

# 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**

**From FARM to END PRODUCT 从引燕到燕窝制成品**

1. Swiftlet House Development 燕屋发展计划  
 2. Swiftlet House Management 燕屋管理及收成  
 3. Bird's Nest Processing Centre 燕窝加工中心  
 4. Bird's Nest R&D Centre 燕窝产品研发中心  
 5. Bird's Nest Product Packaging 燕窝产品包装  
 6. Swiftlet Habitat Sains Gallery 燕窝产品中心卖场

**Live FRE**  
**No more joint pain**  
 活得自由自在, 不再有节疼痛



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

**Glyken A**

100% PURE SWIFLET NEST EXTRACT

Sponsored by SRA (SINGAPORE RESERVE) ASSOCIATION

**GLYKEN BIO PRODUCTS SDN BHD** (1122200)  
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## 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 从全膝关节置换手术中取出样本  
 Knee fragments with cartilage 取出膝盖软骨  
 Wash sample with PBS 用PBS清洗软骨组织  
 Slice cartilage from the bone segment 从骨节中取出软骨组织  
 Slice cartilage 取出软骨组织  
 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%胶原蛋白酶II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。**