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## Dariush Honardoust

*British Columbia Academy of Medical Aesthetics and Skin Care, Canada*

### **Decorin that regulates dermal wound healing and reduces scar formation can also alleviates skin laxity leading to tissue tightening and wrinkle reduction**

Small leucine rich proteoglycans, decorin and fibromoduline are extracellular matrix molecules that regulate collagen fibrillogenesis and inhibit transforming growth factor- $\beta$  (TGF- $\beta$ 1) activity; thus, they may play a critical role in regulating scar formation and wound healing. Down regulation of decorin and fibromoduline after wound healing in deep injuries to the skin plays an important role in the development of fibrosis and hypertrophic scars. Decreased anti fibrotic molecules such as decorin and fibromoduline in matrix of deep dermis of the skin and the unique features of the associated fibroblasts including an increased sensitivity to TGF- $\beta$ 1 stimulation contribute to the development of hypertrophic scars after injuries involving the deep dermis. Studying the characteristics of superficial dermal injuries that heal with minimal scarring will help us identify therapeutic approaches for tissue engineering and wound healing. Decorin also promotes neocollagenesis leading to skin tightening and reduction of skin laxity, fine lines and wrinkles. Direct injection of decorin or incorporating it with hyaluronic acid based injectable soft tissue dermal fillers can substantially enhance skin rejuvenation and tightening by promoting collagen fibrillogenesis and deposition at the site of injection. Decorin leads to firmer skin when is injected in laxing areas where the sign of aging is apparent as fine lines and wrinkles. Further studies are warranted to explore the significant role of decorin subcutaneous treatment in increasing the quality and quantity of collagen as a skin anti-aging therapeutic strategy.

### **Biography**

Dariush Honardoust has earned his Doctorate (Cranio Facial) from the Faculty of Dentistry, University of British Columbia. He has completed his Post doctorate from the Division of Plastic Surgery, University of Alberta and Master's degree in Anatomy & Cell Biology from University of Western Ontario. The highlights of his qualifications include excellent record of teaching and clinical and research productivity and manuscript publications, conducting research projects and training graduate and undergraduate students, student advising and curriculum development. He is the President of the Canadian Association of Medical Spas and Aesthetic Surgeons. He also serves as the teaching Professor at the prestigious BC Academy of Medical Aesthetics & Skin Care.

[admin@camacs.ca](mailto:admin@camacs.ca)