SANTA CRUZ BIOTECHNOLOGY, INC.

WAP (R-131): sc-25526

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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. 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.
2. Hennighausen, L.G., et al. 1982. Comparative sequence analysis of the mRNAs coding for mouse and rat whey protein. Nucleic Acids Res. 10: 3733-3744.
3. Campbell, S.M., et al. 1984. Comparison of the whey acidic protein genes of the rat and mouse. Nucleic Acids Res. 12: 8685-8697.

CHROMOSOMAL LOCATION

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

SOURCE

WAP (R-131) is a rabbit polyclonal antibody raised against amino acids 7-137 mapping at the C-terminus 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.

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.

APPLICATIONS

WAP (R-131) is recommended for detection of WAP of mouse and rat origin by Western Blotting (starting dilution 1:200, 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.

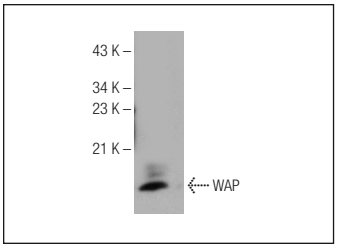
Molecular Weight of WAP: 14 kDa.

Positive Controls: rat pituitary gland extract: sc-364807 or CSMLO whole cell lysate: sc-364369.

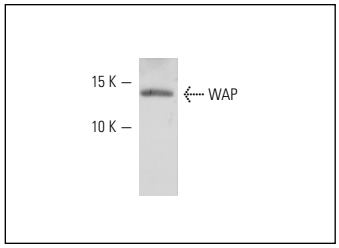
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



WAP (R-131): sc-25526. Western blot analysis of WAP expression in CSMLO whole cell lysate.



WAP (R-131): sc-25526. Western blot analysis of WAP expression in rat pituitary gland tissue extract.

SELECT PRODUCT CITATIONS

1. Santos, S.J., et al. 2008. Estrogen and progesterone are critical regulators of Stat5a expression in the mouse mammary gland. Endocrinology 149: 329-338.
2. Dong, J., et al. 2011. ID4 regulates mammary gland development by suppressing p38MAPK activity. Development 138: 5247-5256.
3. Otto, B., et al. 2013. Transcription factors link mouse WAP-T mammary tumors with human breast cancer. Int. J. Cancer 132: 1311-1322.