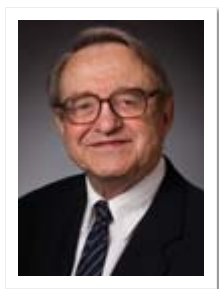


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Potential therapies with adult stem/progenitor cells from bone marrow (MSCs) and the proteins they produce in response to injuries from injured tissues

Therapeutic benefits in a number of models for human disease have been reported with administration of the adult stem/progenitor cells from bone marrow referred to as mesenchymal stem cells or mesenchymal stromal cells (MSCs). We observed that intravenously administered MSCs improved myocardial infarction in mice by being trapped in lung where they created microemboli that activated the cells to synthesize TSG-6, and the TSG-6 reduced the excessive inflammatory response that damaged cardiomyocytes (Lee et al. Cell Stem Cell 2009). We also observed that intraocular administration of TSG-6 reduced the excessive inflammatory response that damaged the cornea in a rodent model for chemical injury of the eye (Oh et al. PNAS 2010). In parallel experiments we observed that retinal degeneration was decreased in a rat model for retinitis pigmentosa by intravitreal administration of STC-1 (Roddy et al. ARVO abstract, 2011), an anti-apoptotic protein produced by hMSCs in response to signals from apoptotic cells (Block et al. Stem Cells 2009). The results indicate that some but not all the therapeutic benefits observed with administration of MSCs in disease models can be explained by the cells being activated to express either TSG-6 or STC-1. Supported in part by NIH grants HL 073755, PO1 RR 17447, and 1R21EY020962.

Biography

Darwin J Prockop was born in August 31, 1929; Palmerton, PA and educational profile includes
S. S. Palmer High School, 1947
Haverford College, A.B. (Philosophy and Pre-Medical), 1951
Brasenose College, Oxford University, M.A. (Animal Physiology), 1953
University of Pennsylvania, M.D., 1956
George Washington University, Ph.D. (Biochemistry), 1961
And his fellowships: as includes
New York Hospital-Cornell Medical Center, Intern-in-Medicine, 1956-1957

MCP Hahnemann University (formerly Allegheny University of the Health Sciences),

- Director, Center for Gene Therapy, 1996-2000
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And he is editorial board member of so many national and international reputed journals.