SANTA CRUZ BIOTECHNOLOGY, INC.

UCMA (H-2): sc-515468

BACKGROUND

UCMA (Unique cartilage matrix-associated protein) is a 138 amino acid secreted protein that is highly expressed in resting chrondrocytes in developing long bones and is thought to function in the early phase of chrondrocyte differentiation. A furin-like protease processes UCMA into an N-terminal 37 amino acid peptide and a C-terminal 74 amino acid peptide, which is referred to as Unique cartilage matrix-associated protein C-terminal fragment (Ucma-C). Introduction of recombinant Ucma-C interferes with osteogenic differentiation of mesenchymal stem cells, MC3T3-E1 preosteoblasts and primary osteo-blasts. This suggests that Ucma may be involved in the negative regulation of osteogenic differentiation of osteochondrogenic precursor cells at the cartilage-bone interface and in peripheral zones of fetal cartilage.

REFERENCES

1. Chen, D., et al. 2004. Bone morphogenetic proteins. Growth Factors 22: 233-241.
2. Adams, S.L., et al. 2007. Integration of signaling pathways regulating chondrocyte differentiation during endochondral bone formation. J. Cell. Physiol. 213: 635-641.
3. Mackie, E.J., et al. 2008. Endochondral ossification: how cartilage is converted into bone in the developing skeleton. Int. J. Biochem. Cell Biol. 40: 46-62.
4. Surmann-Schmitt, C., et al. 2008. Ucma, a novel secreted cartilage-specific protein with implications in osteogenesis. J. Biol. Chem. 283: 7082-7093.
5. Tagariello, A., et al. 2008. Ucma—A novel secreted factor represents a highly specific marker for distal chondrocytes. Matrix Biol. 27: 3-11.
6. Le Jeune, M., et al. 2010. Identification of four alternatively spliced transcripts of the Ucma/GRP gene, encoding a new Gla-containing protein. Exp. Cell Res. 316: 203-215.

CHROMOSOMAL LOCATION

Genetic locus: UCMA (human) mapping to 10p13.

SOURCE

UCMA (H-2) is a mouse monoclonal antibody raised against amino acids 47-138 mapping at the C-terminus of UCMA of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

UCMA (H-2) is recommended for detection of UCMA of human 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 UCMA siRNA (h): sc-90398, UCMA shRNA Plasmid (h): sc-90398-SH and UCMA shRNA (h) Lentiviral Particles: sc-90398-V.

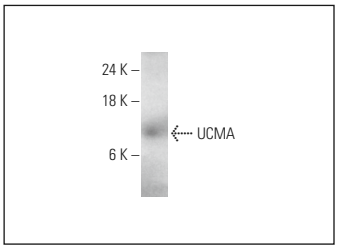
Molecular Weight of UCMA: 17 kDa.

Positive Controls: human spleen extract: sc-363779.

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



UCMA (H-2): sc-515468. Western blot analysis of UCMA expression in human spleen tissue extract.

RESEARCH USE

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