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Understanding the natural role of stem cells in the body: A new understanding of disease formation?

Endogenous stem cells essentially constitute the natural repair system of the body. Upon an injury, bone marrow-derived stem cells are mobilized and migrate into the injured tissue where they participate in the process of tissue repair. Yet, a number of studies have revealed that this phenomenon also takes place to a lesser extent, day to day, without the presence of an injury. Altogether, recent studies indicate that most organs and tissues are in constant state of renewal with turnover rates that vary from months to several years. Even the heart is believed to renew itself at least once during an average lifetime. In parallel, a number of recent studies have associated the development of a number of degenerative diseases with a reduced number of circulating stem cells. Altogether, this data provide the basis for a novel understanding of disease development. Degenerative diseases donot develop due to intrinsic cellular loss or external factors but rather following an imbalance between cellular loss and tissue renewal. In other words, a decline or failure of endogenous repair might be the underlying cause for the development of various degenerative diseases. Consequently, supporting endogenous repair by enhancing stem cell mobilization, circulation and migration into tissues could constitute a novel approach in healthcare.

Biography

Christian Drapeau holds a Bachelor's degree in Honors Neurophysiology and a Master's degree in Neurology and Neurosurgery from Canada's McGill University in Montreal, Quebec, with work performed at the Montreal Neurological Institute. His thesis was on epileptogenesis and the role of eicosanoids in long-term potentiation and he completed further scientific training in variable projection microscopy at Bradford Research Institute and in ion-selective microelectrode recordings at St-Anne Hospital in France.

Mr. Drapeau has been the Director of Research and Development at Cell Tech International and then Desert Lake Technologies, before co-founding STEMTech HealthSciences and becoming its Chief Science Officer. He is the author of the Stem Cell Theory of Renewal, detailed in his book Cracking the Stem Cell Code.

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