Product Data Sheet

Product Name: Lemairamin
Cat. No.: GC79513

Chemical Properties

Cas. No.	29946-61-0		
Formula	$C_{19}H_{21}NO_3$	M.Wt	311.37
Solubility	DMSO: 100 mg/mL (321.16 mM; Need ultrasonic)	Storage	Store at 4°C, protect from light
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.
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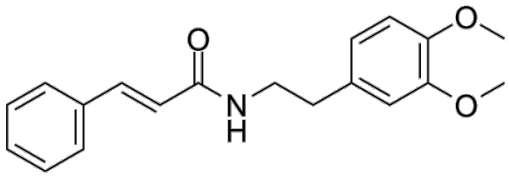
Structure



Background

Lemairamin (Wgx-50) is a hydroxylamine compound. Lemairamin can be isolated from the pericarps of the Zanthoxylum plants. Lemairamin activates α7nAChR, stimulates the expression of IL-10 and POMC. Lemairamin shows a decrease in Akt. Lemairamin attenuates DSS-induced intestinal inflammation. Lemairamin alleviates pain hypersensitivity [1] [2].

In Vivo, Lemairamin (10 μL/L; immersion; 6-18 h) exerts dose-time-dependent anti-inflammatory effects in a zebrafish DSS-induced inflammatory bowel disease model, reducing neutrophil recruitment and pro-inflammatory cytokine expression, preserving intestinal morphology, and inhibiting Akt pathway activation, with maximal effects observed at 12 hours of treatment[1]. Lemairamin (1-300 mg/kg; s.c.) dose-dependently inhibits formalin-induced tonic pain in male Swiss mice with an Emax of 66.7% inhibition and an ED50 of 11.1 mg/kg, via activation of α7nAChRs[2]. Lemairamin (1-300 mg/kg; s.c.; single administration) dose-dependently inhibits formalin-induced

tonic pain in adult Wistar rats with an Emax of 45.9% inhibition and an ED50 of 21.9 mg/kg[2]. Lemairamin (10-300 μg; i.t.; single administration) dose-dependently reduces mechanical allodynia in L5/L6 spinal nerve ligated Wistar rats with an Emax of 60.4% MPE and an ED50 of 83.9 μg, via α7nAChR activation and subsequent stimulation of spinal IL-10 and β-endorphin expression[2].

In Vitro, Lemairamin (10 μM; 2 h) stimulates the expression of IL-10 and POMC in primary rat spinal cord microglia[2].

References:
[1]. Zhang L, et al. Lemairamin (Wgx-50) Attenuates DSS-Induced Intestinal Inflammation in Zebrafish. Int J Mol Sci. 2024;25(17):9510. Published 2024 Sep 1.
[2]. Wang ZY, et al. Lemairamin, isolated from the Zanthoxylum plants, alleviates pain hypersensitivity via spinal α7 nicotinic acetylcholine receptors. Biochem Biophys Res Commun. 2020;525(4):1087-1094.