

NANOCOMPOSITE BONE SCAFFOLD

TECHNOLOGY DESCRIPTION

The technology is a nano phased bone composite to facilitate quick bone repair.

TECHNOLOGY FEATURES

The technology was created with two simple steps of lyophilization and cross linking. Most commercially available scaffolds used for bone grafting are calcium phosphate based and not nano scaled. It has an osteoconductive spongy scaffold which facilitates quick bone repair. Complete mineralization of the scaffold matrix by osteoblast cells as early as in 14 days has been observed with the nano composite scaffold. This technology indicates better quality of healing with no adverse reaction. The nano composite bone scaffold also has highly demandable characteristics such as biocompatible, osteoconductive and osteointegrative.

ADVANTAGES

- Cost effective production
- Industrial applicability
- Requires no expensive reagents, procedures or equipments

INDUSTRY OVERVIEW

Prospect: Bone grafting market

Currently, countries worldwide is experiencing an exceedingly high demand for functional bone grafts. Annually in the United States, more than half a million patients receive bone defect repairs, with a cost greater than \$2.5 billion. This figure is expected to double by 2020 in the United States and globally due to a variety of factors, including the growing needs of the baby-boomer population and increased life expectancy. The number of patients suffering from disease or injury that leads to bone damage and loss are on the increase. In orthopaedic surgery bone grafting is an important part of the surgeon's armament. In Malaysia, the first synthetic bone graft product, GranuMas has entered the local market and secured a contract with the Health Ministry to supply synthetic bone graft to all hospitals in the country. Internationally, GranuMas has entered the Indonesian, Brunei and Vietnam markets and is looking into establishing its presence

in the ASEAN region with Thailand, Philippines, Myanmar, Cambodia and Laos.



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