

BMP7 as a multifactorial growth factor for cartilage homeostasis

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BMP7 as a Multifactorial Growth Factor for Cartilage Homeostasis

Osteoarthritis (OA) is the most common chronic joint condition. However, treatment of osteoarthritis is mainly symptomatic by alleviating pain to postpone total joint replacement, while disease-modifying drugs have not reached the clinic yet. Understanding the molecular pathways involved in OA disease initiation and progression is of great importance to allow for the identification of new molecular treatment targets.

The studies described in this thesis demonstrate how BMP7 bioactivity can influence different OA chondrocyte phenotypes and may potentially be used in treatment of OA. We identified peptides mimicking BMP7 bioactivity, which can positively influence the OA chondrocyte phenotype. Additionally, we demonstrated an interaction between BMP7 and chondrocyte protein translational capacity. This novel biomolecular knowledge may provide novel avenues for the development of future OA disease-modifying treatments.

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