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Dental stem cells derived from impacted wisdom teeth for regenerative dentistry

Christian Morsczeck
University Hospital Regensburg, Germany

Ectomesenchymal dental stem cells could be feasible tools for dental tissue engineering. Impacted wisdom teeth are an interesting source for dental stem cells. Dental follicle cells (DFCs) are a promising example, since they are capable of differentiation into various dental tissue cells, such as osteoblasts or cement oblasts. Moreover, an additional type of dental stem cells is located in a pad-like tissue adjacent to the apex of the developing tooth, which was designated as the third molar pad. These dental neural crest-derived progenitor cells (dNC-PCs) are considered to have ultipotency of differentiation. This presentation will overview the following areas i) DFCs for studying molecular mechanism of the development of the periodontium, ii) dNC-PCs for studying the development of neural crest-derived bone iii) a comparison of the differentiation of dNC-PCs and DFCs iv) a discussion about the versatility of DFCs and dNC-PCs for regenerative dentistry.

Biography

Christian Oliver Morsczeck, male, studied biology. He received a Diploma in biology from the University of Bochum in 1996 and his PhD from the university cologne in 2000. After short postdoctoral trainings in 2001 he led the dental follicle stem cell project at the Center of advanced European studies and research (Caesar) between January 2002 and february2005. From March 2005untill September 2006 he was employed as a project leader at the Research and Development Department of the Danish Bio Tech Company ACE Biosciences (Odense,DK).In October 2006 he started his recent position as a group leader for stem cell biology at the University of Regensburg. In his career he has published 33 per reviewed papers and is co-inventor of 4 patents. He was reviewer for 13 different journals and is member of 3 editorial boards.