Cell Therapy-2013

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Cell & Gene Therapy

October 23-25, 2013 Holiday Inn Orlando International Airport, USA

"Multi cellular Micro Machines" derived from a newly discovered Human adult stem cell: A new paradigm in tissue reconstruction?

Abdulkader Rahmo

National Commission for Biotechnology, Syria

Abstract

We have recently introduced a novel human adult stem cell type: Small, Mobile Stem cells (SMS cells), exhibiting exceptional characteristics conducive to morphogenesis in standard media conditions. We have outlined and defined details of several complex new processes, in a simple parametrically "poor" set up.

In vitro and *de novo* established macrostructures demonstrate high regenerative potency. The observed structures appear to be highly relevant to multiple tissues of *in vivo* model systems.

Observed complex in vitro constructive activity is mediated by unit assemblies of cooperating cells which we designate as Multi-cellular Micro Machines (M_3). M_3 are built by cells derived from cultured SMS cells. They emanate reproducibly *in vitro* and can be phenotypically categorized according to constructive activity. M_3 are not artificial constructs of the *in vitro* SMS cell system, but are representative of recurring components of diverse native tissues.

The choreographic self organization of SMS cells and their derivatives into various functional multicellular (M_3) units is suggestive of autoinduced and autopoietic processes typical of organ genesis. Exploring these tissue constructive actors would usher a new era in tissue engineering, and enhance prospects for autologous tissue transfer.

Biography

Abdulkader Rahmo has completed his Diploma in Biochemistry in 1988 at the Swiss Federal Institute of Technology (ETHZ), his Ph.D in Biochemistry and Molecular biology in 1994 at the University of Southern California (USC) in los Angeles USA. He is currently heading the medical biotech section at the National Commission for Biotechnology. He is sole author of several scientific books and coauthor of many scientific articles.