

α -S1-casein (D-8): sc-376961



The Power to Question.

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

1. Cavaletto, M., et al. 1994. Human α S1-casein like protein: purification and N-terminal sequence determination. *Biol. Chem. Hoppe Seyler* 375: 149-151.
2. Johnsen, L.B., et al. 1995. Characterization of three types of human α S1-casein mRNA transcripts. *Biochem. J.* 309: 237-242.
3. Chen, C.S., et al. 1995. A mapping study of 13 genes on human chromosome bands 4q11→q25. *Cytogenet. Cell Genet.* 69: 260-265.
4. Fujiwara, Y., et al. 1997. Genomic organization and chromosomal localization of the human casein gene family. *Hum. Genet.* 99: 368-373.
5. Rijnkels, M., et al. 1997. Physical map and localization of the human casein gene locus. *Mamm. Genome* 8: 285-286.

CHROMOSOMAL LOCATION

Genetic locus: CSN1S1 (human) mapping to 4q13.3.

SOURCE

α -S1-casein (D-8) is a mouse monoclonal antibody raised against amino acids 1-185 representing full length α -S1-casein of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α -S1-casein (D-8) is available conjugated to agarose (sc-376961 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376961 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376961 PE), fluorescein (sc-376961 FITC), Alexa Fluor[®] 488 (sc-376961 AF488), Alexa Fluor[®] 546 (sc-376961 AF546), Alexa Fluor[®] 594 (sc-376961 AF594) or Alexa Fluor[®] 647 (sc-376961 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376961 AF680) or Alexa Fluor[®] 790 (sc-376961 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

α -S1-casein (D-8) is recommended for detection of α -S1-casein of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 α -S1-casein siRNA (h): sc-72410, α -S1-casein shRNA Plasmid (h): sc-72410-SH and α -S1-casein shRNA (h) Lentiviral Particles: sc-72410-V.

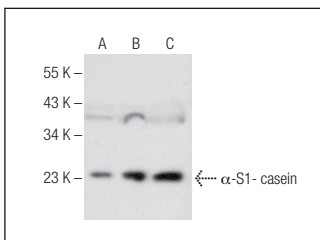
Molecular Weight of α -S1-casein: 22 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, BT-20 cell lysate: sc-2223 or SK-BR-3 cell lysate: sc-2218.

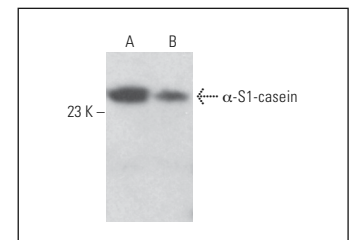
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



α -S1-casein (D-8): sc-376961. Western blot analysis of α -S1-casein expression in MCF7 (A), BT-20 (B) and SK-BR-3 (C) whole cell lysates.



α -S1-casein (D-8): sc-376961. Western blot analysis of α -S1-casein expression in MDA-MB-231 (A) and MDA-MB-468 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhang, K., et al. 2016. Lipopolysaccharide derived from the digestive tract activates inflammatory gene expression and inhibits casein synthesis in the mammary glands of lactating dairy cows. *Oncotarget* 7: 9652-9665.
2. Chang, G., et al. 2018. Histamine activates inflammatory response and depresses casein synthesis in mammary gland of dairy cows during SARA. *BMC Vet. Res.* 14: 168.

STORAGE

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