Application of Hyaluronic Acid and Its Functionalization Technology in the Field of Scars

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Hyaluronic acid (HA) is one of the main components of the extracellular matrix (ECM) and plays a crucial role in wound healing through its binding to cell surface receptors, exerting important biological functions related to wound healing, such as promoting cell proliferation, adhesion, regulating inflammation, and alleviating pain.The functionalization technology of hyaluronic acid, achieved by chemically modifying the active groups, not only retains the original functions of hyaluronic acid but also imparts new material and biological properties suitable for clinical applications. This technology has been widely used in the biomedicine field, including targeted drug delivery, drug carriers, hydrogels, tissue engineering scaffolds, and cell matrices.Numerous clinical studies have proven that functionalized hyaluronic acid plays a vital role in promoting wound healing, preventing scar formation, and scar repair.