

Stem Cell Technology in Glaucoma

(Reference Outline)

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I. Stem Cell Biology basics – and hurdles in their role in glaucoma

What is a stem cell?

Where are stem cells located in our bodies?

How do tissue stem cells differ from stem cells that are cultured?

Differentiation is what it is all about

II. Types of stem cells: Embryonic stem cells

III. Stem cell targets in other ocular tissues

Cornea

Retina (RPE, ganglion cells)

www.eurostemcell.org/films

IV. Challenges in stem cell application for glaucoma

The stem cells will need to travel a long way (from GCL to LGN) and have to connect properly

They will have to be prepared optimally

They will have to be introduced to the appropriate location for the first time to have any hope

V. The potential for human stem cells (from adipose tissue) in neuroregeneration

VI. The dark side: Transplantation of highly proliferative cell types may carry a risk of tumorigenesis

VII. Key issues and expert commentary.