

# MUP (E-18): sc-21856

## BACKGROUND

Mouse 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  $\beta$ -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. *Blood Groups Biochem. Genet.* 10: 107-114.
3. Shahan, K. and Derman, E. 1984. Tissue-specific expression of major urinary protein (MUP) genes in mice: characterization of MUP mRNAs by restriction mapping of cDNA and by *in vitro* translation. *Mol. Cell. Biol.* 4: 2259-2265.
4. Kuhn, N.J., Woodworth-Gutai, M., Gross, K.W. and Held, W.A. 1984. Subfamilies of the mouse major urinary protein (MUP) multi-gene family: sequence analysis of cDNA clones and differential regulation in the liver. *Nucleic Acids Res.* 12: 6073-6090.
5. Mucignat-Caretta, C., Caretta, A. and Baldini, E. 1998. Protein-bound male urinary pheromones: differential responses according to age and gender. *Chem. Senses* 23: 67-70.
6. Lucke, C., Franzoni, L., Abbate, F., Lohr, F., Ferrari, E., Sorbi, R.T., Ruterjans, H. and Spisni, A. 1999. Solution structure of a recombinant mouse major urinary protein. *Eur. J. Biochem.* 266: 1210-1218.

## SOURCE

MUP (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MUP of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21856 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

MUP (E-18) is recommended for detection of a broad range of MUP isoforms of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

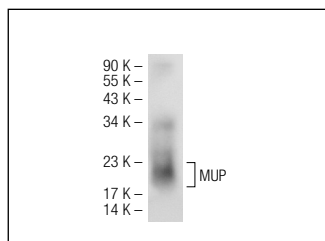
Molecular Weight of MUP: 21 kDa.

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



MUP (E-18): sc-21856. Western blot analysis of MUP expression in mouse kidney tissue extract.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **MUP (C-7): sc-166429**, our highly recommended monoclonal alternative to MUP (E-18).