

# Scientific discovery of Glyken A

## Active Glycoproteins for REGENERATION of CARTILAGE

### What is Glyken A?

Glyken A is a special formulation of active glycoproteins extracted from swiftlet nests to balance the anabolic and catabolic mechanism in the cartilage preventing joint diseases.

科研发掘**让软骨细胞重生的活性糖蛋白燕窝萃取精华**

**Glyken A 是何物?**

Glyken A 是个从燕窝中提取的特殊糖蛋白配方 - 以科学配制平衡软骨组织内的分解代谢和合成代谢以防止关节疾病。

**(Articular Cartilage)**

- ☑ Tissue contains one cell type (chondrocytes)
- ☑ Located ⇨ \* End of bones
- ☑ Function
  - ⇨ \* Ensure friction free
  - \* Spread load across the joint
  - \* Absorb shock and weight
- ☑ 2 major component
  - ⇨ \* Type II collagen
  - \* Proteoglycans

**(关节软骨)**

- ☑ 组织中只含有一种细胞类型 (软骨细胞)
- ☑ 位置 ⇨ \* 骨头的末端
- ☑ 功能 ⇨ \* 确保无摩擦
- \* 减低关节的负荷
- \* 降低冲击和重量
- ☑ 两种主要元素组成
  - ⇨ \* II 型胶原蛋白
  - \* 蛋白聚糖

**Healthy joint 健康的关节**




**GLYKEN BIO PRODUCTS SDN BHD** (1122026)

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## Live FRE No more joint pain 活得自由自在, 不再有关节疼

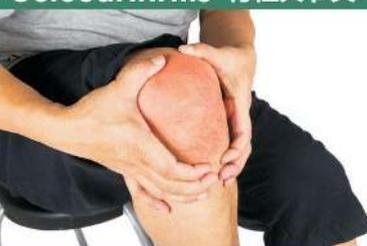


The revolutionary supplement for joint diseases 关节病患的救星



Member of SRA (SINGAPORE SUSTAINABLE RESOURCES ASSOCIATION)

## Osteoarthritis 骨性关节炎



- ☑ Degenerative joint disease. 退化性关节炎疾病
- ☑ Worn out / injured articular cartilage. 磨损 / 受伤的关节软骨
- ☑ The etiology 病因
  1. Genetic factor 遗传因素
  2. Constitutional factor ⇨ \* Obesity \* Ageing 构成因素 ⇨ \* 肥胖 \* 老龄化
  3. Biomechanical factor ⇨ \* Injury 生物力学因素 ⇨ \* 创伤

**Osteoarthritic Knee 骨性关节炎的膝盖**



EXPOSED BONE 骨质外露  
ERODING CARTILAGE 被侵蚀的软骨组织  
ERODING MENISCUS 被侵蚀的半月板  
BONE SPURS 骨刺

### Scientific discovery for Osteoarthritis - Regeneration of Cartilage 治疗骨性关节炎的重大发现 - 软骨细胞重生

#### CHONDROCYTES ISOLATION 采取软骨细胞



Sample received from TKR Surgery 从手术病人处取得样本  
Knee fragments with cartilage 关节软骨碎片  
Wash sample with PBS 用PBS清洗软骨碎片  
Slice cartilage from the bone segment 从骨段中切片软骨组织  
Slice cartilage 切片软骨组织  
Mix the sliced cartilage 将切片后的软骨组织混合  
Digest with 0.4% collagenase type II 用0.4% II型胶原蛋白酶消化

### RESULTS / 实验成果

Chondrocyte in osteoarthritis 骨性关节炎的软骨细胞

**BEFORE: Negative (Damaged) Control Cells 之前 呈阴性反应(受损)的软骨细胞**



Added Glyken A 加入 Glyken A 的软骨细胞

**AFTER: Chondrocytes treated with Glyken A 之后 采用 Glyken A 燕窝萃取物后的软骨细胞**



Damaged Chondrocytes 受损的软骨细胞  
Repaired Chondrocytes 修复后的软骨细胞

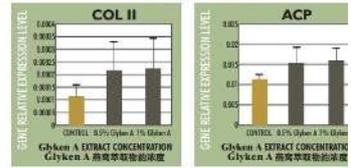
Glyken A contains similar chondroitin glycosaminoglycan compound

- ☑ increase chondrocyte growth and repair
- ☑ increase collagen and chondroitin glycosaminoglycan production

Glyken A 包含类似软骨素葡萄糖胺聚糖的化合物

- ☑ 增加软骨细胞生长和修复
- ☑ 增加胶原蛋白和软骨素葡萄糖胺聚糖生产

#### Matrix Components Expression Level 基质成分水平表



**COL II**

Glyken A EXTRACT CONCENTRATION	GENE RELATIVE EXPRESSION LEVEL
CONTROL	~0.001
0.5% Glyken A	~0.002
1% Glyken A	~0.003

**ACP**

Glyken A EXTRACT CONCENTRATION	GENE RELATIVE EXPRESSION LEVEL
CONTROL	~0.001
0.5% Glyken A	~0.002
1% Glyken A	~0.003

Glyken A increases the synthesis of matrix components. It shows that the chondrocytes condition is repaired compared to the control group.

Glyken A 燕窝萃取物增加了基质成分的合成。从对照组中显示出细胞的情况已被修复。