

cystatin B (6D332): sc-70904

BACKGROUND

Cystatin A (also designated STF1, STFA, stefin A or cystatin AS) and cystatin B (also designated PME, CST6, STFB, CPI-B, stefin B and liver thiol proteinase inhibitor) are thiol protease inhibitors that form complexes with Papain and the cathepsins B, H and L. Cystatin A, a cytoplasmic protein, is one of the precursor proteins of the cornified cell envelope in keratinocytes and plays a role in epidermal development and maintenance. Cystatin B protects against intracellular proteases leaking out of lysosomes and is primarily expressed in heart, liver and kidney.

REFERENCES

1. Ritonja, A., et al. 1985. Amino acid sequence of the intracellular cysteine proteinase inhibitor cystatin B from human liver. *Biochem. Biophys. Res. Commun.* 131: 1187-1192.
2. Jerala, R., et al. 1988. Cloning a synthetic gene for human stefin B and its expression in *E. coli*. *FEBS Lett.* 239: 41-44.
3. Pennacchio, L.A., et al. 1996. Mutations in the gene encoding cystatin B in progressive myoclonus epilepsy (EPM1). *Science* 271: 1731-1734.
4. Kos, J., et al. 1998. Cysteine proteinases and their endogenous inhibitors: target proteins for prognosis, diagnosis and therapy in cancer (review). *Oncol. Rep.* 5: 1349-1361.
5. Takahashi, H., et al. 1998. Structure and transcriptional regulation of the human cystatin A gene. The 12-O-tetradecanoylphorbol-13-acetate (TPA) responsive element-2 site (-272 to -278) on cystatin A gene is critical for TPA-dependent regulation. *J. Biol. Chem.* 273: 17375-17380.
6. Takahashi, H., et al. 2001. Expression of human cystatin A by keratinocytes is positively regulated via the Ras/MEK1/MKK7/JNK signal transduction pathway but negatively regulated via the Ras/Raf-1/MEK1/ERK pathway. *J. Biol. Chem.* 276: 36632-36638.
7. Jenko, S., et al. 2004. Different propensity to form amyloid fibrils by two homologous proteins—human stefins A and B: searching for an explanation. *Proteins* 55: 417-425.

CHROMOSOMAL LOCATION

Genetic locus: CSTB (human) mapping to 21q22.3.

SOURCE

cystatin B (6D332) is a mouse monoclonal antibody raised against human spleen cystatin B.

PRODUCT

Each vial contains 200 µg IgG₁ 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.

APPLICATIONS

cystatin B (6D332) is recommended for detection of cystatin B 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

cystatin B (6D332) is also recommended for detection of cystatin B in additional species, including monkey.

Suitable for use as control antibody for cystatin B siRNA (h): sc-44431, cystatin B shRNA Plasmid (h): sc-44431-SH and cystatin B shRNA (h) Lentiviral Particles: sc-44431-V.

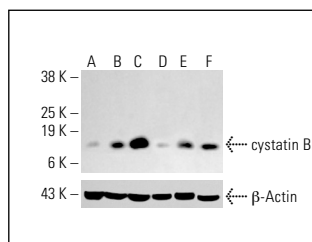
Molecular Weight of cystatin B: 12 kDa.

Positive Controls: cystatin B (h2): 293 Lysate: sc-112337 or U-87 MG cell lysate: sc-2411.

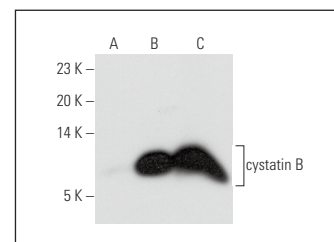
RECOMMENDED SUPPORT REAGENTS

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.

DATA



cystatin B (6D332): sc-70904. Western blot analysis of cystatin B expression in untreated HeLa (A), chemically-treated HeLa (B, C), untreated HCT-116 (D), chemically-treated HCT-116 (E) and K-562 (F) whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



cystatin B (6D332): sc-70904. Western blot analysis of cystatin B expression in non-transfected 293: sc-110760 (A), human cystatin B transfected 293: sc-112337 (B) and U-87 MG (C) whole cell lysates.

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.