SANTA CRUZ BIOTECHNOLOGY, INC.

MUP (C-21): sc-21855

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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.
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.
7. Timm, D.E., Baker, L.J., Mueller, H., Zidek, L. and Novotny, M.V. 2001. Structural basis of pheromone binding to mouse major urinary protein (MUP-I). Protein Sci. 10: 997-1004.

SOURCE

MUP (C-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MUP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21855 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MUP (C-21) 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), 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) 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.

SELECT PRODUCT CITATIONS

1. Tilton, R.G., Haidacher, S.J., Lejeune, W.S., Zhang, X., Zhao, Y., Kurosky, A., Brasier, A.R. and Denner, L. 2007. Diabetes-induced changes in the renal cortical proteome assessed with two-dimensional gel electrophoresis and mass spectrometry. Proteomics 7: 1729-1742.
2. Zhao, C., Guo, X.J., Shi, Z.H., Wang, F.Q., Huang, X.Y., Huo, R., Zhu, H., Wang, X.R., Liu, J.Y., Zhou, Z.M. and Sha, J.H. 2009. Role of translation by mitochondrial-type ribosomes during sperm capacitation: an analysis based on a proteomic approach. Proteomics 9: 1385-1399.

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.