

# Kartogenin

Catalog No: tcsc3369



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



## Specifications

**CAS No:**

4727-31-5

**Formula:**

$C_{20}H_{15}NO_3$

**Pathway:**

Stem Cell/Wnt;TGF-beta/Smad

**Target:**

TGF-beta/Smad;TGF-beta/Smad

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 42$  mg/mL (132.35 mM)

**Alternative Names:**

KGN

**Observed Molecular Weight:**

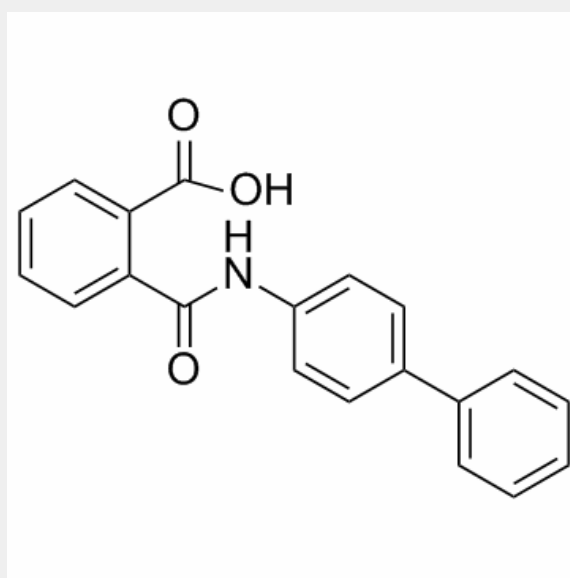
317.34

## Product Description

Kartogenin is an inducer of differentiation of human mesenchymal stem cells into chondrocytes.

**In Vitro:** Kartogenin enhances cell proliferation in both cell types in a concentration-dependent manner and induces chondrogenic differentiation of stem cells, as demonstrated by high expression levels of chondrogenic markers aggrecan, collagen II and Sox-9. Besides, kartogenin induces the formation of cartilage-like tissues in cell cultures, as observed through the staining of abundant proteoglycans, collagen II and osteocalcin<sup>[1]</sup>. Kartogenin stimulates type-I collagen synthesis of fibroblasts at the mRNA and protein levels in a time-dependent manner without obvious influence on fibroblasts' apoptosis and viability. Smad4/smad5 of the TGF- $\beta$  signaling pathway is activated by kartogenin while MAPK signaling pathway remains unchanged<sup>[2]</sup>. Kartogenin treatment enhances chondrocyte pericellular matrix assembly and retention in the presence of IL-1 $\beta$ . Kartogenin partially blocks the IL-1 $\beta$ -induced increased expression of ADAMTS-5. Additionally, kartogenin-treated articular chondrocytes exhibits a decrease in CD44 proteolytic fragmentation<sup>[3]</sup>.

**In Vivo:** hen injected into intact rat patellar tendons, kartogenin induces cartilage-like tissue formation in the injected area. When injected into experimentally injured rat Achilles TBJs, wound healing in the TBJs is enhanced, as evidenced by the formation of extensive cartilage-like tissues<sup>[1]</sup>. Kartogenin stimulates collagen synthesis in the mouse dermis. Dermis in the kartogenin (100 nM)-treated group exhibits increased dermal thickness and intense blue staining, which represents more collagen composition in the dermis<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!