

Product Data Sheet

Chemical Properties

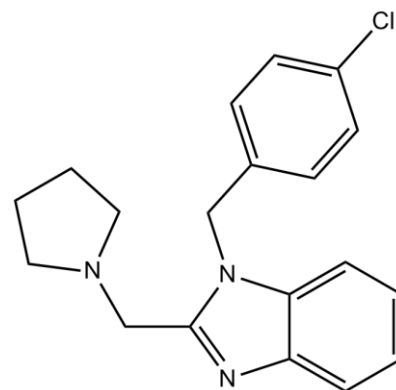
Product Name: Clemizole hydrochloride

HCl

Cas No.: 1163-36-6

M.Wt: 362.3

Formula: C₁₉H₂₁Cl₂N₃



Chemical Name: 1-[(4-chlorophenyl)methyl]-2-(pyrrolidin-1-ylmethyl)benzimidazole; hydrochloride

Canonical SMILES: C1CCN(C1)CC2=NC3=CC=CC=C3N2CC4=CC=C(C=C4)Cl.Cl

Solubility: \geq 18.115mg/mL in DMSO

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.

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

Biological Activity

Targets : Neuroscience

Pathways:

Description:

IC₅₀: 8 mM (NS4B)

The NS4B protein is a key player in HCV replication. Disrupting NS4B function thus represents an attractive new anti-HCV strategy. Combining clemizole with other anti-HCV agents could increase

the antiviral effect achieved with 1 active drug alone and decrease emergence of viral resistance. In vitro: Although significant, clemizole's antiviral effect was moderate (50% effective concentration of 8 mM against a HCV genotype 2a clone). Clemizole's antiviral effect was highly synergistic with the HCV protease inhibitors VX950 and SCH503034, without toxicity. In contrast, clemizole combinations with either interferon, ribavirin, or the nucleoside (NM283) and nonnucleoside (HCV796) HCV polymerase inhibitors were additive [1].

In vivo: Clemizole had an unexpectedly short plasma half-life; it was very rapidly bio-transformed into a glucuronide (M14) and a dealkylated metabolite (M12) and into a variety of lesser metabolites in C57BL/6J mice [2].

Clinical trial: The purpose of a study was to test the hypothesis that clemizole hydrochloride was safe and well tolerated when administered to subjects who were infected with hepatitis C virus and had not yet received treatment. This clinical study would also examine how the virus and body respond to clemizole hydrochloride

(<https://clinicaltrials.gov/ct2/show/NCT00945880?term=Clemizole&rank=1>).

Reference:

[1] Einav S, Sobol HD, Gehrig E, Glenn JS. *The hepatitis C virus (HCV) NS4B RNA binding inhibitor clemizole is highly synergistic with HCV protease inhibitors. J Infect Dis. 2010;202(1):65-74.*

[2] Nishimura T, Hu Y, Wu M, Pham E, Suemizu H, Elazar M, Liu M, Idilman R, Yurdaydin C, Angus P, Stedman C, Murphy B, Glenn J, Nakamura M, Nomura T, Chen Y, Zheng M, Fitch WL, Peltz G. *Using chimeric mice with humanized livers to predict human drug metabolism and a drug-drug interaction. J Pharmacol Exp Ther. 2013;344(2):388-96. doi: 10.1124/jpet.112.198697. Epub 2012 Nov 8.*

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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