abcam

Product datasheet

Recombinant human COMP/Cartilage oligomeric matrix protein (Active) ab174082

1 References 1 Image

Description

Product name	Recombinant human COMP/Cartilage oligomeric matrix protein (Active)
Biological activity	Measured by its ability to induce adhesion of ATDC5 mouse chondrogenic cells, when COMP / Thrombospondin-5 immobilized at 1 µg/well. More than 45% of ATDC-5 cell adhesion will be induced.
Purity	> 90 % SDS-PAGE.
Endotoxin level	< 1.000 Eu/µg
Expression system	HEK 293 cells
Accession	P49747
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	QGQSPLGSDLGPQMLRELQETNAALQDVRELLRQQVREITFLKNTVMECD ACGMQQSVRTGLPSVRPLLHCAPGFCFPGVACIQTESGARCGPCPAGFTG NGSHCTDVNECNAHPCFPRVRCINTSPGFRCEACPPGYSGPTHQGVGLAF AKANKQVCTDINECETGQHNCVPNSVCINTRGSFQCGPCQPGFVGDQASG CQRRAQRFCPDGSPSECHEHADCVLERDGSRSCVCAVGWAGNGILCGRDT DLDGFPDEKLRCPERQCRKDNCVTVPNSGQEDVDRDGIGDACDPDADGDG VPNEKDNCPLVRNPDQRNTDEDKWGDACDNCRSQKNDDQKDTDQDGRGDA CDDDIDGDRIRNQADNCPRVPNSDQKDSDGDGIGDACDNCPQKSNPDQAD VDHDFVGDACDSDQDQDGDGHQDSRDNCPTVPNSAQEDSDHDGQGDACDD

DDDNDGVPDSRDNCRLVPNPGQEDADRDGVGDVCQDD
FDADKVVDKIDVC
PENAEVTLTDFRAFQTVVLDPEGDAQIDPNWVVLNQGREI
VQTMNSDPGL
AVGYTAFNGVDFEGTFHVNTVTDDDYAGFIFGYQDSSSFY
VVMWKQMEQT
YWQANPFRAVAEPGIQLKAVKSSTGPGEQLRNALWHTGD
TESQVRLLWKD
PRNVGWKDKKSYRWFLQHRPQVGYIRVRFYEGPELVADS
NVVLDTTMRGG
RLGVFCFSQENIIWANLRYRCNDTIPEDYETHQLRQA

Predicted molecular weight	82 kDa including tags
Amino acids	21 to 757
Tags	His tag C-Terminus
Additional sequence information	Mature protein. (AAI25093)

Specifications

Our **Abpromise guarantee** covers the use of **ab174082** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE Functional Studies
Form	Lyophilized
Additional notes	This product was previously labelled as COMP

Preparation and Storage

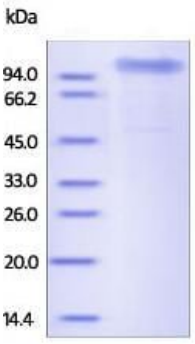
Stability and Storage	Shipped at 4°C. Store at 4°C prior to reconstitution. Upon reconsitution add a carrier protein (0.1% BSA). Store at -20°C or -80°C. Avoid freeze / thaw cycle. pH: 7.4 Constituents: 0.6% Tris, 0.58% Sodium chloride, 3% Trehalose 5-10% trehalose is commonly used for freeze drying, and after reconstitution, the trehalose is mostly about 3-5% This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	Reconstitute with sterile deionized water to a concentration of 200 µg/ml.

General Info

Function	May play a role in the structural integrity of cartilage via its interaction with other extracellular matrix proteins such as the collagens and fibronectin. Can mediate the interaction of chondrocytes with the cartilage extracellular matrix through interaction with cell surface integrin receptors. Could play a role in the pathogenesis of osteoarthritis. Potent suppressor of apoptosis in both primary chondrocytes and transformed cells. Suppresses apoptosis by blocking the

	activation of caspase-3 and by inducing the IAP family of survival proteins (BIRC3, BIRC2, BIRC5 and XIAP). Essential for maintaining a vascular smooth muscle cells (VSMCs) contractile/differentiated phenotype under physiological and pathological stimuli. Maintains this phenotype of VSMCs by interacting with ITGA7.
Tissue specificity	Abundantly expressed in the chondrocyte extracellular matrix, and is also found in bone, tendon, ligament and synovium and blood vessels. Increased amounts are produced during late stages of osteoarthritis in the area adjacent to the main defect.
Involvement in disease	Defects in COMP are the cause of multiple epiphyseal dysplasia type 1 (EDM1) [MIM:132400]. EDM is a generalized skeletal dysplasia associated with significant morbidity. Joint pain, joint deformity, waddling gait, and short stature are the main clinical signs and symptoms. EDM is broadly categorized into the more severe Fairbank and the milder Ribbing types. Defects in COMP are the cause of pseudoachondroplasia (PSACH) [MIM:177170]. PSAC is a dominantly inherited chondrodysplasia characterized by short stature and early-onset osteoarthrosis. PSACH is more severe than EDM1 and is recognized in early childhood.
Sequence similarities	Belongs to the thrombospondin family. Contains 4 EGF-like domains. Contains 1 TSP C-terminal (TSPC) domain. Contains 8 TSP type-3 repeats.
Developmental stage	Present during the earliest stages of limb maturation and is later found in regions where the joints develop.
Domain	The cell attachment motif mediates the attachment to chondrocytes. It mediates the induction of both the IAP family of survival proteins and the antiapoptotic response. The TSP C-terminal domain mediates interaction with FN1 and ACAN.
Cellular localization	Secreted > extracellular space > extracellular matrix.

Images



SDS-PAGE - Recombinant human COMP/Cartilage oligomeric matrix protein (Active) (ab174082)

SDS-PAGE analysis of ab174082 purity. Note: DTT-reduced Protein migrates as 110-130 kDa due to glycosylation.

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