

Laboratory of Signaling and Epigenetics

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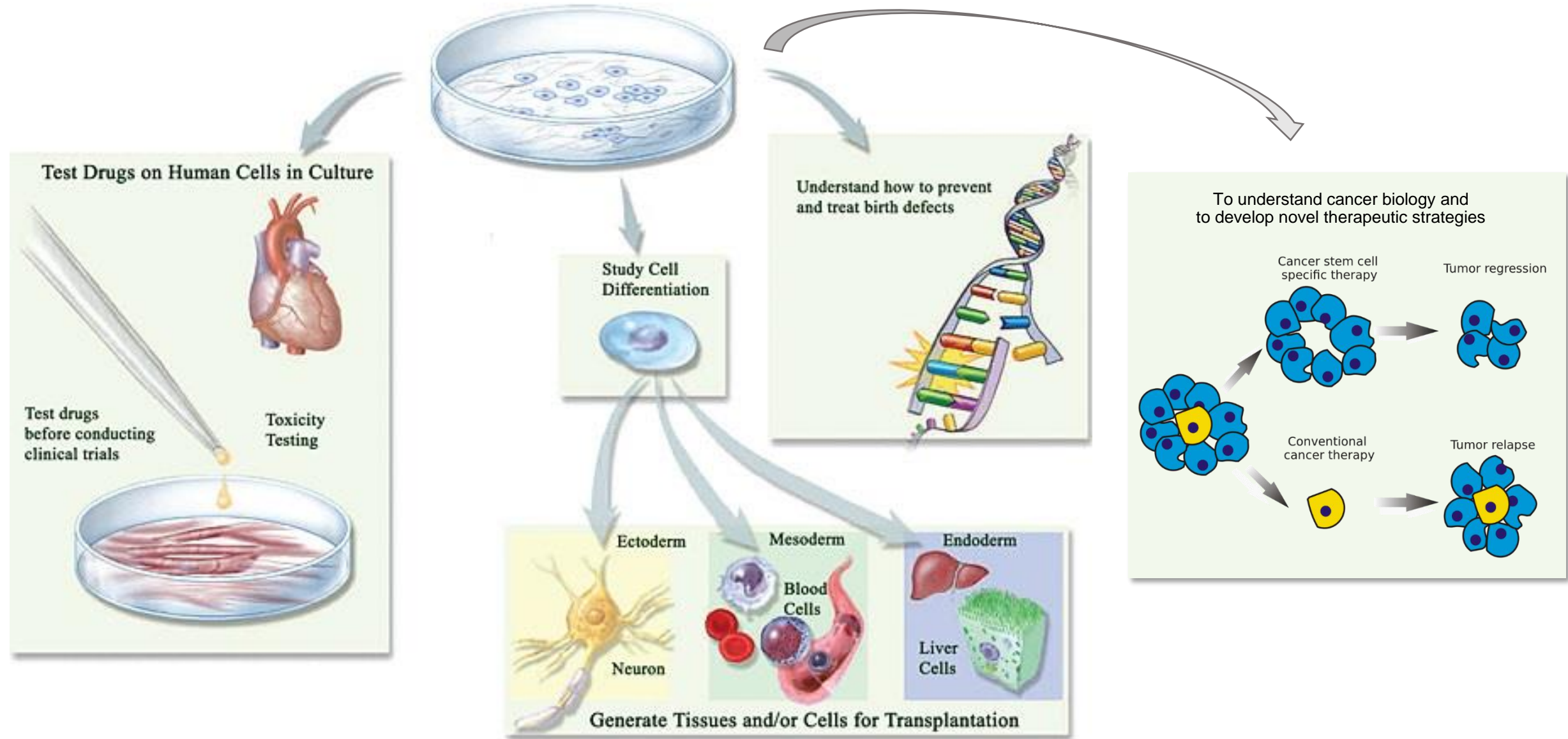
A background image showing a network of red fluorescent cells, likely neurons or stem cells, with bright red cell bodies and thin, branching processes extending across a dark field.

Lab goal:

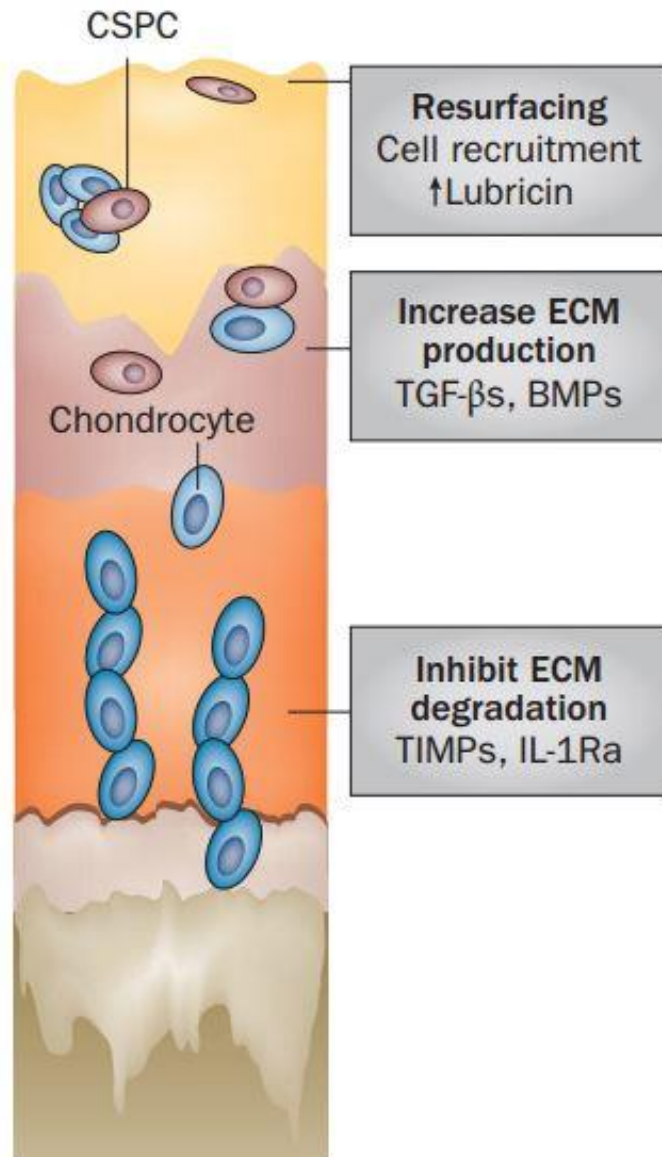
(1) To understand how stem cells regenerate their differentiated derivatives to maintain tissue homeostasis.

(2) To understand how cell signaling pathways transfer their information to maintain or alter epigenetic memory, particularly mediated by RNA regulators.

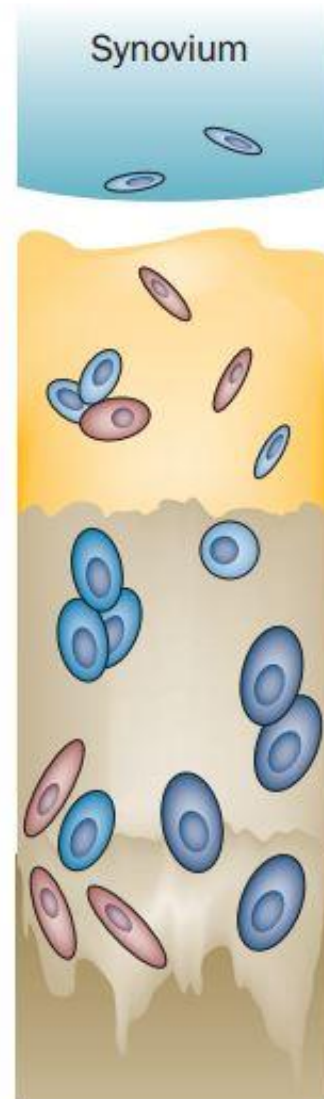
Application of stem cells in biomedicine



a Early-stage OA



b Later OA



Unknowns

- Biology of migratory cells: origin, function, target
- Consequences of cell migration
- Possibility of generating new protective cartilage on abnormal subchondral bone

Defects of mesenchymal stem cells and chondrocyte stem/progenitor cells (CSPC) may lead to osteoarthritis.

Projects available

- (1) Role of mesenchymal stem cells and chondrocyte progenitors in osteoarthritis**
- (2) Regulation of stem cell phenotypes of mesenchymal stem cells by cell signaling and epigenetics**