SANTA CRUZ BIOTECHNOLOGY, INC.

cystatin 9 (Q-14): sc-85519

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cystatin superfamily is a well-established family of cysteine protease inhibitors. All true cystatins inhibit cysteine peptidases of the papain family, such as cathepsins, while some also inhibit legumain family enzymes. The CRES (cystatin-related epididymal spermatogenic) protein defines a new subgroup in the family 2 cystatins of the cystatin superfamily. CRES proteins lack two of the three consensus sites necessary for the cystatin inhibition of C1 cysteine proteases. Due to their expression patterns, it is likely that CRES proteins may perform unique and tissue-specific functions in the reproductive and neuroendocrine systems. As a member of the CRES subfamily, Cystatin 9, also designated CLM, is a 159 amino acid protein that is expressed in heart, placenta, lung, liver, skeletal muscle and pancreas. Cystatin 9 is thought to play a role in hematopoietic differentiation or inflammation. It has also been shown to be upregulated by LPS in some cancer cell lines, such as promyelocytic leukemia (HL-60) and myelomonocytic leukemia (U-937).

REFERENCES

1. Saitoh, E., Isemura, S., Sanada, K., Kim, H.S., Smithies, O. and Maeda, N. 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. Cornwall, G.A. and Hsia, N. 2002. CRES (cystatin-related epididymal spermatogenic) gene regulation and function. Zhonghua Nan Ke Xue 8: 313-318.
3. Cornwall, G.A. and Hsia, N. 2003. A new subgroup of the family 2 cystatins. Mol. Cell. Endocrinol. 200: 1-8.
4. Sun, H., Li, N., Wang, X., Liu, S., Chen, T., Zhang, L., Wan, T. and Cao, X. 2003. Molecular cloning and characterization of a novel cystatin-like molecule, CLM, from human bone marrow stromal cells. Biochem. Biophys. Res. Commun. 301: 176-182.
5. Xue, X., Qiu, S.M., Qiu, S.D., Zhang, Q.Y. and Tian, H. 2006. Effects of experimental varicocele on CRES protein in the testis and epididymis of adolescent rats. Zhonghua Nan Ke Xue 12: 974-978.
6. Yuan, Q., Guo, Q.S., Cornwall, G.A., Xu, C. and Wang, Y.F. 2007. Age-dependent expression of the cystatin-related epididymal spermatogenic (Cres) gene in mouse testis and epididymis. Asian J. Androl. 9: 305-311.
7. Cornwall, G.A., von Horsten, H.H., Swartz, D., Johnson, S., Chau, K. and Whelly, S. 2007. Extracellular quality control in the epididymis. Asian J. Androl. 9: 500-507.
8. von Horsten, H.H., Johnson, S.S., SanFrancisco, S.K., Hastert, M.C., Whelly, S.M. and Cornwall, G.A. 2007. Oligomerization and transglutaminase cross-linking of the cystatin CRES in the mouse epididymal lumen: potential mechanism of extracellular quality control. J. Biol. Chem. 282: 32912-32923.
9. Frygelius, J., Oscarson, M., Nordqvist, K., Wedell, A. and Töhönen, V. 2007. The reproductive tissue specific cystatin subgroup of genes: expression during gonadal development in wildtype and testatin knockout animals. Sex Dev. 1: 363-372.

CHROMOSOMAL LOCATION

Genetic locus: CST9 (human) mapping to 20p11.21.

SOURCE

cystatin 9 (Q-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of cystatin 9 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85519 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cystatin 9 (Q-14) is recommended for detection of cystatin 9 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); non cross-reactive with other cystatin family members.

Suitable for use as control antibody for cystatin 9 siRNA (h): sc-77082, cystatin 9 shRNA Plasmid (h): sc-77082-SH and cystatin 9 shRNA (h) Lentiviral Particles: sc-77082-V.

Molecular Weight of cystatin 9: 18 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.