SANTA CRUZ BIOTECHNOLOGY, INC.

MUP (C-7): sc-166429

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major urinary proteins, known as MUPs, are pheromone-binding proteins that are excreted in the urine where they influence physiology and behavior. MUP mRNAs are present in the liver and several secretory tissues including lachrymal, submaxillary and mammary tissues. MUP proteins are the products of a multi-gene family that exhibit diverse tissue specific, developmental and hormonal controls. Several MUP protein isoforms exist and are expressed and secreted by sexually mature male mice. The broad chemical class of pheromones that bind to MUPs are believed to be accommodated within a β-barrel motif. Testosterone treatment influences the MUP phenotype by increasing MUP excretion and altering the relative proportions of each isoform. As an androgen-dependent protein present in adult male urine, MUP may influence olfactory cues through mediating differential pheromone-binding profiles.

REFERENCES

1. Szoka, P.R. and Paigen, K. 1978. Regulation of mouse major urinary protein production by the MUP-A gene. Genetics 90: 597-612.
2. Groen, A. and Lagerwerf, A.J. 1979. Genetically determined electrophoretic variants of the major urinary protein (MUP) complex in mouse urine. Anim. Blood Groups Biochem. Genet. 10: 107-114.

SOURCE

MUP (C-7) is a mouse monoclonal antibody raised against amino acids 1-180 representing full length MUP1 of mouse 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.

MUP (C-7) is available conjugated to agarose (sc-166429 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166429 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166429 PE), fluorescein (sc-166429 FITC), Alexa Fluor® 488 (sc-166429 AF488), Alexa Fluor® 546 (sc-166429 AF546), Alexa Fluor® 594 (sc-166429 AF594) or Alexa Fluor® 647 (sc-166429 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166429 AF680) or Alexa Fluor® 790 (sc-166429 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MUP (C-7) is recommended for detection of a broad range of MUP proteins 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

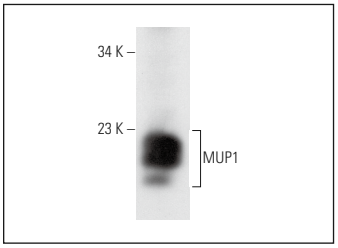
Molecular Weight of MUP: 21 kDa.

Positive Controls: mouse liver extract: sc-2256 or mouse kidney extract: sc-2255.

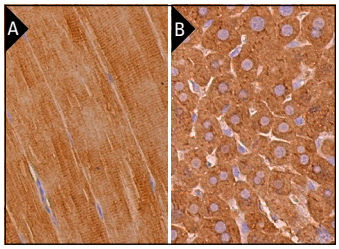
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MUP (C-7): sc-166429. Western blot analysis of MUP1 expression in mouse liver tissue extract.



MUP (C-7): sc-166429. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse skeletal muscle tissue showing cytoplasmic staining of myocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing cytoplasmic staining of hepatocytes (**B**).

SELECT PRODUCT CITATIONS

1. Anastasia, I., et al. 2021. Mitochondria-rough-ER contacts in the liver regulate systemic lipid homeostasis. Cell Rep. 34: 108873.
2. Gao, R., et al. 2022. Secreted MUP1 that reduced under ER stress attenuates ER stress induced Insulin resistance through suppressing protein synthesis in hepatocytes. Pharmacol. Res. 187: 106585.
3. Beetch, M., et al. 2023. Impact of placental mTOR deficiency on peripheral insulin signaling in adult mice offspring. J. Mol. Endocrinol. 71: e230035.

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 for detailed protocols and support products.