

Human HAPLN1 Protein (His Tag)



Sino Biological
Biological Solution Specialist

Catalog Number: 10323-H08H

General Information

Gene Name Synonym:

CRTL1

Protein Construction:

A DNA sequence encoding the human HAPLN1 (NP_001875.1) (Met 1-Asn 354) was expressed with a C-terminal polyhistidine tag.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μ g 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: Asp 16

Molecular Mass:

The mature recombinant human HAPLN1 consisting of 350 amino acids has a calculated molecular mass of 40 kDa. As a result of glycosylation, it migrates with a molecular mass of approximately 52 kDa in SDS-PAGE under reducing conditions.

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:

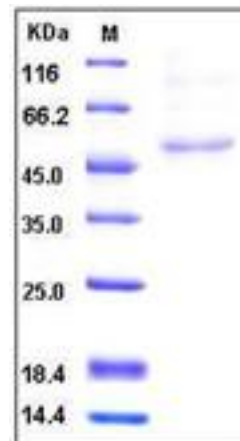
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Hyaluronan (HA) is a high MW glycosaminoglycan significantly involved in the formation and stability of extracellular matrix via its association with specific HA-binding proteins. HAPLN1, also known as CRTL1 (Cartilage Link Protein 1, cLP) and link protein, is a member of HA-binding protein (hyaladherins) family, and contains a common structural domain of about 100 amino acids that is termed a Link module with two α -helices and two antiparallel β -sheets. HAPLN1/CRTL1 stabilizes the interaction between hyaluronan (HA) and versican, two extracellular matrix components essential for cardiac development. Link module superfamily can be divided into three subgroups, and the HAPLN family are C domain-type proteins that have an extended structure with one N-terminal V-type Ig-like domain followed by two link modules. In cartilage, aggrecan forms - cLP stabilized aggregates with HA that provides the tissue with its load bearing properties. HAPLN1 is a component of follicular matrix, was shown to enhance cumulus-oocyte complex (COC) expansion in vitro. HAPLN1 may promote periovulatory granulosa cell survival, which would facilitate their differentiation into luteal cells.

References

- 1.Sun GW, *et al.* (2003) Follicle-stimulating hormone and insulin-like growth factor I synergistically induce up-regulation of cartilage link protein (Crtl1) via activation of phosphatidylinositol-dependent kinase/Akt in rat granulosa cells. *Endocrinology*. 144(3): 793-801.
- 2.Wirrig EE, *et al.* (2007) Cartilage link protein 1 (Crtl1), an extracellular matrix component playing an important role in heart development. *Dev Biol*. 310(2): 291-303.
- 3.Liu J, *et al.* (2010) Periovulatory expression of hyaluronan and proteoglycan link protein 1 (Hapln1) in the rat ovary: hormonal regulation and potential function. *Mol Endocrinol*. 24(6): 1203-17.

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