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JR Mauney, V Volloch, DL Kaplan - Tissue engineering, 2005 - liebertpub.com

... 5. A scalable approach to obtain mesenchymal stem cells with osteogenic potency on apatite microcarriers. 10 December 2013 | Journal of Biomaterials Applications, Vol ... 6. Cell-based approaches to the engineering of vascularized bone tissue. Cytotherapy, Vol ... C: Methods, Vol ...

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Stem cell technology and bioceramics: from cell to gene engineering

H Ohgushi, AI Caplan - ... : An Official Journal of The Society for ..., 1999 - Wiley Online Library

... new bone-forming capability, which can thereby provide tissue engineering approaches to patients ... derived from donor marrow MSCs have been reported; thus, this approach provides an ... The current experimental results indicate that, regardless of the fabrication methods, if the ...

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Application of Stem Cells in Orthopedics

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3328166>

Feb 23, 2012 · Here, autologous **bone marrow** or autologous **mesenchymal stem cells** was successfully implanted in a number of patients to enhance fracture/osteotomy healing, fill **bone** defects, treat pseudarthrosis, **bone** cysts, osteonecrosis, or enhance spinal fusion. Relevant clinical applications are summarized in Table 1.

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Author: Andreas Schmitt, Martijn van Griensven, ...

Publish Year: 2012

Improved Human Bone Marrow Mesenchymal Stem Cell ...

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Improved Human **Bone Marrow Mesenchymal Stem Cell Osteogenesis** in 3D Bioprinted Tissue Scaffolds with Low Intensity Pulsed Ultrasound Stimulation Xuan Zhou , 1 Nathan J. Castro , 1 Wei Zhu , 1 Haitao Cui , 1 Mitra Aliabouzar , 1 Kausik Sarkar , 1 and Lijie Grace Zhang a, 1, 2, 3

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Author: Xuan Zhou, Nathan J. Castro, Wei Zhu, H...

Publish Year: 2016



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[The Holy Grail of Orthopedic Surgery: Mesenchymal Stem ...](#)

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Jun 18, 2017 · Stem cell (SC) use in orthopedic surgery has the potential to change the field of orthopedics from one dominated by surgical replacement and reconstruction to one of bioregeneration and prevention . Around the 1960s, a unique group of bone marrow cells was discovered with the capability to differentiate into various other cells [2, 3].

Cited by: 18

Author: Roberto Berebichez-Fridman, Ricardo Gó...

Publish Year: 2017

[Stem cells in Osteoporosis: From Biology to New ...](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6589256>

Jun 02, 2019 · The term mesenchymal stem cells (MSCs) has been used for years in literature to characterize a multipotent stromal cell population that can differentiate into a variety of cell types, including osteoblasts (bone cells) and chondrocytes (cartilage cells), and most articles use this term when they refer to multipotent skeletal stem cells [90–92].

[Effect of porous tantalum on promoting the osteogenic ...](#)

<https://www.sciencedirect.com/science/article/pii/S2214031X18301906>

BMSCs = bone marrow mesenchymal stem cells; CCK-8 = cell counting kit-8; OD = optical density. ALP activity assay and osteogenic mineralised nodule staining ALP is a marker of the early differentiation of osteoblasts and plays an important role in promoting the formation of mineral elements in bone

Name of Journal: *World Journal of Stem Cells*

Manuscript NO: 55061

Manuscript Type: REVIEW

Approaches to promoting bone marrow mesenchymal stem cell osteogenesis
on orthopedic implant surface

Huo S *et al.* MSC osteogenesis on orthopedic implant surface

Shi-Cheng Huo, Bing Yue

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