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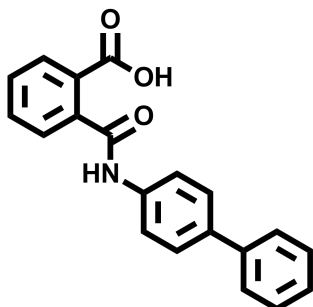
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Chondrogenesis Modulator Kartogenin (KGN)

Chemical Name: 2-([1,1'-biphenyl]-4-ylcarbamoyl)benzoic acid



| | |
|-------------------|---|
| Molecular Weight: | 317.34 |
| Formula: | C ₂₀ H ₁₅ NO ₃ |
| Purity: | ≥98% |
| CAS#: | 4727-31-5 |
| Solubility: | DMSO up to 50mM |
| Storage | Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year |

Biological Activity:

Kartogenin (KGN) is a potent small molecule that can promote chondrocyte differentiation of human mesenchymal stem cells/MSCs (EC₅₀ = 100 nM). It was identified by an imaging-based high throughput screening in human MSCs. KGN also shows chondro-protective effects *in vitro*, and is efficacious in collagenase and surgery induced OA models in mice. MOA studies suggested that KGN binds to filamin A, disrupts its interaction with the transcription factor CBFβ, and induces chondrogenesis by regulating the CBFβ-RUNX1 transcriptional program. Kartogenin serves as a very useful tool to study and promote chondrogenesis, and may provide a new strategy of cell-based therapy for treating osteoarthritis.

How to Use:

In vitro: Kartogenin was used at 5-10 μM concentration in primary human bone marrow MSCs. It was also used in an assay where primary bovine articular chondrocytes and cartilage explants were grown in the presence of TNF-α and oncostatin M to mimic cytokine-induced damage during OA pathogenesis.

In vivo: 10 μM KGN in 4 μl of saline was intra-articularly (IA) delivered into mice on days 7 and 21 in the collagenase VII-induced model and the acute surgical model.

Reference:

1. Kristen Johnson, et al. A Stem Cell-Based Approach to Cartilage Repair. 2012; Science. 336(6082):717-21

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