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Fractones are specialized extracellular matrix structures that regulate the fate of stem cell progeny. Abundant extracellular matrices (ECM) exist in the eye and play crucial roles in homeostatic and pathologic signaling pathways. Among other components, ocular ECM include laminin and heparan sulfate proteoglycan (HSPG). Fractones have been identified in the brain by immunolabeling each [1], however, little if any data, identifying and characterizing analogous structures in the eye exists. Furthermore, defective vascular and neural stem cell maturation play critical roles in the pathogenesis of ocular neovascular and neurodegenerative conditions, respectively. Given the capacity of fractones to regulate stem cell fate, their identification and characterization in the eye, may provide a better understanding of these blinding conditions, allowing the development of rational therapeutic strategies.

References

[1] F. Mercier, "Fractones: extracellular matrix niche controlling stem cell fate and growth factor activity in the brain in health and disease," *Cell. Mol. Life Sci.*, vol. 73, pp. 4661–4674, Dec. 2016.