bs-0466R **[Primary Antibody]**

Beta casein Rabbit pAb

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DATASHEET

Host: Rabbit **Isotype:** IgG

Clonality: Polyclonal

GeneID: 443391

Target: Beta casein

Immunogen: KLH conjugated synthetic peptide derived from sheep Beta-casein: 151-222/222.

Purification: affinity purified by Protein A

Concentration: 1mg/ml

Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: Milk proteins are crucial for the development of all newborn mammals and caseins constitute the major proteins in mammalian milk. b- and k-caseins are the only caseins present in human milk. The b-casein/k-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 b-casein-encoding gene (Bca) contains a highly phosphorylated site, which is responsible for the calcium-binding capacity of b-casein. A common set of transcription factors are required for the expression of b-casein. Multiple binding sites for Stat5, C/EBPb (CCAAT/enchancer-binding protein) and several half-sites for glucocorticoid receptor (GR) are identified in the distal human enhancer of the b-casein gene. b-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. NFkB functions as a negative regulator of b-casein gene expression during pregnancy by interfering with Stat5 tyrosine phosphorylation

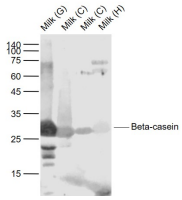
Applications: **WB** (1:500-2000)

Reactivity: Human, Sheep, Cow, Goat

Predicted MW.: 23 kDa

Subcellular Location: Secreted

VALIDATION IMAGES



Sample: Lane 1: Milk (Goat) Lysate at 2 ug Lane 2: Milk (Cow) Lysate at 30 ug Lane 3: Milk (Cow) Lysate at 3 ug Lane 4: Milk (Human) Lysate at 30 ug Primary: Anti-Beta-casein (bs-0466R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 23 kD Observed band size: 25-29 kD

SELECTED CITATIONS

- **[IF=6.1]** Liping Xie. et al. Methionine Promotes Milk Synthesis through the BRCC36-BRG1-mTOR Signaling Axis in Mammary Epithelial Cells. J AGR FOOD CHEM. 2024;XXXX(XXX):XXX-XXX WB ;Mouse. 38240727
- **[IF=5.895]** Xinling Wang. et al. Enhancement of BCAT2-Mediated Valine Catabolism Stimulates β-Casein Synthesis via

the AMPK-mTOR Signaling Axis in Bovine Mammary Epithelial Cells. J AGR FOOD CHEM. 2022;XXXX(XXX):XXX-XXX WB,IF ;Bovine. 35916279

- **[IF=6.117]** Gang Lin. et al. ARID1B blocks methionine-stimulated mTOR activation to inhibit milk fat and protein synthesis in and proliferation of mouse mammary epithelial cells. J NUTR BIOCHEM. 2023 Jan;:109274 IF ;Mouse. 36681308
- **[IF=6.048]** Hao Qi. et al. Methionine and leucine induce ARID1A degradation to promote mTOR expression and milk synthesis in mammary epithelial cells. J Nutr Biochem. 2021 Nov;:108924 WB,IF ;Cow. 34843932
- **[IF=5.561]** Xinyang Fan. et al. CEBPA-Regulated Expression of SOCS1 Suppresses Milk Protein Synthesis through mTOR and JAK2-STAT5 Signaling Pathways in Buffalo Mammary Epithelial Cells. FOODS. 2023 Jan;12(4):708 WB ;Bovine. 36832783