

PRODUCT INFORMATION



Decorin Long Isoform (human, recombinant)

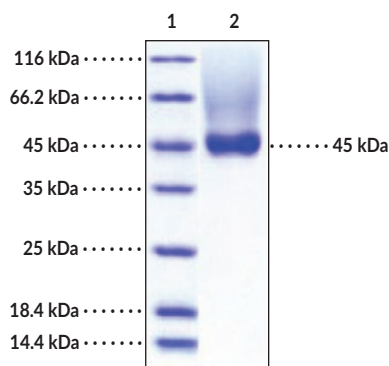
Item No. 32095

Overview and Properties

Synonyms: Bone Proteoglycan II, PG-S2, PG-40, PG-II
Source: Recombinant human C-terminal His-tagged decorin expressed in HEK293 cells
Amino Acids: 17-359
Uniprot No.: P07585
Molecular Weight: 39.4 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥95% estimated by SDS-PAGE
Supplied in: Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Decorin Long Isoform

SDS-PAGE Analysis of Decorin Long Isoform.

This protein has a calculated molecular weight of 39.4 kDa. The apparent molecular weight runs as a smear around 45 kDa and higher under reducing conditions due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM

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Description

Decorin is an extracellular matrix protein and member of the leucine-rich proteoglycan family that influences many cellular functions, including adhesion, growth, differentiation, proliferation, and survival.^{1,2} Alternative splicing of *DCN* pre-mRNA generates five isoforms of varying length.³ Decorin contains a core protein that mediates ligand binding and is composed of a cysteine-rich domain covalently linked to a chondroitin or dermatan sulfate glycosaminoglycan chain and a leucine-rich repeat (LRR) domain that can bind up to three N-linked oligosaccharides.^{4,5} The core protein is flanked by an N-terminal signal peptide and propeptide domain, which regulate decorin secretion, and a C-terminal domain that is truncated in mutant forms of *DCN*. Decorin is secreted as a monomer and expressed by endothelial cells and cancer cells in a variety of tissues.¹ It is induced by autophagic stimuli, including mTOR inhibition and nutrient deprivation, and downregulated by the adhesion protein periostin.^{6,7} Decorin binds to and sequesters a variety of molecules, including extracellular matrix proteins, growth factors and their receptors, cytokines, enzymes, hormones, and lipoproteins.⁴ It also enhances integrin-collagen interactions, promoting angiogenesis.⁸ Intravenous administration of the decorin core protein reduces tumor growth and lung metastases in an MTLn3 mouse xenograft model.⁹ Decreased decorin tumor levels are associated with low disease-free and overall survival rates in patients with spindle cell sarcomas.⁸ Frameshift mutations in *DCN* have been associated with congenital stromal corneal dystrophy, a condition characterized by corneal opacity.⁵ Cayman's Decorin Long Isoform (human, recombinant) protein consists of 354 amino acids, has a calculated molecular weight of 39.4 kDa, and a predicted N-terminus of Gly17 after signal peptide cleavage. Differential glycosylation of decorin results in the presence of multiple protein bands causing the observed smear at approximately 45 kDa and higher when observed by SDS-PAGE under reducing conditions.

References

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