# κ-casein (m): 293T Lysate: sc-119007



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## **BACKGROUND**

Milk proteins are crucial for the development of all newborn mammals, and caseins consititute the major proteins in mammalian milk.  $\beta$ - and  $\kappa$ -casein are the only caseins present in human milk. The  $\beta$ -casein/ $\kappa$ -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.  $\kappa$ -casein stabilizes the micellar structure of casein in mammalian milk.  $\kappa$ -casein gene is hypermethylated at the Hpall-Mspl sites in the mammary gland of virgin, ten-day pregnant and nonlactating females, but not in ten-day lactating females.  $\kappa$ -casein expression inversely correlates to the extent of methylation of the  $\kappa$ -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  $\kappa$ -casein mRNA in both mouse and rat mammary glands.

## **REFERENCES**

- Nakhasi, H.L., Grantham, F.H. and Gullino, P.M. 1984. Expression of κ-casein in normal and neoplastic rat mammary gland is under the control of Prolactin. J. Biol. Chem. 259: 14894-14898.
- 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  $\alpha$  and  $\kappa$ -casein gene expression in rodent mammary glands *in vitro*. Endocrinology 119: 1178-1184.
- 4. Menon, R.S., Chang, Y.F., Jeffers, K.F., Jones, C. and Ham, R.G. 1992. Regional localization of human  $\beta$ -casein gene (CSN2) to 4pter-q21. Genomics 13: 25-26.
- 5. Cuilliere, M.L., Tregoat, V., Bene, M.C., Faure, G. and Montagne, P. 1999. Changes in the  $\kappa$ -casein and  $\beta$ -casein concentrations in human milk during lactation. J. Clin. Lab. Anal. 13: 213-218.
- 6. lametti, B.S., Tedeschi, G., Oungre, E. and Bonomi, F. 2001. Primary structure of  $\kappa$ -casein isolated from mares' milk. J. Dairy Res. 68: 53-61.

## CHROMOSOMAL LOCATION

Genetic locus: Csn3 (mouse) mapping to 5 E1.

# **PRODUCT**

 $\kappa\text{-case}\text{in}$  (m): 293T Lysate represents a lysate of mouse  $\,\kappa\text{-case}\text{in}$  transfected 293T cells and is provided as 100  $\mu\text{g}$  protein in 200  $\mu\text{l}$  SDS-PAGE buffer.

#### **APPLICATIONS**

 $\kappa\text{-casein}$  (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive  $\kappa\text{-casein}$  antibodies. Recommended use: 10-20  $\mu\text{I}$  per lane.

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

## **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.

## **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.

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