SANTA CRUZ BIOTECHNOLOGY, INC.

WAP (R-13): sc-14833

BACKGROUND

Whey acidic protein (WAP), a hormonally-regulated 14 kDa acidic, cysteine-rich protein, is a major whey protein found in rodent milk and may belong to a family of protease inhibitors. The WAP gene consists of four exons and three introns. The middle two exons encode the two cysteine-rich regions which form separate protein domains. WAP also contain a N-terminal signal peptide of 19 amino acids. The WAP gene is expressed in mammary epithelial cells, is induced several thousand-fold during pregnancy and is under the control of lactogenic hormones. Induction of WAP gene is caused by glucocorticoid, PRL, and insulin. Expression of WAP mRNA is highly dependent on stage of estrous, with detection restricted to midcycle. Low levels of WAP RNA are found in some nonmammary tissues such as tongue, pancreas, and pituitary gland, but not in others, for example, heart and brain. WAP secretion in milk occurs throughout lactation and is restricted to number of species, including mouse, rat, rabbit, camel, and pig. Mouse mammary epithelial cells cultured on basement membrane-type matrix express high levels of WAP mRNA and secrete the protein into the lumen. This expression is dependent upon the formation of the alveoli-like spheres.

REFERENCES

1. Hennighausen, L.G., Sippel, A.E., Hobbs, A.A., and Rosen, J.M. 1982. Comparative sequence analysis of the mRNAs coding for mouse and rat whey protein. Nucleic Acids Res. 10: 3733-3744.
2. Hennighausen, L.G. and Sippe, A.E. 1982. Mouse whey acidic protein is a novel member of the family of 'four-disulfide core' proteins. Nucleic Acids Res. 10: 2677-2684.
3. Campbell, S.M., Rosen, J.M., Hennighausen, L.G., Strech-Jurk, U., and Sippel, A.E. 1984. Comparison of the whey acidic protein genes of the rat and mouse. Nucleic Acids Res. 12: 8685-8697.
4. Andres, A.C., et al. 1987. Ha-ras oncogene expression directed by a milk protein gene promoter: tissue specificity, hormonal regulation, and tumor induction in transgenic mice. Proc. Natl. Acad. Sci. USA 84: 1299-1303.
5. Doppler, W., et al. 1991. Lactogenic hormone and cell type-specific control of the whey acidic protein gene promoter in transfected mouse cells. Mol. Endocrinol. 5: 1624-1632.
6. Hennighausen, L., et al. 1991. Regulation of expression of genes for milk proteins. Biotechnology 16: 65-74.

SOURCE

WAP (R-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of WAP of rat 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-14833 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

WAP (R-13) is recommended for detection of WAP of 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 WAP: 14 kDa.

Positive Controls: rat pituitary gland tissue.

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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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 or our catalog for detailed protocols and support products.