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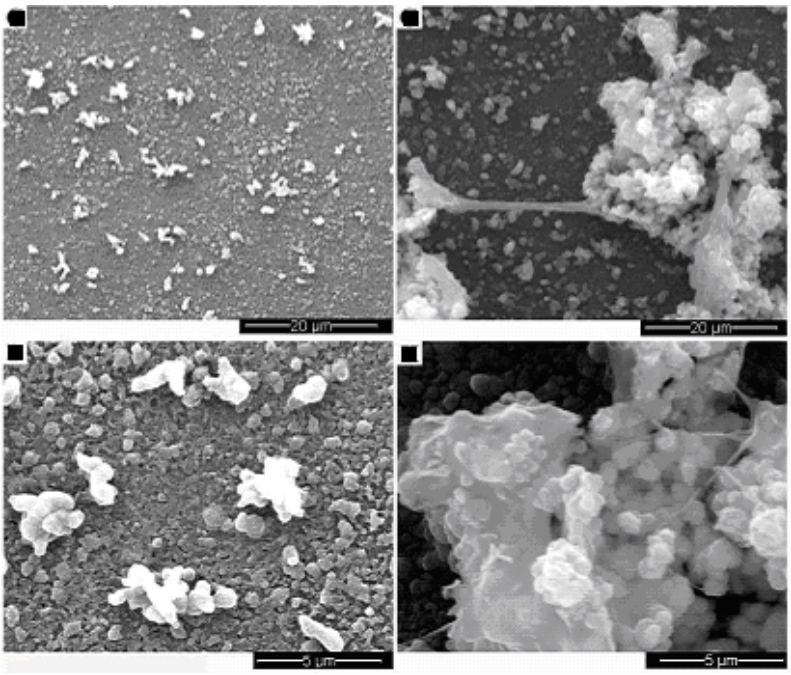
City of Hope
NATIONAL MEDICAL CENTER AND
BECKMAN RESEARCH INSTITUTE

Novel Bone Forming Cells (Monoosteophils)



Scanning Electron Microscope image of Monoosteophils creating bone.

DESCRIPTION

Bone generation and healing involves osteoblasts, osteoclasts, and osteocytes which originate from unique precursors and rely on key growth factors for differentiation. This technology comprises a novel bone cell type called Monoosteophils. These are created through the exposure of Monocytes to LL-37. Monoosteophils are capable of independently creating novel bone and therefore have therapeutic applications in osteoporosis, osteomalacia, paget's disease, osteitis, osteogenesis imperfecta, benign bone tumors and cysts, secondary malignant bone tumors, primary malignant bone tumors, rickets, bone metabolic disorders, hypochondrogenesis, or periodontal disease. Additionally these cells have cosmetic applications in dentistry and facial implants.

KEY ASPECTS

- Monoosteophils are novel cells that do not exist naturally.
- Monoosteophils exhibit characteristics of osteoclasts (bone destruction) and osteoblasts (bone formation) which is important because both are necessary during the healing process of bone tissue.

INTELLECTUAL PROPERTY

Title	US Patent Application	Filed
Generation of Novel Bone Forming Cells (Monoosteophils) From LL-37 Treated Monocytes	61/388,471	9/30/2010

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