

# cystatin E/M (E/M29): sc-73881

## 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-Seyle*. 369: Suppl. 191-197.
2. 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/>
3. Nishio, C., et al. 2000. Involvement of cystatin C in oxidative stress-induced apoptosis of cultured rat CNS neurons. *Brain Res*. 873: 252-262.
4. 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.
5. Janowski, R., et al. 2001. Human cystatin C, an amyloidogenic protein, dimerizes through three-dimensional domain swapping. *Nat. Struct. Mol. Biol*. 8: 316-320.
6. 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.

## CHROMOSOMAL LOCATION

Genetic locus: CST6 (human) mapping to 11q13.1.

## SOURCE

cystatin E/M (E/M29) is a mouse monoclonal antibody raised against full length recombinant cystatin E/M of human origin, with epitope mapping to amino acids 29-149.

## PRODUCT

Each vial contains 100 µg IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

## APPLICATIONS

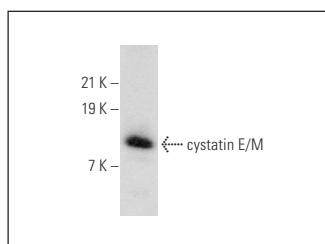
cystatin E/M (E/M29) is recommended for detection of cystatin E/M of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 cystatin E/M siRNA (h): sc-60490, cystatin E/M shRNA Plasmid (h): sc-60490-SH and cystatin E/M shRNA (h) Lentiviral Particles: sc-60490-V.

Molecular Weight of cystatin E/M: 15 kDa.

Positive Controls: human spleen extract: sc-363779.

## DATA



cystatin E/M (E/M29): sc-73881. Western blot analysis of cystatin E/M expression in human spleen tissue extract.

## SELECT PRODUCT CITATIONS

1. Smith, R., et al. 2012. Intra- and extracellular regulation of activity and processing of legumain by cystatin E/M. *Biochimie*. 94: 2590-2599.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.