Various regenerative methods including Guided Bone/Tissue Regeneration (GBR/GTR) using various membranes have been developed. Although using such GBR/GTR membranes was successful for partial periodontal treatment, they cannot be used for the regeneration of complete periodontium. For this purpose, multilayered scaffolds are now being developed. Such scaffolds may include various biomaterials, stem cells, and growth factors in a multiphasic configuration in which each layer is designed to regenerate specific section of the periodontium.
1) Tecniche di colture cellulari in vitro

2) Western blotting

3) Utilizzo e funzioni del programma word


Periodontitis is a common inflammatory disease in dentistry that may lead to tooth loss and aesthetic problems. Periodontal tissue has a sophisticated architecture including four sections of alveolar bone, cementum, gingiva, and periodontal ligament fiber; all these four can be damaged during periodontitis. Thus, for whole periodontal regeneration, it is important to form both hard and soft tissue structures simultaneously on the tooth root surface without forming junctional epithelium and ankylosis.
1) Caratterizzazione delle cellule staminali

2) Tecniche di estrazione di proteine e acidi nucleici

3) Utilizzo e funzioni del programma excel

Craniomaxillofacial bone defects seriously affect the appearance, function, and psychological status of patients. Traditional autologous bone grafting is very challenging due to the limited sources of bone tissue, excessive surgical trauma, and high incidence of related complications. Craniomaxillofacial bone tissue engineering (BTE) strategies based on bone marrow mesenchymal stem cells (BMSCs) are emerging as an alternative. Craniomaxillofacial BMSCs (C-BMSCs) are homologous to craniomaxillofacial bones, which develop from the mesoderm and neural crest.
1) Allestimento preparati per il TEM

2) Tecniche di analisi del secretoma

3) Utilizzo e funzioni del programma word


This article aims to compare the differences in osteogenesis, angiogenesis, and immune regulation of C-BMSCs and other sources of BMSCs, and propose ideas and strategies such as 3D printing and mechanotherapy to completely harness the characteristics of C-BMSCs. In conclusion, C-BSMCs are a promising source of stem cells for the repair and reconstruction of craniomaxillofacial bone defects, and more attention should be paid to accelerating their basic research and clinical practices.