

WAP (A-9): sc-398341

BACKGROUND

Whey acidic protein (WAP), a hormonally-regulated 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 contains 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 porcine. 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

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- Chen, L.H., et al. 1999. A novel regulatory mechanism for whey acidic protein gene expression. *Cell Regul.* 1: 45-54.
- Schedin, P., et al. 2000. Estrous cycle regulation of mammary epithelial cell proliferation, differentiation, and death in the Sprague-Dawley rat: a model for investigating the role of estrous cycling in mammary carcinogenesis. *J. Mammary Gland Biol. Neoplasia* 5: 211-225.

CHROMOSOMAL LOCATION

Genetic locus: Wap (mouse) mapping to 11 A1.

SOURCE

WAP (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 63-89 within an internal region of WAP of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398341 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

WAP (A-9) is recommended for detection of WAP of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for WAP siRNA (m): sc-37182, WAP shRNA Plasmid (m): sc-37182-SH and WAP shRNA (m) Lentiviral Particles: sc-37182-V.

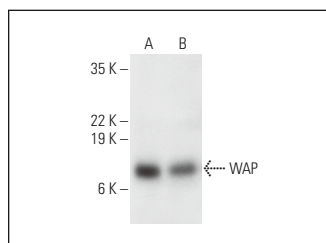
Molecular Weight of WAP: 14 kDa.

Positive Controls: mouse pituitary gland extract: sc-364246.

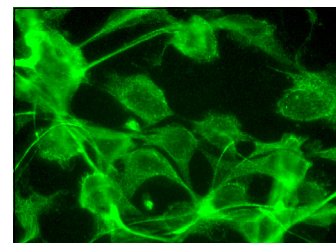
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



WAP (A-9): sc-398341. Western blot analysis of WAP expression in mouse pituitary gland (A) and rat pituitary (B) tissue extracts.



WAP (A-9): sc-398341. Immunofluorescence staining of formalin-fixed NIH/3T3 cells showing cytoplasmic and membrane localization.

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.