

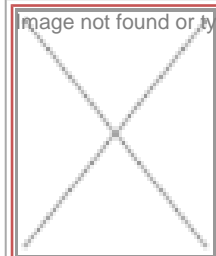
Pioneering research in stem cells

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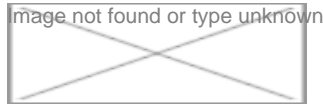


Dr Anish Sen Majumdar
CSO, Stempeutics

Despite being a biochemist by training, Dr Anish Sen Majumdar is a formidable authority in the cutting-edge field of stem cell research due to his experience, spanning more than 19 years with more than 60 publications in peer reviewed journals and 10-to-15 patents for processes regarding the isolation and characterization of stem cells. Currently, the CSO at Stempeutics, one of India's leading companies dealing with stem cell-based therapies, Dr Majumdar has been leading the process of obtaining permission for and conducting path breaking trials for stem cell therapies using mesenchymal stem cells.

Born in Aizwal, the capital of Mizoram, Dr Majumdar had his primary education in different parts of the country. After his Masters in Biochemistry, due to an interest in immunology, Dr Majumdar decided to study the immunological aspects of cholera as a part of his PhD thesis at the University of Calcutta. He then pursued his post doctoral research at the University of Pennsylvania, which involved studying cell response to various growth factors. During this period he was successful in isolating a new growth factor from human placenta.

Dr Majumdar adds, “From that point onward, I was very curious about how a cell responds to growth factors. At the same time, since I had a good background in immunology, I was lucky enough to be able to do another post doctoral fellowship at Stanford University under, Dr Irving Weissman, who was the first to isolate and characterize mouse hematopoietic stem cells from the bone marrow. There I worked on mouse mesenchymal stem cells and the differentiation of committed progenitor cells that give rise to T cells.”



On completing his second post doctoral fellowship, Dr Majumdar started his journey in the industry with companies such as Becton Dickinson, Geneic Sciences and later Rhone-Poulenc (now Aventis). He got an opportunity to work on stem cells when he joined Geron in 1998. At Geron, he rose from the position of a group leader to senior director of immunology and cell therapy over the course of 10 years. Working at a leading stem cell company like Geron allowed Dr Majumdar to lead important projects, such as developing a vaccine for cancer using telomerase technology and using embryonic stem cells for therapy in conditions like diabetes.

The exciting developments in India in the field of stem cells soon beckoned in the form of an offer to head the division for stem cell research at Reliance Life Sciences (RLS) in India, where his team successfully developed three new stem cell lines. Dr Majumdar's work at Stempeutics too revolves around adult mesenchymal stem cells. Dr Majumdar adds, “Mesenchymal stem cells are non immunogenic, that is these can be derived from one person and will not cause an immune response if injected into another. Also they secrete necessary growth factors.”

Under Dr Majumdar's guidance, Stempeutics is now conducting the first-of-its-kind clinical trials in India for its product, Stempeucel, for various disorders such as chronic obstructive pulmonary disorder and osteoarthritis (critical limb ischemia and acute myocardial infection). Of these, Dr Majumdar informs that trials for osteoarthritis are being simultaneously conducted in Malaysia as well as in India and will hopefully be completed by the end of this year, allowing for a launch of the product by 2014.

Furthermore, for autologous treatments, the research team at Stempeutics is also working on a device that could automate the process of autologous stem cell transplants and bring it to the clinic rather than processing the samples at the labs along with other projects involving stromal vascular cells fraction for cosmetic treatments. Dr Majumdar adds that he is very hopeful that these technologies will be available to the Indian public in the coming years.

Manasi Vaidya in Bangalore