SANTA CRUZ BIOTECHNOLOGY, INC.

κ-casein (I-20): sc-23780

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Milk proteins are crucial for the development of all newborn mammals, and caseins consititute the major proteins in mammalian milk. β- and κ-casein 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. κ-casein stabilizes the micellar structure of casein in mammalian milk. κ-casein gene is hypermethylated at the HpaII-MspI sites in the mammary gland of virgin, 10-day pregnant and nonlactating females, but not in 10-day lactating females. κ-casein expression inversely correlates to the extent of methylation of the κ-casein gene, except in the prolactin-stimulated virgin gland. In the presence of the lactogenic hormones, insulin, aldosterone, corticosterone and PRL, epidermal growth factor inhibits the induction of κ-casein mRNA in both mouse and rat mammary glands.

REFERENCES

1. Nakhasi, H.L., et al. 1984. Expression of κ-casein in normal and neoplastic rat mammary gland is under the control of prolactin. J. Biol. Chem. 259: 14894-14898.
2. Thompson, M.D. and Nakhasi, H.L. 1985. Methylation and expression of rat κ-casein gene in normal and neoplastic rat mammary gland. Cancer Res. 45: 1291-1295.
3. Vonderhaar, B.K. and Nakhasi, H.L. 1986. Bifunctional activity of epidermal growth factor on α- and κ-casein gene expression in rodent mammary glands *in vitro*. Endocrinology 119: 1178-1184.
4. Menon, R.S., et al. 1992. Regional localization of human β-casein gene (CSN2) to 4pter-q21. Genomics 13: 25-26.
5. Cuilliere, M.L., et al. 1999. Changes in the κ-casein and β-casein concentrations in human milk during lactation. J. Clin. Lab. Anal. 13: 213-218.
6. Iametti, B.S., et al. 2001. Primary structure of κ-casein isolated from mares' milk. J. Dairy Res. 68: 53-61.

SOURCE

κ-casein (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of κ-casein of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-23780 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

κ-casein (I-20) is recommended for detection of κ-casein of mouse and, to a lesser extent, 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).

Molecular Weight of κ-casein: 20 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.

RESEARCH USE

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