

# cystatin C (A-10): sc-515732

## 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. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

cystatin C (A-10) is a mouse monoclonal antibody raised against amino acids 26-87 mapping within an internal region of cystatin C of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cystatin C (A-10) is available conjugated to agarose (sc-515732 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515732 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515732 PE), fluorescein (sc-515732 FITC), Alexa Fluor<sup>®</sup> 488 (sc-515732 AF488), Alexa Fluor<sup>®</sup> 546 (sc-515732 AF546), Alexa Fluor<sup>®</sup> 594 (sc-515732 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-515732 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-515732 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-515732 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

cystatin C (A-10) is recommended for detection of cystatin C of human origin by Western Blotting (starting dilution 1:100, 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) 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.

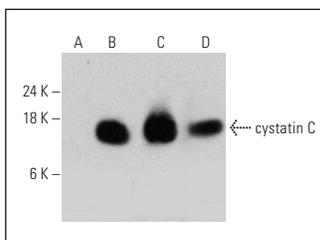
Molecular Weight of cystatin C: 13 kDa.

Positive Controls: cystatin C (h): 293T Lysate: sc-111929, Hep G2 cell lysate: sc-2227 or human plasma extract: sc-364374.

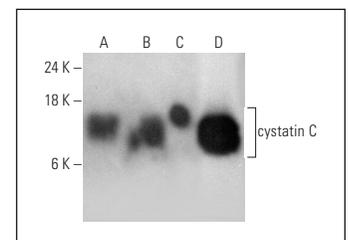
## RECOMMENDED SECONDARY REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



cystatin C (A-10): sc-515732. Western blot analysis of cystatin C expression in non-transfected 293T: sc-117752 (A) and human cystatin C transfected 293T: sc-111929 (B) whole cell lysates and human salivary gland (C) and human epididymis (D) tissue extracts.



cystatin C (A-10): sc-515732. Western blot analysis of cystatin C expression in Hep G2 whole cell lysate (A) and human epididymus (B), human plasma (C) and human salivary gland (D) tissue extracts.

## 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.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA