

# Recombinant human DSPG3 protein

Catalog Number: ATGP4123

## PRODUCT INFORMATION

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### Expression system

HEK293

### Domain

20-322aa

### UniProt No.

Q99645

### NCBI Accession No.

NP\_004941.2

### Alternative Names

Epiphycan, Dermatan sulfate proteoglycan 3, Proteoglycan-Lb, PG-Lb, Small chondroitin/dermatan sulfate proteoglycan, EPYC, DSPG3, PGLB, SLRR3B, epiphycan proteoglycan

## PRODUCT SPECIFICATION

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### Molecular Weight

35.5kDa (309aa)

### Concentration

0.5mg/ml (determined by Absorbance at 280nm)

### Formulation

Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol

### Purity

> 95% by SDS-PAGE

### Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

### Biological Activity

Measured by the ability of the immobilized protein to support the adhesion of Saos-2 human osteosarcoma cells. When cells are added to human DSPG3 1.25 ug/ml and human fibronectin 0.5 ug/ml coated plates. This effect is more to 60%.

### Tag

His-Tag

### Application

SDS-PAGE, Bioactivity

### Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

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## BACKGROUND

### Description

DSPG3, also called epiphycan/EPYC or PG-Lb, is a class III subfamily member of the SLRP (small leucine-rich proteoglycans) family. DSPG3 is found predominantly in epiphyseal cartilage, although DSPG3 mRNA is also detected in mouse testis and human ligament and placenta. In mouse, expression begins in mid-gestation as an intermediate marker for chondrogenesis, peaks at birth and declines thereafter. Deletion of DSPG3 in mouse results in a mild postnatal phenotype that worsens synergistically when the co-expressed SLRP biglycan is also deleted. The double-mutant phenotype includes premature osteoarthritis, indicating a role for DSPG3, in cooperation with other SLRPs, in stability of the collagen matrix and maintenance of joint integrity. Recombinant human DSPG3, fused to His-tag at C-terminus, was expressed in HEK293 cell and purified by using conventional chromatography techniques.

### Amino acid Sequence

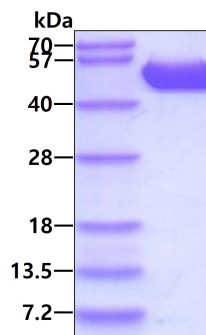
APLESINYD SETYDATLED LDNLYNYENI PVDKVEIEIA TVMPSGNREL LTPPPQPEKA QEEEEEEEST PRLIDGSSPQ  
EPEFTGVLGP HTNEDFPTCL LCTCISTTVY CDDHELDAIP PLPKNTAYFY SRFNRIKKIN KNDFASLSDL KRIDLTSNLI  
SEIDEDAFRK LPQLRELVLK DNKIRQLPEL PTTLTFIDIS NNRLGRKGIK QEAFKDMYDL HHLYLTDNNL DHIPLLPEN  
LRALHLQNNN ILEMHEDTFC NVKNLTYIRK ALEDIRLDGN PINLSKTPQA YMCLPRLPVG SLV<HHHHHH>

### General References

Michelle Deere., et al, (1999) Genome Res. 9:449-456.  
Jan Johnson., et al, (1999) Dev. Dyn. 216:499-510.  
S. Nuka., et al, (2010) Osteoarthritis Cartilage 18:88-96.

## DATA

### SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain