SANTA CRUZ BIOTECHNOLOGY, INC.

β-casein (m): 293T Lysate: sc-119005

BACKGROUND

Milk proteins are crucial for the development of all newborn mammals and caseins constitute the major proteins in mammalian milk. β- and κ-caseins are the only caseins present in human milk. The β-casein/κ-casein ratio is higher in colostrum than in transitional and mature milk and is related to a better digestibility of colostrum casein micelles by the neonate during the first days of life. Human β-casein-encoding gene (Bca) contains a highly phosphorylated site, which is responsible for the calcium-binding capacity of β-casein. A common set of transcription factors are required for the expression of β-casein. Multiple binding sites for Stat5, C/EBP β (CCAAT/enchancer-binding protein) and several half-sites for glucocorticoid receptor (GR) are identified in the distal human enhancer of the β-casein gene. β-casein gene transcription is regulated primarily by a composite response element (CoRE), which integrates signaling from the lactogenic hormones PRL, Insulin and hydrocortisone in mammary epithelial cells. NFκB functions as a negative regulator of β-casein gene expression during pregnancy by interfering with Stat5 tyrosine phosphorylation.

REFERENCES

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8. Wyszomierski, S.L. and Rosen, J.M. 2001. Cooperative effects of Stat5 (signal transducer and activator of transcription 5) and C/EBP β (CCAAT/enhancer-binding protein-β) on β-casein gene transcription are mediated by the glucocorticoid receptor. Mol. Endocrinol. 15: 228-240.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: Csn2 (mouse) mapping to 5 E1.

PRODUCT

β-casein (m): 293T Lysate represents a lysate of mouse β-casein transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

β-casein (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive β-casein antibodies. Recommended use: 10-20 µl per lane.

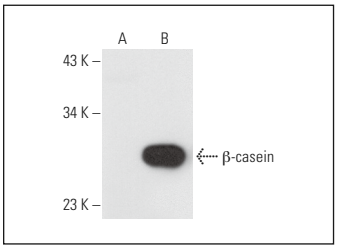
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

β-casein (H-4): sc-166530 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse β-casein expression in β-casein transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

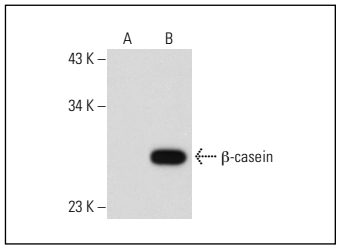
RECOMMENDED SUPPORT REAGENTS

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.

DATA



β-casein (H-4): sc-166530. Western blot analysis of β-casein expression in non-transfected: sc-117752 (**A**) and mouse β-casein transfected: sc-119005 (**B**) 293T whole cell lysates.



β-casein (H-7): sc-166520. Western blot analysis of β-casein expression in non-transfected: sc-117752 (**A**) and mouse β-casein transfected: sc-119005 (**B**) 293T 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.