PRODUCT CITATIONS

1. Koyama, S., et al. 2019. β-caryophyllene enhances wound healing through multiple routes. PLoS ONE 14: e0216104.

RESEARCH USE

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

PROTOCOLS

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