SANTA CRUZ BIOTECHNOLOGY, INC.

MUP (F-3): sc-374075

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 mouse 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., et al. 1978. Regulation of mouse major urinary protein production by the MUP-A gene. Genetics 90: 597-612.
2. Groen, A., et al. 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 (F-3) is a mouse monoclonal antibody raised against amino acids 1-181 representing full length MUP 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.

MUP (F-3) is available conjugated to agarose (sc-374075 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374075 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374075 PE), fluorescein (sc-374075 FITC), Alexa Fluor® 488 (sc-374075 AF488), Alexa Fluor® 546 (sc-374075 AF546), Alexa Fluor® 594 (sc-374075 AF594) or Alexa Fluor® 647 (sc-374075 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374075 AF680) or Alexa Fluor® 790 (sc-374075 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MUP (F-3) is recommended for detection of a broad range of MUP proteins 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).

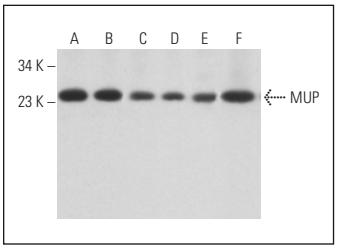
Molecular Weight of MUP: 21 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, A-10 cell lysate: sc-3806 or KNRK whole cell lysate: sc-2214.

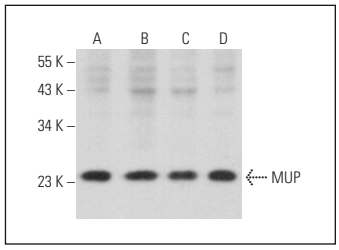
RECOMMENDED SUPPORT REAGENTS

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



MUP (F-3): sc-374075. Western blot analysis of MUP expression in C6 (**A**), KNRK (**B**), c4 (**C**), RAW 264.7 (**D**) and Sol8 (**E**) whole cell lysates and rat kidney tissue extract (**F**).



MUP (F-3): sc-374075. Western blot analysis of MUP expression in C6 (**A**), 3611-RF (**B**), A-10 (**C**) and PC-12 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Alaish, S.M., et al. 2013. Candidate genes for limiting cholestatic intestinal injury identified by gene expression profiling. Physiol. Rep. 1: e00073.
2. Torres, C., et al. 2015. The potential role of the glycoprotein osteoactivin/glycoprotein nonmetastatic melanoma protein B in pancreatic cancer. Pancreas 44: 302-310.
3. Luks, L., et al. 2017. Novel insights into renal D-amino acid oxidase accumulation: propiverine changes DAAO localization and peroxisomal size *in vivo*. Arch. Toxicol. 91: 427-437.
4. Tong, G., et al. 2022. Fibroblast growth factor 18 attenuates liver fibrosis and HSCs activation via the SMO-LATS1-YAP pathway. Pharmacol. Res. 178: 106139.
5. Poitras, T., et al. 2022. Repurposed major urinary protein pheromones and adult sensory neurons: roles in neuron plasticity and experimental diabetes. Am. J. Physiol. Endocrinol. Metab. 323: E53-E68.
6. Fan, J., et al. 2023. CK2 blockade alleviates liver fibrosis by suppressing activation of hepatic stellate cells via the Hedgehog pathway. Br. J. Pharmacol. 180: 44-61.

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.