SANTA CRUZ BIOTECHNOLOGY, INC.

# WAP (C-10): sc-374648

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 examle, 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


1. Hennighausen, L.G., et al. 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 (C-10) is a mouse monoclonal antibody raised against amino acids 7-137 mapping at the C-terminus of WAP of rat origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

WAP (C-10) is available conjugated to agarose (sc-374648 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374648 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374648 PE), fluorescein (sc-374648 FITC), Alexa Fluor® 488 (sc-374648 AF488), Alexa Fluor® 546 (sc-374648 AF546), Alexa Fluor® 594 (sc-374648 AF594) or Alexa Fluor® 647 (sc-374648 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374648 AF680) or Alexa Fluor® 790 (sc-374648 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

WAP (C-10) is recommended for detection of WAP of mouse and rat 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.

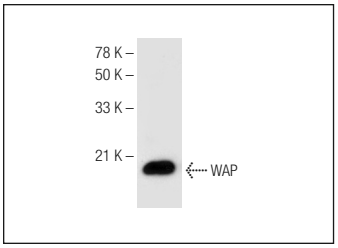
Molecular Weight of WAP: 14 kDa.

Positive Controls: CSMLO whole cell lysate: sc-364369 or mouse jejunum tissue extract.

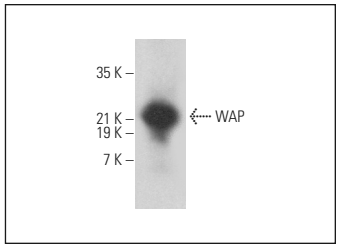
## RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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 (C-10): sc-374648. Western blot analysis of WAP expression in CSMLO whole cell lysate.




WAP (C-10): sc-374648. Western blot analysis of WAP expression in mouse jejunum tissue extract.

## SELECT PRODUCT CITATIONS


1. Shao, C., et al. 2021. Hormone-responsive BMP signaling expands myoepithelial cell lineages and prevents alveolar precocity in mammary gland. Front. Cell Dev. Biol. 9: 691050.
2. Josan, C., et al. 2022. Effect of δ-9-tetrahydrocannabinol and cannabidiol on milk proteins and lipid levels in HC11 cells. PLoS ONE 17: e0272819.


## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.