Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

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 : ≥ 42 mg/mL (132.35 mM)

Alternative Names:
KGN

Observed Molecular Weight:
317.34

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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[1]. 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-β signaling pathway is activated by kartogenin while MAPK signaling pathway remains unchanged[2]. Kartogenin treatment enhances chondrocyte pericellular matrix assembly and retention in the presence of IL-1β. Kartogenin partially blocks the IL-1β-induced increased expression of ADAMTS-5. Additionally, kartogenin-treated articular chondrocytes exhibits a decrease in CD44 proteolytic fragmentation[3].

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[1]. 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[2].