

Human CHI3L2 / YKL-39 Protein (His Tag)

Catalog Number: 12162-H08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

CHIL2; YKL-39; YKL39

Protein Construction:

A DNA sequence encoding the human CHI3L2 (NP_003991.2) extracellular domain (Met 1-Leu 390) was fused with a polyhistidine tag at the C-terminus and a signal peptide at the N-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Lys 28

Molecular Mass:

The recombinant human CHI3L2 consists of 374 amino acids and has a predicted molecular mass of 42.2 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rhCHI3L2 is approximately 43 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

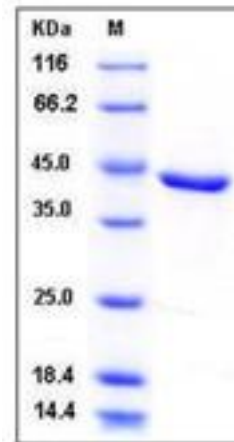
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Chondrocyte protein 39 (YKL-39), also known as Chitinase 3-like 2 (CHI3L2), is a secretory protein of articular chondrocytes belonging to the glycosyl hydrolase 18 family. Its highest expression is in chondrocytes, followed by synoviocytes, lung and heart. YKL-39/CHI3L2 is not detected in spleen, pancreas, and liver. YKL-39/CHI3L2 may also be expressed in developing brain and placenta. YKL-39/CHI3L2, a cartilage-related protein, is found to induce arthritis accompanied by pathologic changes in bone and cartilage. A better understanding of the immune response against cartilage-related components including YKL-39 may help to elucidate the pathological processes of arthritic disorders. Up regulation of YKL-39/CHI3L2 in osteoarthritic cartilage suggests that YKL-39/CHI3L2 may be a more accurate marker of chondrocyte activation than YKL-40, although it has yet to be established as a suitable marker in synovial fluid and serum. The decreased expression of YKL-40 by osteoarthritic chondrocytes is surprising as increased levels have been reported in rheumatoid and osteoarthritic synovial fluid, where it may derive from activated synovial cells or osteophytic tissue or by increased matrix destruction in the osteoarthritic joint. YKL-39 and YKL-40 are potentially interesting marker molecules for arthritic joint disease because they are abundantly expressed by both normal and osteoarthritic chondrocytes.

References

1. Sakata M, *et al.* (2002) YKL-39, a human cartilage-related protein, induces arthritis in mice. *Clin Exp Rheumatol.* 20(3): 343-50.
2. Areshkov PA, *et al.* (2010) Chitinase 3-like protein 2 (CHI3L2, YKL-39) activates phosphorylation of extracellular signal-regulated kinases ERK1/ERK2 in human embryonic kidney (HEK293) and human glioblastoma (U87 MG) cells. *Tsitol Genet.* 44(1): 3-9.
3. Steck E, *et al.* (2002) Enhanced expression of the human chitinase 3-like 2 gene (YKL-39) but not chitinase 3-like 1 gene (YKL-40) in osteoarthritic cartilage. *Biochem Biophys Res Commun.* 299(1): 109-15.

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Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>