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Stem Cells in the Limbal Stroma

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FOOTNOTES

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ABSTRACT The corneal stroma contains a population of mesenchymal cells subjacent to the limbal basement membrane with characteristics of adult stem cells. These ‘niche cells’ support limbal epithelial stem cell viability. In culture by themselves, the niche cells display a phenotype typical of mesenchymal stem cells. These stromal stem cells exhibit a potential to differentiate to multiple cell types, including keratocytes, thus providing an abundant source of these rare cells for experimental and bioengineering applications. Stromal stem cells have also shown the ability to remodel pathological stromal tissue, suppressing inflammation and restoring transparency. Because stromal stem cells can be obtained by biopsy, they offer a potential for autologous stem cell treatment for stromal opacities. This review provides an overview of the status of work on this interesting cell population.