

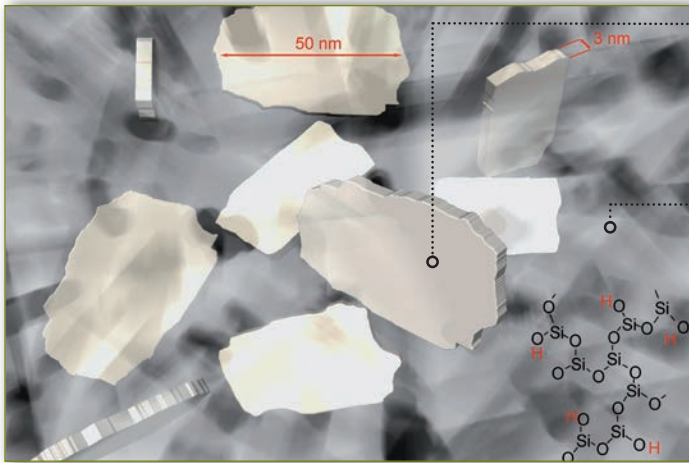
NanoBone[®]

Applied NanoBiology[™]



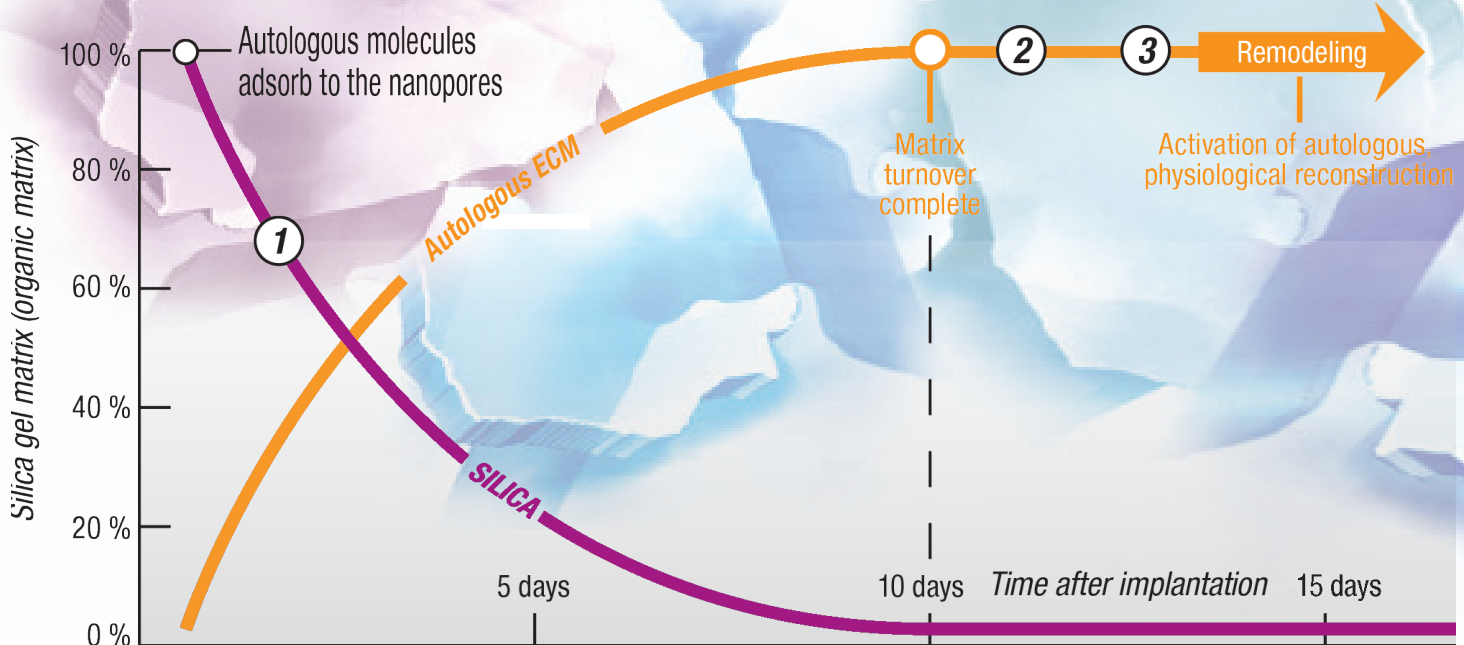
SBX Putty[™]

Applied NanoBiology Explained:^{1,2}

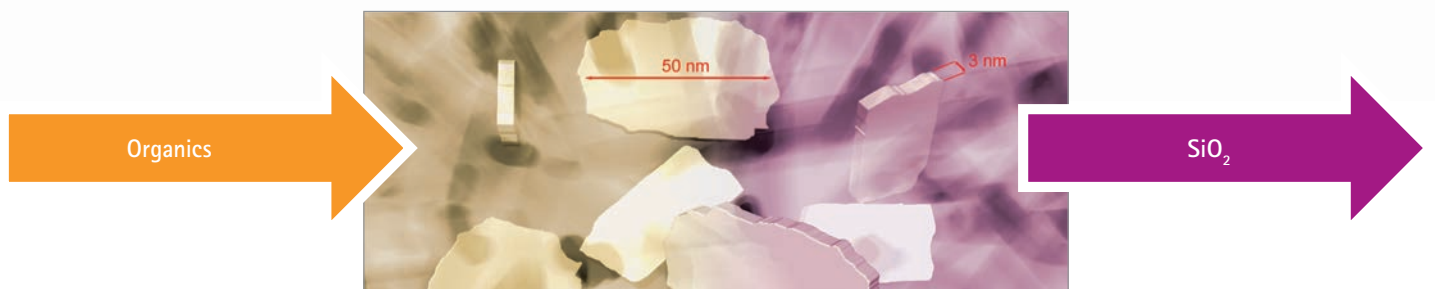


- Nanocrystalline Hydroxyapatite (HA)**
 - Similar size, chemistry, and morphology as HA in human bone
 - No bonding between nanocrystals - unsintered
 - Autologous proteins adsorb rapidly to surface
- Amorphous Silica Gel Matrix (ASG)**
 - Highly nanoporous with large internal surface area
 - Holds HA nanocrystals in place
 - Extremely hydrophilic
 - Releases SiO_2 triggering angiogenesis, the basis for bone formation
 - Is rapidly replaced by autologous organic matrix

Harnessing the Power of NanoBiology

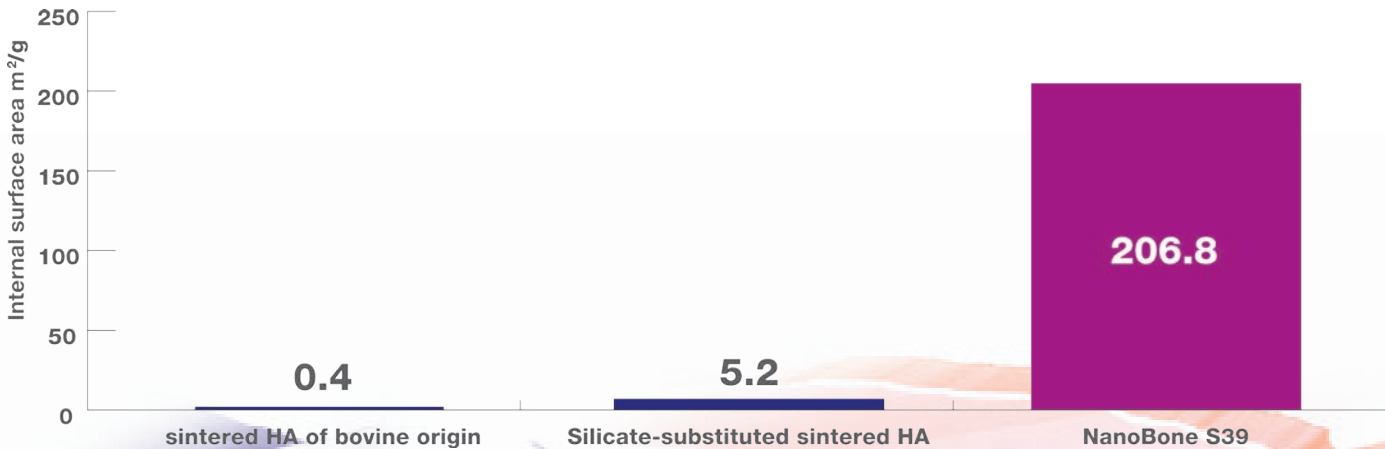


Organics in - SiO_2 out^{3,4}



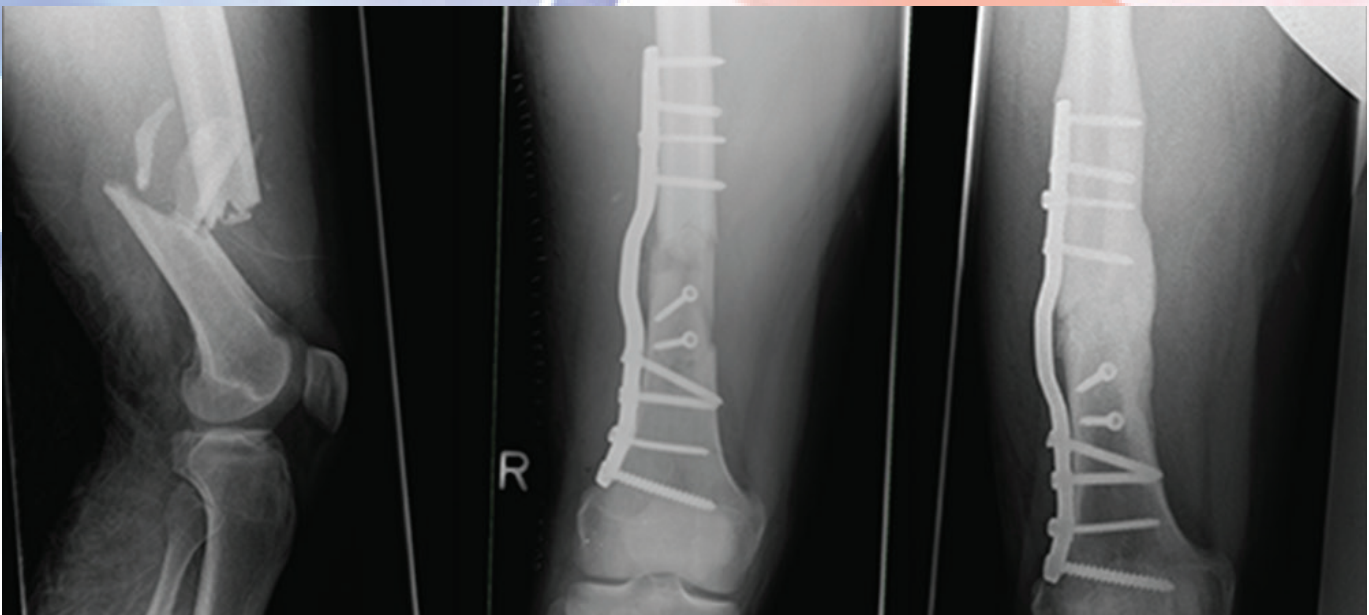
Post-implantation, release of SiO_2 triggers angiogenesis, enhances osteoblastic differentiation, and stimulates bone formation⁵. Silica gel is rapidly replaced by autologous organic matrix. Once organic matrix is in place, the process of cell-mediated bone formation and resorption proceeds.

Very Large Internal Surface Area is Crucial for Protein Adhesion and Bone Regeneration^{6,7}



The large internal surface area of NanoBone strongly attracts and binds autologous osteopontin, osteocalcin, and BMP-2 molecules that are critical for new bone formation. The internal surface area also determines the resorption rate of bone grafts. In clinical cases, NanoBone is completely converted to autologous bone in as little as 12-14 months.

More Than Ten Years of Clinical Experience



34 year old male with compound fracture of the distal femur

Treated with distal femur plate and 2.5 ml NanoBone, post-op

One year post-op x-ray shows profuse new bone formation at fracture site

In a prospective study of trauma cases, fracture healing with NanoBone Bone Graft alone was comparable to autograft and had a lower complication rate.⁸ NanoBone has been used in more than 400,000 patients worldwide in all indications.

PART NO.	DESCRIPTION	SIZE
200056	NanoBone QD	5.0 ml
200057	NanoBone QD	10.0 ml



PART NO.	DESCRIPTION	SIZE
200042	NanoBone SBX Putty	1.0 ml
200044	NanoBone SBX Putty	2.5 ml
200045	NanoBone SBX Putty	5.0 ml
200046	NanoBone SBX Putty	10.0 ml



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