Mechanism of Action



PDGF is released from the β-TCP matrix into the surrounding environment. PDGF then binds to specific cell surface receptors on target cells, initiating a cascade of intracellular signaling pathways.

> PDGF-induced intracellular events lead to directed cell migration (chemotaxis) and cell proliferation (mitogenesis) of osteoblasts, periodontal ligament fibroblasts and cementoblasts.*

Proliferation of osteoblasts, periodontal ligament fibroblasts and cementoblasts leads to increased matrix synthesis, resulting in formation of new alveolar bone, periodontal ligament and cementum.* Angiogenesis (blood vessel formation) continues.

Clinical data suggests that over time (approximately 6 months), maturation of supporting alveolar bone, cementum, and periodontal ligament occurs. The end result is enhanced bone and periodontal regeneration and retention of the natural tooth.



*Based on in-vitro and in-vivo data; see device description in GEM 21S package insert for complete information