

Product Data Sheet

Product Name: WJH-C19

Cat. No.: GC78969

Chemical Properties

Cas. No.

Formula $C_{27}H_{22}ClN_5O_2S$ M.Wt 516.01

Solubility DMSO: 50 mg/mL (96.90 mM; Need ultrasonic) Storage Store at -20°C

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.

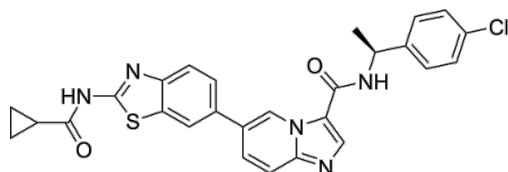
Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Structure



Background

WJH-C19 is an orally active RIPK1 inhibitor with an IC_{50} of 5.7 nM. WJH-C19 inhibits the RIPK1 / RIPK3 / MLKL signaling axis, blocks RIPK1 phosphorylation, suppresses the phosphorylation of downstream RIPK3 and MLKL, disrupts necrosome formation, and exhibits protective effects against necroptosis (Apoptosis) in multiple cell lines. WJH-C19 ameliorates symptoms of inflammatory bowel disease in a mouse colitis model by regulating the necroptosis pathway. WJH-C19 alleviates inflammation and bone destruction in a mouse model of rheumatoid arthritis. WJH-C19 is applicable to research related to inflammatory bowel disease and rheumatoid arthritis [1].

In Vivo, WJH-C19 (1.25-2.5 mg/kg; p.o.; daily; 7 days) potently ameliorates dextran sulfate sodium (DSS,)-induced colitis in female C57BL/6 mice, leading to 47.5% body weight recovery, 42.9% reduction in disease activity index (DAI), and robust inhibition of the RIPK1/RIPK3/MLKL signaling

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axis^[1]. WJH-C19 (10-20 mg/kg; p.o.; daily; 14 days) potentially ameliorates complete Freund's adjuvant (CFA,)-induced rheumatoid arthritis in female C57BL/6 mice, reduces paw swelling, joint inflammation and bone destruction, and inhibits the RIPK1/RIPK3/MLKL signaling axis^[1].

In Vitro, WJH-C19 (Compound 10e12) (25 h) exerts potent, concentration-dependent protective effects against necroptosis in multiple cell lines, with EC₅₀ values of 0.28 nM in L929 cells, 4.0 nM in HT22 cells, 1.6 nM in HT29 cells, and 2.0 nM in U937 cells; in addition, this compound reduces necroptotic L929 cells in a dose-dependent manner^[1]. WJH-C19 potentially inhibits the kinase activity of RIPK1, with an IC₅₀ value of 5.7 nM^[1]. WJH-C19 (0.5-50 nM) concentration-dependently inhibits the TNF α /z-VAD-FMK (TZ)-induced phosphorylation of RIPK1, RIPK3 and MLKL in L929 cells, as well as the mTNF α /Smac mimetic/z-VAD-FMK (TSZ)-induced phosphorylation in HT29 cells, thereby blocking necrosome formation and the downstream necroptotic signaling pathway^[1].

References:

[1]. Wan J, et al. From Hit to Lead: Discovery of Novel Selective RIPK1 Inhibitor with Pyridoimidazole Scaffold for the Treatment of Autoimmune Diseases through Phenotypic Screening and Structural Optimization. J Med Chem. 2026;69(3):3252-3288.

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