

STEM CELL NICHE: LOCATION, STRUCTURE AND FUNCTION

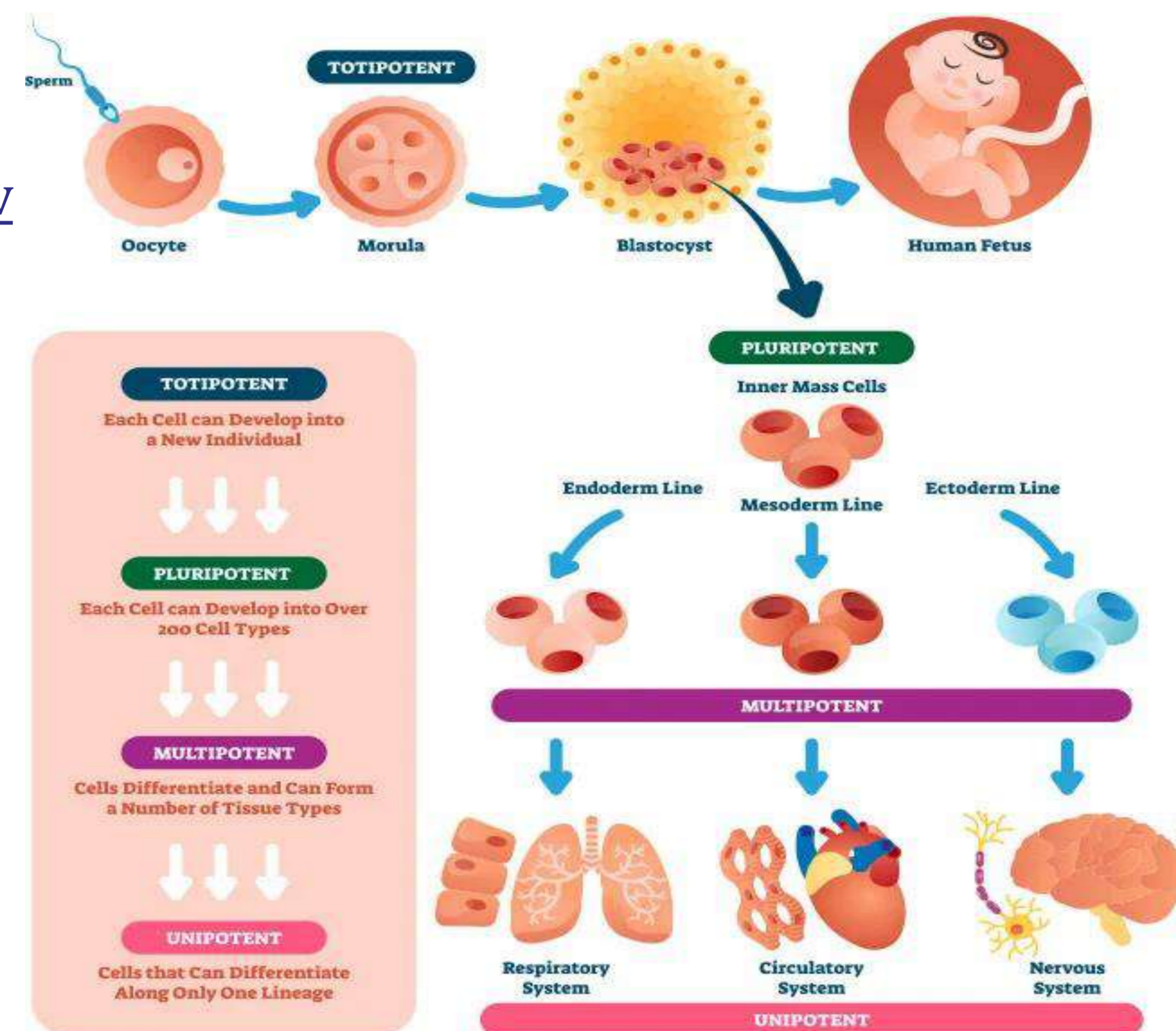
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Introduction: Stem cell niche is a specific histological structure capable of regulation tissue proliferation and proper functioning. The stem cell niche typically has a spatial organization that provides anatomical and functional interactions. These interactions are mutual and dynamic. **Purpose:** To study the location, structure and function of the stem cell niche by analyzing bibliographic sources. **Keywords:** niche, stem cell, regeneration, tissue, homeostasis

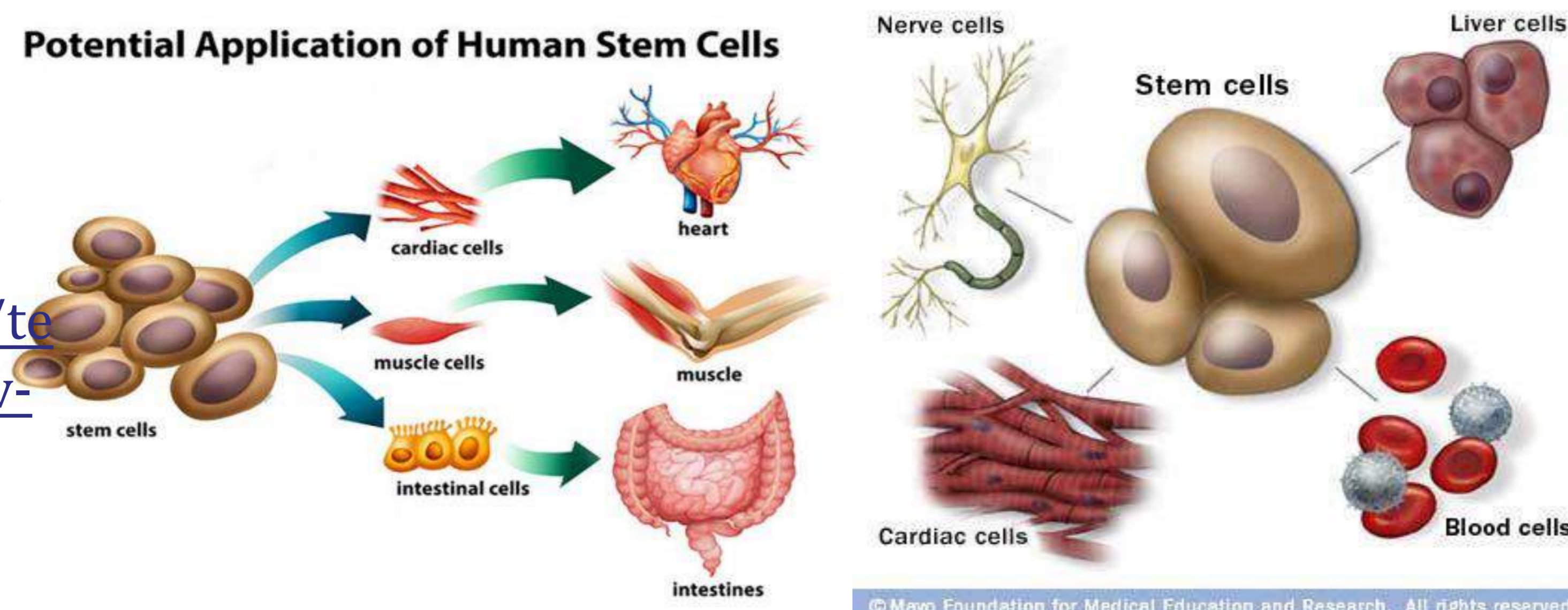
1. Types of stem cells

<http://informationonstemcellsweebly.com/types-of-stem-cells.html>



2. Different levels of stem cell potency

Gilbert, Scott. "Stem Cells." *Developmental Biology*, by Michael Barresi, 11th ed., Sinauer Associates, Inc., 2018.



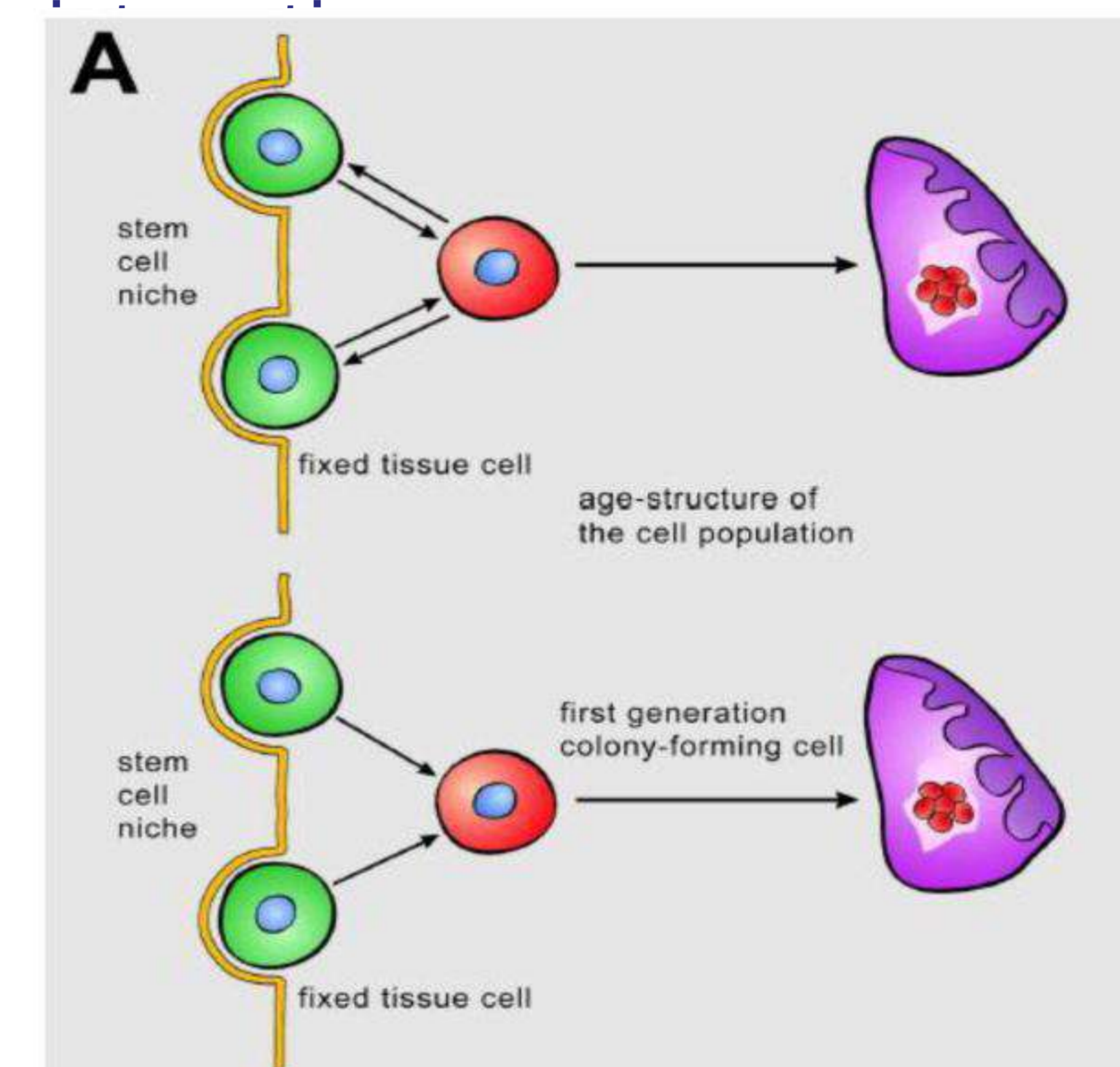
3. Regenerative medicine:

potential application of human Stem Cells

<https://www.mayoclinic.org/tests-procedures/bone-marrow-transplant/in-depth/stem-cells/art-20048117>

Conclusions: Stem cell niche is the microenvironment that maintains stem cell homeostasis.

Material and methods: To realize the research, we reviewed materials from Medscape and PubMed, 2006-2020 yy. We specified the localization of the niche, the types of stem cells and the possible

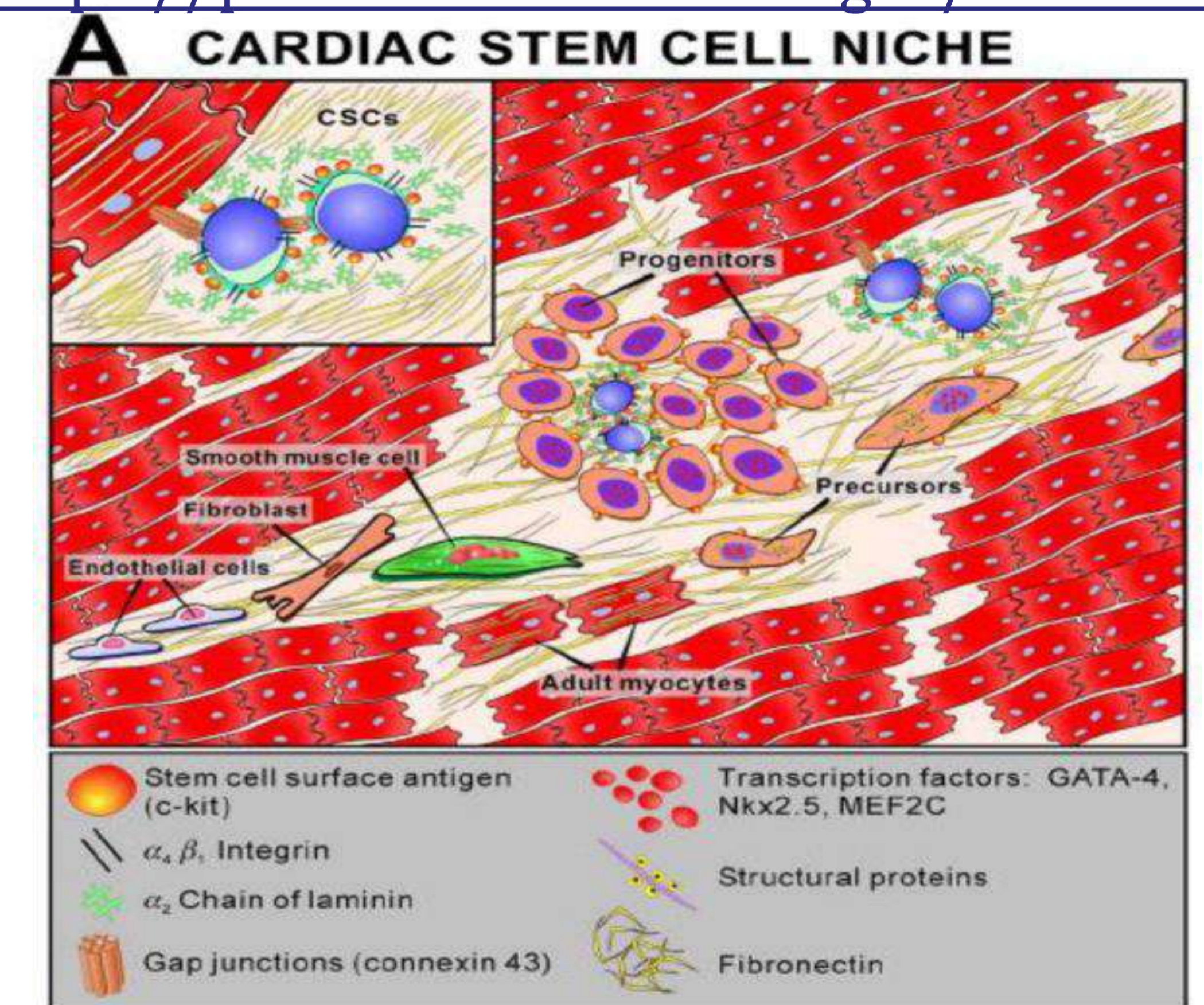


4. Schematic representation of bone marrow niches

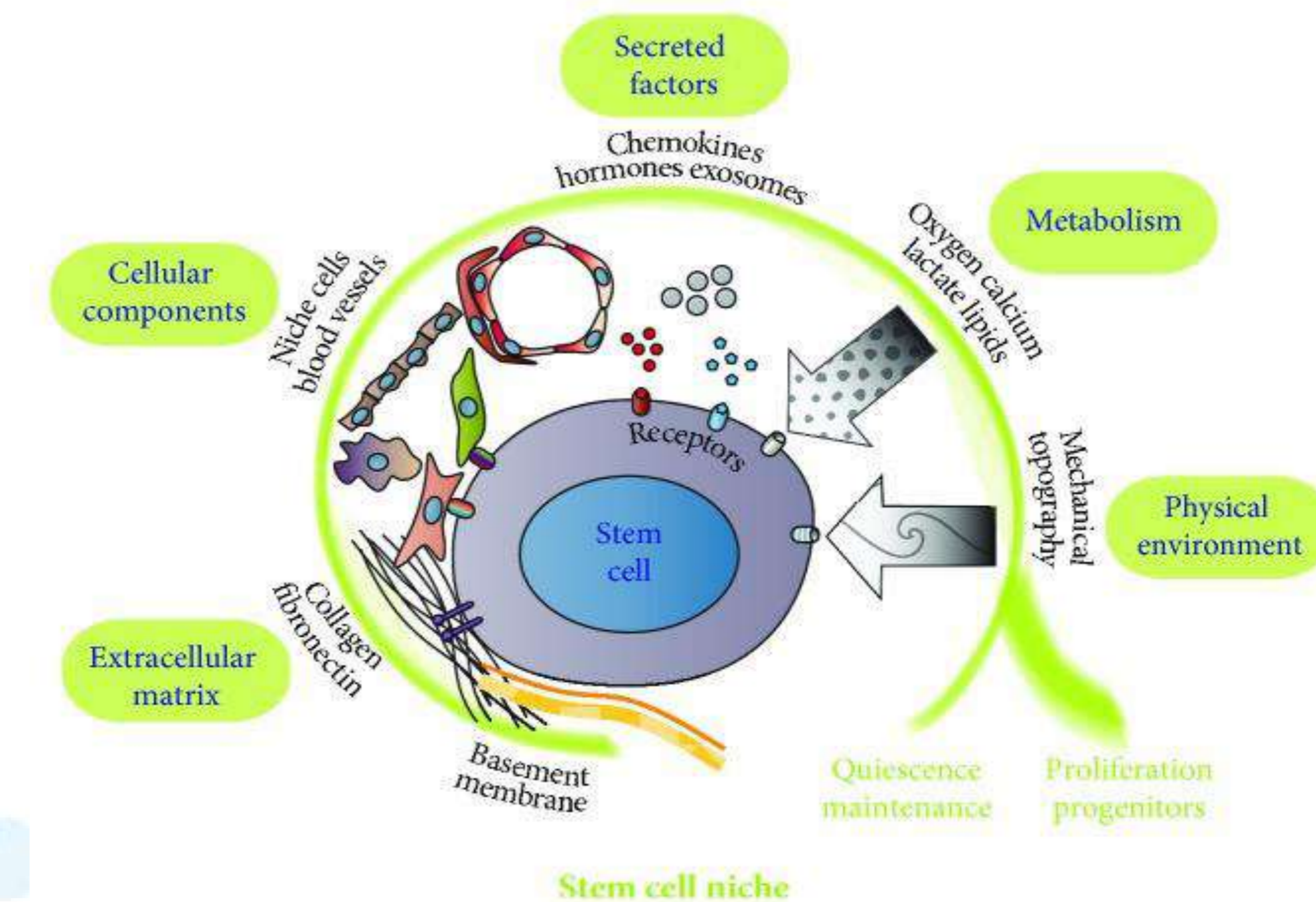
<https://pubmed.ncbi.nlm.nih.gov/25267073/>

5. Schematic representation of the cellular and extracellular components of a CSC niche

<https://pubmed.ncbi.nlm.nih.gov/25267073/>



Results: The niche is basic unit of tissue physiology, integrates signals of proliferation, regeneration, differentiation and migration of stem cells. The niche is formed by the ensemble of stromal cells and factors they produce, including adhesive signals, soluble factors and matrix proteins.



6. The interactions between adult stem cells and their environment.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6204189/>