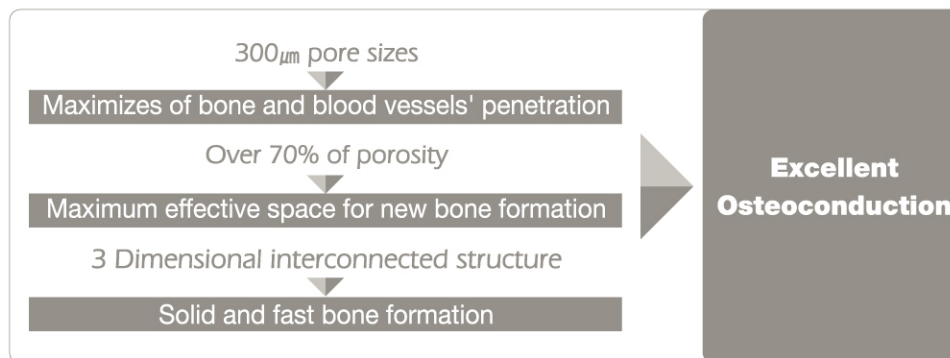


Bongros®-HA BONECHIP

Bongros®-HA BONECHIP is identical to human bone's mineral in terms of physical and chemical [Hydroxyapatite]. It is the first Korean made synthetic bone. It's used for replacement of defected bone. Bongros®-HA gradually and chemically unite to bone tissue and provides effective space in order to make new bone's ingrowth and maintain space till new bone tissue's ingrowth is completed.



Advantages

1. Excellent bone fusion

Bongros®-HA is a material for bone replacement. It is formed with Hydroxyapatite ceramic which is identical to human bone's mineral in terms of physical and chemical. Bongros®-HA gradually and chemically unite to bone tissue of its own around and make new bone's ingrowth. Bongros®-HA has an optimal porous structure (patented and porosity is 70-80%) and interconnected type of pore size (300µm) for bone growth. Outstanding performance effect was verified by Seoul National University Hospital, Asan Medical Center and Samsung Medical Center.

2. Excellent Safety

We make Bongros®-HA according to ASTM F1185 (International Standard), and sintering bone mineral at over 1,200°C and finish with γ-irradiation. Therefore synthetic bone is 100% safe from immune and inflammation reaction (hepatitis, tuberculosis, AIDS, SARS etc) unlikely to allograft bone.

Besides we have passed 13 different tests done by Clinical Research Institute Seoul National University Hospital where is appointed as GLP Institute.

3. Maintains effective space

Bongros®-HA provides effective space in order to make new bone's ingrowth and maintain space till new bone tissue's ingrowth is completed. Therefore Bongros®-HA differs from Allo bone and Xeno bone.



4. Easy to use

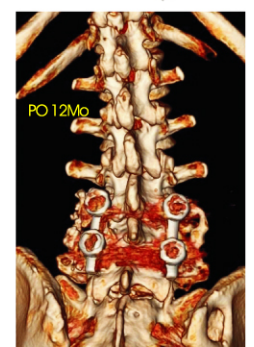
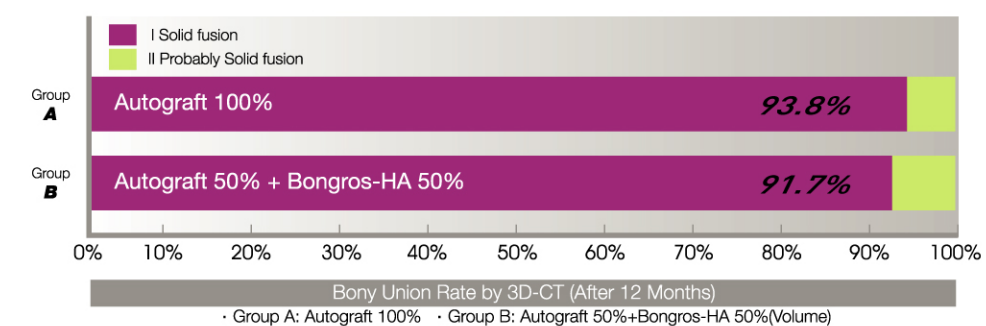
- It can be used immediately without secondary treatment when operating.
- Provides mass production and stable in quality. (5cc, 10cc, 20cc, 30cc)
- γ-irradiation, Room Temperature.

Clinical Study On Bongros®-HA BONECHIP

Study Purpose To Estimate Bony Union Rate between Autograft only (Group A) & Bongros-HA and Autograft Mixture (Group B)

Materials	May 2004~March 2005
Prospective Study	33 Patients, 48 Levels
Male : Female	13:20
Mean Age	61.4±9.7(37~75)yrs
Mean F/U	10.3 ±2.7 (7~13)Mo

*Seoul National University Hospital

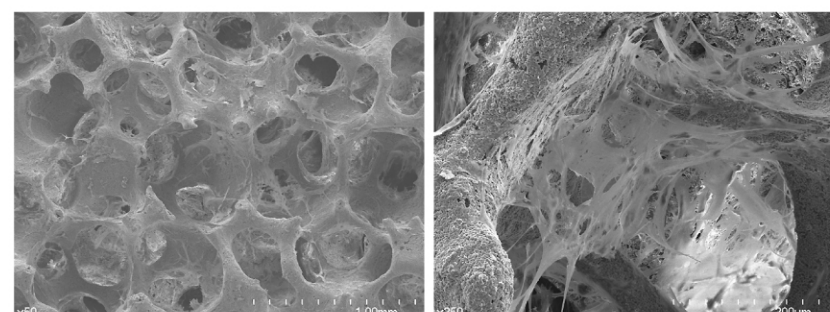


Bongros®-HA BONECHIP Indication

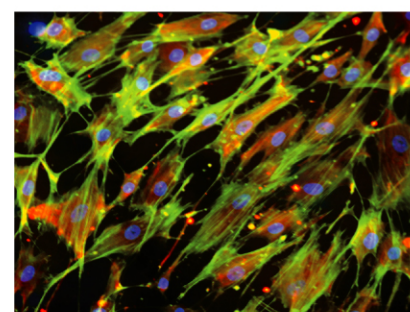
- Spinal fusion
- Fracture repair
- Autograft Extender
- Harvested site filler

CAUTION *Avoid overfilling the bone void or compressing the defected site
*Remove any excess material from the defected site

Bongros®-HA BONECHIP Biocompatibility



SEM picture shows proliferation of stem cell(hMSC) all over the pore



Most of cultured stem cell is differentiated to osteoblast (Orange color)