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## Regulation endogenous stem and progenitor cells: A new approach for degenerative diseases treatment

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We discuss various possibilities use of stem cells for the degenerative diseases treatment. Pharmacological modulation of adult stem cells and progenitor cells may be effective approach in the chronic diseases treatment. In our point of view stem cells or progenitor cells may be the target for drugs; we investigated drugs that selectively impact on the target. This experimental study was aimed at finding stem cells and progenitor cells which may be potential targets. We screened the compounds, which can change the properties of stem cells and progenitor cells, and thus can impact pathogenesis of pulmonary fibrosis, diabetes, and myelosuppression. We investigated distribution and properties of mesenchymal and hematopoietic stem cells, progenitor hematopoietic cells, pan-hematopoietic cells, progenitor fibroblast cells, pluripotent and oligopotent progenitor b-cells, bronchial stem cells (cells Clara), progenitor hemangiogenesis and endothelial cells in various tissues and organs (bone marrow, blood, pancreas, lung) from adult mice with myelosuppression, pneumofibrosis or diabetes. It was shown role of the stem cells and progenitor cells in the pathogenesis of disease and tissue regeneration. We defined pharmacological agents which are able to influence on the pathogenesis and tissue regeneration by changing properties of endogenous stem and progenitor cells of a certain class.

### Biography

Evgenii Skurikhin, Professor, Medicine Doctor (PhD Medicine), now is a Chief of research team by Laboratory of Pathological Physiology and Experimental Therapy in the Institute of Pharmacology of Siberian Division of the Russian Academy of Medical Sciences (Tomsk). He got his Medicine Doctor's degree (PhD) at the Institute of Pharmacology of RAMS SD (2004), Member of the Society of Regenerative Medicine RU, Member of the Society of Pathophysiology RU, Member of the Society of Pharmacology RU, and Member of the Dissertation Council of the Institute of Pharmacology. He is Specialist in regenerative medicine. His works were supported by RFFI Grant 00-04-48745 (2000-2002), MAS Grant 01-04-06153 (2001), project by Regional contest targeted basic research "The Study by stimulation and mobilization of endogenous stem cells as the basis for creating a new process for the production of cellular material for transplantation" (2008). He studies endogenous stem cells and progenitor cells role in the pathogenesis of myelosuppression, idiopathic fibrosis of lung, neurosis and diabetes mellitus 1, Monoamines and system of blood. He headed six scientific works. He published 6 books (2 on English), 88 articles, has 18 Patent RU.

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