

BIOLOGIC BONE GRAFT

The safe, biological way to stimulate natural bone growth



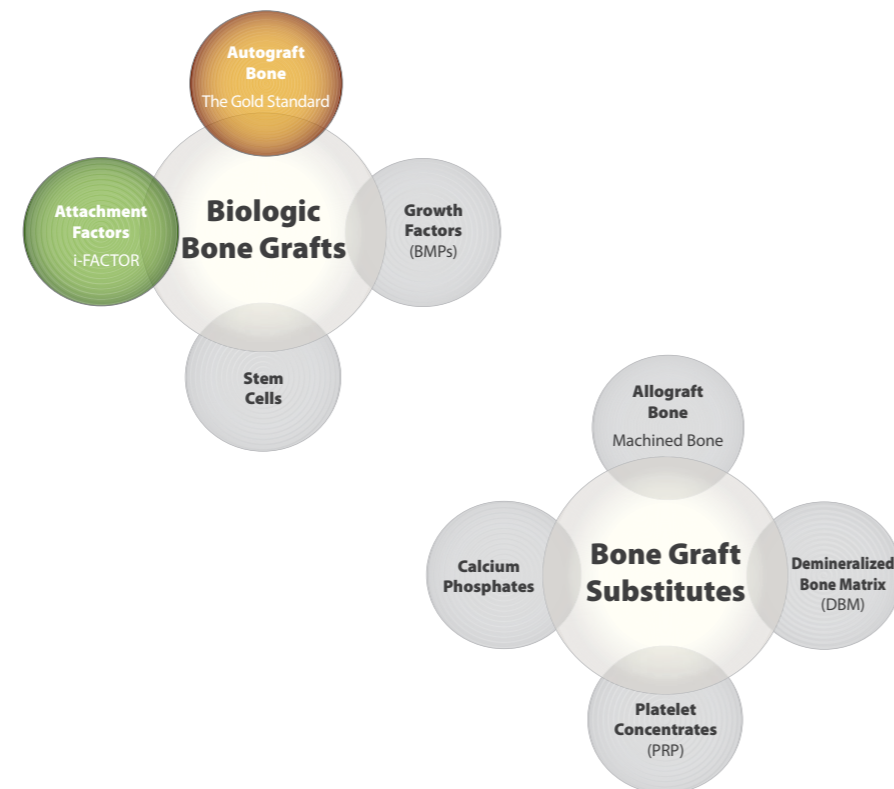
OVERVIEW OF ORTHOBIOLOGICS

VARIETY OF BONE GRAFT SUBSTITUTES

The number and types of commercially available bone graft substitutes continue to grow. Today, surgeons can choose products from machined bone, demineralised bone matrix (DBM), synthetics, stem cell therapy, attachment factors and growth factors (all of these products attempt to replicate autograft bone with varying degrees of success).

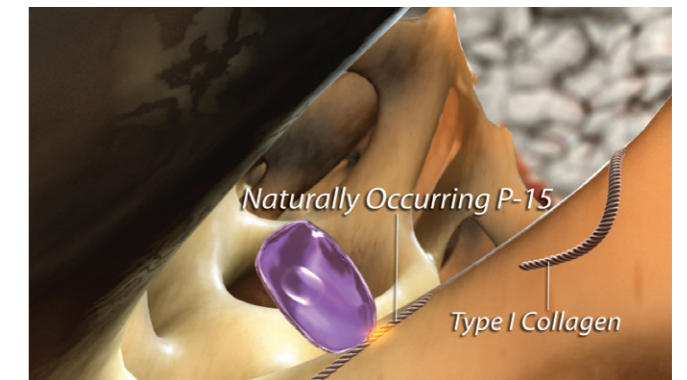
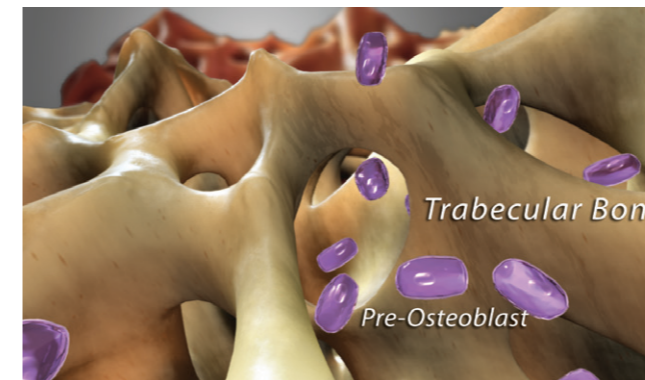
The two categories of bone graft products frequently used in spinal fusion and orthopaedic applications are bone graft substitutes and biologic bone grafts. The industry-accepted 'gold standard' bone graft is autograft, a patient's own bone with all the properties needed for fusion: cells, scaffold and biological signals.

- Bone graft substitutes are primarily osteoconductive products, sourced from human cadavers or made of synthetic materials that provide a scaffold where new bone may grow
- Biologic bone grafts are products that actively influence bone growth, contributing properties such as growth factors or cells, in addition to the basic osteoconductive (i.e. scaffold) elements



THE OSTEOBLAST AND BONE FORMATION

Osteoblasts originate from local pluripotent mesenchymal stem cells, either bone marrow stromal stem cells (endosteum) or connective tissue mesenchymal stem cells (periosteum). With the right stimulation, these precursor cells proliferate and differentiate into preosteoblasts. At this point they are committed to an osteogenic lineage and differentiate into mature osteoblasts, which is the key component for successful orthopaedic fusion procedures.¹



i-FACTOR plays an integral role in stimulating these precursor cells to proliferate and differentiate into mature osteoblasts in a manner unlike any other osteobiologic or bone graft substitute.²

i-FACTOR IS AN 'ATTACHMENT FACTOR'

i-FACTOR Biologic Bone Graft is categorised as an 'attachment factor'. i-FACTOR uses a novel mechanism of action based on the cell binding of osteogenic precursor cells via integrins, or signal receptors, to a patented synthetic protein segment (GTPGPQGIAGQRGVV), simply called P-15. i-FACTOR possesses three unique characteristics that allow it to compete effectively against other biologic bone grafts:

1. i-FACTOR has demonstrated superiority to autograft^{3,4}
2. i-FACTOR is a biologically active medical device that enhances cellular attachment to stimulate natural bone growth^{2,5,6,7}
3. The technology in i-FACTOR (P-15/ABM) has been used clinically for more than a decade in the dental and now orthopaedic markets, in an estimated 500,000 cases, with a solid safety profile