

# Cartilage Oligomeric Matrix Protein (COMP) is an Aggregator of Growth Factors

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## ABSTRACT

Researchers at the University of California, Davis have discovered cartilage oligomeric matrix proteins (COMP) can bind and become an aggregate of growth factors.

## FULL DESCRIPTION

COMP is an essential extracellular matrix protein that forms a “molecular bridge” between extracellular matrix components and provides a structure on which to bind. The modular structure of COMP acts as a scaffold aggregating multiple growth factors and presenting them to the cell surface. In addition to binding multiple TGF-β1 molecules, COMP contains additional binding sites for growth factors and cytokines, including members of the VEGF, FGF, and HGF families. COMP’s cell surface binding properties bring the aggregate complex of COMP and associated growth factors to the cell surface preventing diffusion of the growth factors, increasing the physiological relevance of the signaling, especially where multiple signals are required, and ultimately increasing the growth-related transcription within the cell.

## APPLICATIONS

- ▶ Growth-factor/cytokine therapeutics such as wound and muscles healing, post-operative recovery, and preventive therapies
- ▶ Tissue engineering applications
- ▶ Stem cell based therapies

## FEATURES/BENEFITS

- ▶ Aggregates and presents multiple growth factors
- ▶ Binds to cell surfaces to enhances growth factor activity
- ▶ Allows for localized, longer term delivery of growth factors to cells

## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,133,259	09/15/2015	2011-089

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## INVENTORS

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## OTHER INFORMATION

### KEYWORDS

Cartilage oligomeric matrix protein, COMP, transforming growth factor, TGF-β1

### CATEGORIZED AS

- ▶ **Medical**
  - ▶ Rehabilitation
  - ▶ Stem Cell
  - ▶ Therapeutics

### RELATED CASES

2011-089-0, 2012-227-0