



α -S1-casein (M-15): sc-70103

BACKGROUND

α -S1-casein, also known as CSN1S1, CSN1 or CASA, is a 185 amino acid secreted protein that is mammary gland-specific and belongs to the α -casein family. Existing as a disulfide-linked heterodimer with κ -casein, α -S1-casein plays an important role in the ability of milk to transport calcium phosphate, a family of minerals that are key components of bone and teeth. α -S1-casein exists as multiple alternatively spliced isoforms and is encoded by a gene which maps to a region on human chromosome 4 that encodes other casein family members. Chromosome 4 houses nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

- Cavaletto, M., Cantisani, A., Giuffrida, G., Napolitano, L. and Conti, A. 1994. Human α -S1-casein like protein: purification and N-terminal sequence determination. *Biol. Chem. Hoppe-Seyler* 375: 149-151.
- Johnsen, L.B., Rasmussen, L.K., Petersen, T.E. and Berglund, L. 1995. Characterization of three types of human alpha s1-casein mRNA transcripts. *Biochem. J.* 309 (Pt 1): 237-242.
- Chen, C.S., Bejcek, B.E. and Kersey, J.H. 1995. A mapping study of 13 genes on human chromosome bands 4q11→q25. *Cytogenet. Cell Genet.* 69: 260-265.
- Fujiwara, Y., Miwa, M., Nogami, M., Okumura, K., Nobori, T., Suzuki, T. and Ueda, M. 1997. Genomic organization and chromosomal localization of the human casein gene family. *Hum. Genet.* 99: 368-373.
- Rijnkels, M., Meershoek, E., de Boer, H.A. and Pieper, F.R. 1997. Physical map and localization of the human casein gene locus. *Mamm. Genome.* 8: 285-286.
- Murakami, K., Lagarde, M. and Yuki, Y. 1998. Identification of minor proteins of human colostrum and mature milk by two-dimensional electrophoresis. *Electrophoresis* 19: 2521-2527.
- Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 115450. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Xu, K., Ling, M.T., Wang, X. and Wong, Y.C. 2006. Evidence of a novel biomarker, α -S1-casein, a milk protein, in benign prostate hyperplasia. *Prostate Cancer Prostatic. Dis.* 9: 293-297.

CHROMOSOMAL LOCATION

Genetic locus: Csn1s1 (mouse) mapping to 5 E1.

SOURCE

α -S1-casein (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of α -S1-casein of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-70103 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

α -S1-casein (M-15) is recommended for detection of α -S1-casein of mouse and rat 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 α -S1-casein siRNA (m): sc-72411, α -S1-casein shRNA Plasmid (m): sc-72411-SH and α -S1-casein shRNA (m) Lentiviral Particles: sc-72411-V.

Molecular Weight of α -S1-casein: 22 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.