

Product Datasheet

Ketotifen

Catalog No. **BP-02178** · CAS **34580-13-7** · Form **free base** · Physical state **solid** · Color **Off-white to yellow** · Version **1.0** · Revision **2026-09-04**

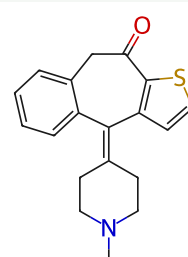
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Target Endogenous Metabolite; Histamine Receptor; SARS-CoV; Influenza Virus	Research area InfectionInflammation/Immunology; Endocrinology
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Molecular formula **C₁₉H₁₉NOS**

Molecular weight **309.4250**

STRUCTURE



DESCRIPTION

Ketotifen (HC 20-511) is an orally active second-generation noncompetitive histamine 1 (H1) receptor blocker and mast cell stabilizer. Ketotifen can block 6-phosphogluconate dehydrogenase (PGD) in vitro. Ketotifen also has antiviral activity against SARS-CoV-2 and Influenza virus. Ketotifen can be used to the research of autoimmune encephalomyelitis (EAE) and asthma attack prevention .

BIOLOGICAL ACTIVITY

In Vitro

Ketotifen (0-100 μM; 2 or 4 days) inhibits SARS-CoV-2 with an EC₅₀ of 48.9 μM; and increases the percentage inhibition of SARS-CoV-2 to 79%, 83% and 93% when co-administers with 25, 50 and 100 μM Indomethacin, respectively[3].

Ketotifen (0-50 μM; 24 h) has inhibitory activity against PR8, pH1N1 and H3N2 with EC₅₀s of 5.9 μM, 33.7 μM and 48.5 μM, respectively; and exhibits relatively low cytotoxicity in MDCK cells (EC₅₀=291 μM).

In Vivo

Ketotifen (80 mg/kg; i.g.; daily for 3 days) reduces end organ damage and mortality in mice infected with influenza virus.

Ketotifen (0.4 mg/kg; i.p.; daily for 10 days) reduces encephalomyelitis (EAE) prevalence and severity.

SOLUBILITY

soluble in DMSO

REFERENCES

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- [2]. Zhang H, et al. Advances in the discovery of exosome inhibitors in cancer. *J Enzyme Inhib Med Chem*. 2020;35(1):1322-1330.
- [3]. Kiani P, et al. In Vitro Assessment of the Antiviral Activity of Ketotifen, Indomethacin and Naproxen, Alone and in Combination, against SARS-CoV-2. *Viruses*. 2021 Mar 26;13(4):558.
- [4]. Enkirch T, et al. Identification and in vivo Efficacy Assessment of Approved Orally Bioavailable Human Host Protein-Targeting Drugs With Broad Anti-influenza A Activity. *Front Immunol*. 2019 Jun 5;10:1097.
- [5]. Pinke KH, et al. Calming Down Mast Cells with Ketotifen: A Potential Strategy for Multiple Sclerosis Therapy? *Neurotherapeutics*. 2020 Jan;17(1):218-234.