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Genotype induced behavior of perivascular mesenchymal stem cells (pericytes) *in vitro*

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Pericytes are a source of mesenchymal stem cells (MSCs) having multilineage differentiation potential that are found on the wall of blood vessels. We have isolated, purified and characterized pericytes from liver as CD146⁺CD34⁻CD45⁻CD56⁻ from wild-type (WT) and myostatin null (Mstn^{-/-}) mice. CD146⁺ cells isolated from WT liver expressed myostatin and pericytes from both the genotypes expressed pericyte and adult stem cell markers and did not express αSMA and GFAP. CD146⁺ cells could be readily differentiated into adipogenic, osteogenic and chondrogenic lineages. When subjected to myogenic differentiation, these CD146⁺ cells behaved contrastingly as fibrogenic and myogenic precursors when isolated from two different genotypes WT and Mstn^{-/-} respectively. Presence or absence of myostatin *in vitro* may play a role in determining the fate of pericytes like cells in liver. Furthermore CD146⁺ cells from the liver can be useful candidates for cell therapy studies.

Biography

Sudheer Shenoy P holds a PhD degree in Biochemistry from Kuvempu University, India in 2005. He has about 20 years of pre and post-PhD research experience in Tissue Engineering and Stem Cell Biology in India and Singapore. He holds key skills in the field of Generating Clinical, as well as, R&D grade Stem Cells. He has several international publications and 3 patents to his credit. His present focus is basic biology of adult perivascular mesenchymal stem cells and also various aspects of its application in cell therapy.

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