

# **Advances in the pharmacotherapeutic applications of hyaluronic acid: A comprehensive review**

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## **ABSTRACT**

Natural non-sulfated glycosaminoglycan hyaluronic acid (HA), a biopolymer, has a variety of functions in controlling different biological processes. However, articular cartilage and synovial fluid contain more HA than other tissues and fluids. Over the past few decades, HA has been employed as a pharmacotherapeutic for a variety of conditions, such as osteoarthritis, cartilage regeneration, and wound healing. HA is used to create scaffold materials appropriate for tissue engineering because of its unique physicochemical characteristics. Recent cutting-edge research has shown that the molecular weight ( $M_w$ ) of HA affects its efficacy. This paper provided a summary of recent developments in several pharmacotherapeutic applications and recommended research areas in order to improve HA activity.

## **KEYWORDS**

Biomedical application Biopolymer Glycosaminoglycan Tissue Engineering Scaffolds

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