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Sulfation degree not origin of chondroitin sulfate derivatives modulates keratinocyte response

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Graphical abstract

Highlights – 3 – 5 with maximum 85 characters, including spaces

- Chondroitin sulfate (CS) derivatives sulfation-dependently bind mediator proteins
- Semi-synthetic and extractive CS variants interact comparable with VEGF-A
- High-sulfated CS variants (sCS3) enhance the keratinocyte release of active TGF- β 1
- The keratinocyte proliferation and migration is decelerated in the presence of sCS3
- sCS3-based biomaterials may rebalance hyperproliferative epidermis in chronic wounds

Abstract

Chondroitin sulfate (CS) sulfation-dependently binds transforming growth factor- β 1 (TGF- β 1) and chronic wounds often accompany with epidermal hyperproliferation due to downregulated TGF- β

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