

# CRTAP (E-1): sc-393136

## BACKGROUND

CRTAP (cartilage associated protein), also known as CASP or LEPREL3 (leprecan-like 3), is a secreted protein localizing to the extracellular space that plays a role in collagen post-translational modifications, extracellular fibril assembly and intracellular trafficking. CRTAP is widely expressed with predominant expression in articular chondrocytes. It contains a signal peptide and a tetra-tricopeptide-like helical domain and is essential for normal bone formation. In the endoplasmic reticulum (ER), CRTAP forms a complex with Gros1 and CyPB (cyclophilin B) and is required for the efficient 3-hydroxylation of target prolyl residues in Collagen Type I molecules, the major structural proteins of skin and bone. Mutations in the gene encoding CRTAP can lead to autosomal recessive osteogenesis imperfecta (OI) type 7 and type 2B. OI, also known as brittle bone disease, is characterized by bone fragility and susceptibility to fractures. OI type 7 is a mild form of this disorder, while OI type 2B is a neonatal lethal condition.

## REFERENCES

1. Castagnola, P., et al. 1997. Cartilage associated protein (CASP) is a novel developmentally regulated chick embryo protein. *J. Cell Sci.* 110: 1351-1359.
2. Morello, R., et al. 1999. cDNA cloning, characterization and chromosome mapping of *Crtap* encoding the mouse cartilage associated protein. *Matrix Biol.* 18: 319-324.
3. Tonachini, L., et al. 1999. cDNA cloning, characterization and chromosome mapping of the gene encoding human cartilage associated protein (CRTAP). *Cytogenet. Cell Genet.* 87: 191-194.
4. Barnes, A.M., et al. 2006. Deficiency of cartilage-associated protein in recessive lethal osteogenesis imperfecta. *N. Engl. J. Med.* 355: 2757-2764.

## CHROMOSOMAL LOCATION

Genetic locus: CRTAP (human) mapping to 3p22.3; *Crtap* (mouse) mapping to 9 F3.

## SOURCE

CRTAP (E-1) is a mouse monoclonal antibody raised against amino acids 171-255 mapping within an internal region of CRTAP of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CRTAP (E-1) is available conjugated to agarose (sc-393136 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393136 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393136 PE), fluorescein (sc-393136 FITC), Alexa Fluor® 488 (sc-393136 AF488), Alexa Fluor® 546 (sc-393136 AF546), Alexa Fluor® 594 (sc-393136 AF594) or Alexa Fluor® 647 (sc-393136 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393136 AF680) or Alexa Fluor® 790 (sc-393136 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

CRTAP (E-1) is recommended for detection of CRTAP of mouse, rat and 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 CRTAP siRNA (h): sc-77940, CRTAP siRNA (m): sc-142588, CRTAP shRNA Plasmid (h): sc-77940-SH, CRTAP shRNA Plasmid (m): sc-142588-SH, CRTAP shRNA (h) Lentiviral Particles: sc-77940-V and CRTAP shRNA (m) Lentiviral Particles: sc-142588-V.

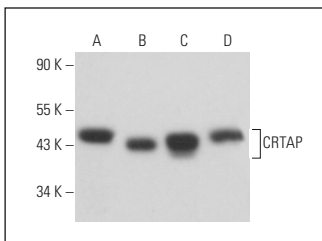
Molecular Weight of CRTAP: 47 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, EOC 20 whole cell lysate: sc-364187 or HeLa whole cell lysate: sc-2200.

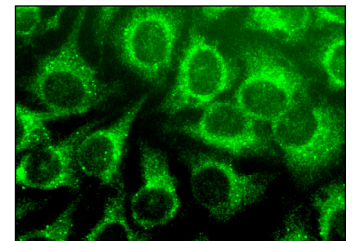
## RECOMMENDED SUPPORT REAGENTS

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



CRTAP (E-1): sc-393136. Western blot analysis of CRTAP expression in HeLa (A), EOC 20 (B), 3T3-L1 (C) and KNRK (D) whole cell lysates.



CRTAP (E-1): sc-393136. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Biondani, G., et al. 2018. Extracellular matrix composition modulates PDAC parenchymal and stem cell plasticity and behavior through the secretome. *FEBS J.* 285: 2104-2124.

## STORAGE

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

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