

Product Data Sheet

Product Name: ML077
Cat. No.: GC79492

Chemical Properties

Cas. No. 1135304-61-8

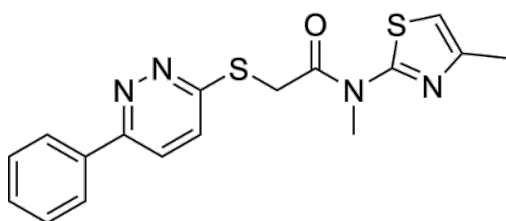
Formula $C_{17}H_{16}N_4OS_2$ M.Wt 356.47

Solubility 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.

Structure



Background

ML007 is a selective antagonist targeting the neuron-specific potassium-chloride co-transporter 2 (KCC2) with an IC_{50} for KCC2 is 537 nM, while its inhibitory activity on KCC1 is extremely weak ($IC_{50} > 50 \mu M$). ML077 inhibits the chloride ion excretion function of KCC2, increasing the intracellular chloride ion concentration, thereby enhancing the depolarization mediated by chloride ion channels. ML007 can promote glucose-stimulated insulin secretion (GSIS) without relying on KATP channels. ML007 can be used to study the functions related to pain, epilepsy, and insulin secretion [1] [2].

References:

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

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- [1]. Delpire E, et al. Further optimization of the K-Cl cotransporter KCC2 antagonist ML077: development of a highly selective and more potent in vitro probe. *Bioorg Med Chem Lett*. 2012 Jul 15;22(14):4532-5.
- [2]. Kursan S, McMillen TS, Beesetty P, Dias-Junior E, Almutairi MM, Sajib AA, Kozak JA, Aguilar-Bryan L, Di Fulvio M. The neuronal K⁺Cl⁻ co-transporter 2 (Slc12a5) modulates insulin secretion. *Sci Rep*. 2017 May 11;7(1):1732. doi: 10.1038/s41598-017-01814-0. PMID: 28496181; PMCID: PMC5431760.

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