

## Company Profile



GranuLab (M) Sdn Bhd - a BioNexus Status Company (BNX 100217), was established since May 2006. It is a medical device manufacturing company for synthetic bone graft GranuMas®.

Granulab is a subsidiary of SIRIM Tech Venture (STV), a company wholly owned by SIRIM Berhad.

Granulab manufacturing facility is certified with ISO 13485:2003 by BSI, UK. The facility is well equipped and capable of producing multiple types, form, shape and size of synthetic bone grafts to cater to the needs of clients, hospitals and patients.



## Product Information

GranuMas® is a Class III product certified with CE Mark (CE 586440) by BSI, UK. It is composed of Hydroxyapatite (HA), a synthetically-made bone graft of calcium phosphate material, which is similar to natural human bone mineral.

The fabrication of GranuMas® conforms to all the required criteria for surgical implants based on ASTM F1185-88 (1993) Standards: "Standard Specification for Composition of Ceramic Hydroxyapatite for Surgical Implants" and ISO 13779:2008 Standards: "Implants for surgery - Hydroxyapatite".

This product is a collaborative R&D effort by various institutions, i.e. SIRIM Berhad, International Islamic University Malaysia (IIUM), Universiti Sains Malaysia (USM), Universiti Kebangsaan Malaysia (UKM) and Agency Nuclear Malaysia (ANM).

GranuMas® - having composition and properties identical to human bone mineral, is an innovative alternative material for surgeries requiring bone grafting procedures for non-load bearing applications in Orthopaedics, ENT, Dental and Maxillofacial.



## The Advantages

GranuMas® can be used in surgeries requiring bone grafting for non-load bearing applications, such as:

Orthopaedic	Non-union, excision of benign bone tumors
Trauma	Fractures with subchondral bone loss
ENT	Filling of bone defects
Maxillofacial	Filling of bone defects
Dental	Filling of post-extraction tooth socket

## Product Types

### GranuMas® - Spherical

Size	0.5cc	1.0cc	2.0cc	5.0cc
0.2 - 0.5mm (S)	✓	✓	✓	
0.5 - 1.0mm (M)	✓	✓	✓	
0.2 - 1.0mm (SM)	✓	✓	✓	✓
1.0 - 2.5mm (L)		✓	✓	✓
2.5 - 5.0mm (XL)		✓	✓	✓

### GranuMas® - Cube

Dimension	Volume
~ 5mm x 5mm x 5mm	2cc   5cc
Compressive Strength	= 0.216 kN*
Porosity value	= 36.77 %

### GranuMas® - Pin

Dimension	Volume
~ 3mm x 3mm x 30mm	2cc   5cc
3 point Bending Strength	= 0.001 kN*
Porosity value	= 39.12 %

### GranuMas® - Chip

Dimension	Volume
~ 1.0 - 2.5mm	2cc   5cc

\* Preliminary Result



## Certification



GranuMas® bone graft substitute has been verified with full quality assurance for the design and manufacture of GranuMas® Hydroxyapatite (HA) synthetic bone graft.

## Awards

GranuMas® is an award winning product, receiving numerous recognitions both domestically and internationally. The following is the list of awards won:

- **Prime Minister Award for Malaysian Innovation 2007**
- **ISESCO Science Award 2006**  
State of Kuwait  
Gold Medal for Technology category
- **Salon International Des Inventions Geneva 2005**  
Geneva, Switzerland  
Gold Medal for Health/Medicine category
- **Malaysian Science, Technology and Innovation Expo 2004**  
Kuala Lumpur, Malaysia  
Silver Medal
- **SIRIM Best Innovation Award 2004**  
Malaysia  
Category - Product: GranuMas®
- **SIRIM Best Innovation Award 2004**  
Malaysia  
Category - Technology

GranuMas® also featured in TIME magazine (May 2009):

The Malaysian-based company GranuLab produces synthetic bone graft material to avoid using animal bone.



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