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Stem Cells

Produced for the CRC for Premium Quality Wool undergraduate program by; Prof. Phil Hynd, The University of Adelaide.

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What are stem cells?

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unlimited self-renewal (high proliferative potential)

committed progenitor cells (transient amplifying cells)

terminally-differentiated cells

stem cells are vital to the maintenance of tissues

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Characteristics of stem cells

- primitive (large nucleus, undifferentiated, no specific markers?)
- high proliferative potential
- slow-cycling, label-retaining
- found in well-vascularised, protected regions
- respond to stimuli such as wounding, tumour agents etc.

contain some markers (K19, β-integrin, bcl-2)