

Product Data Sheet

Product Name: XAT-14
Cat. No.: GC79300

Chemical Properties

Cas. No. 3107904-59-3

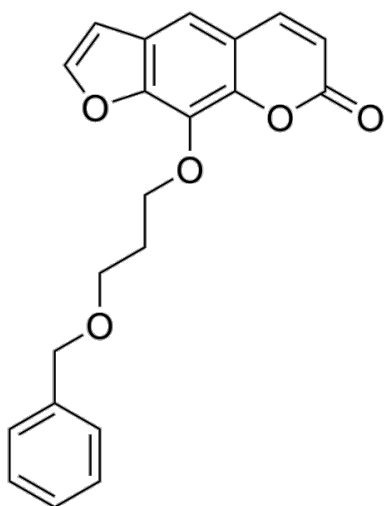
Formula $C_{21}H_{18}O_5$ M.Wt 350.36

Solubility DMSO: 100 mg/mL (285.42 mM; Need ultrasonic) Storage Store at 4°C, away from moisture

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Caution: Product has not been fully validated for medical applications. For research use only.

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XAT-14 is a Furanocoumarin derivative. XAT-14 competes with agonists to bind to the active pocket of MRGPRX2, inhibiting calcium influx and mast cell degranulation. XAT-14 suppresses the release of histamine, IL-8 and MCP-1 induced by Compound 48/80. XAT-14 inhibits local allergic inflammation. XAT-14 can be used for the research of pseudo-allergic diseases [1].

In Vivo, XAT-14 (4-16 mg/kg) reduces the degree of hindlimb swelling and Evans blue extravasation induced by C48/80 in mice [1].

In Vitro, XAT-14 (100 μ M) shows no cytotoxicity in LAD2 cells [1]. XAT-14 (25-100 μ M) potently inhibits Compound 48/80-induced β -hexosaminidase release in LAD2 cells, with an IC_{50} of 22.95 μ M, and exhibits superior efficacy to Imperatorin [1]. XAT-14 (25-100 μ M) dose-dependently inhibits Compound 48/80-induced release of histamine, IL-8 and MCP-1 in LAD2 cells [1]. XAT-14 (25-100 μ M) inhibits Compound 48/80-induced calcium influx in MRGPRX2-HEK293 cells in a dose-dependent manner, indicating that its effect is mediated through the MRGPRX2 signaling pathway [1].

References:

[1]. Yang W, et al. Furanocoumarin derivatives inhibit MRGPRX2-mediated pseudo-allergy. Bioorganic & medicinal chemistry letters. 2026 Jun;135:130589.

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