

Product Data Sheet

Product Name: AM 404
Cat. No.: GC12071

Chemical Properties

Cas. No. 198022-70-7

Chemical Name (5Z,8Z,11Z,14Z)-N-(4-hydroxyphenyl)icosa-5,8,11,14-tetraenamide

SMILES O=C(CCC/C=C\C/C=C\C/C=C\C/C=C\CCCC)NC(C=C1)=CC=C1O

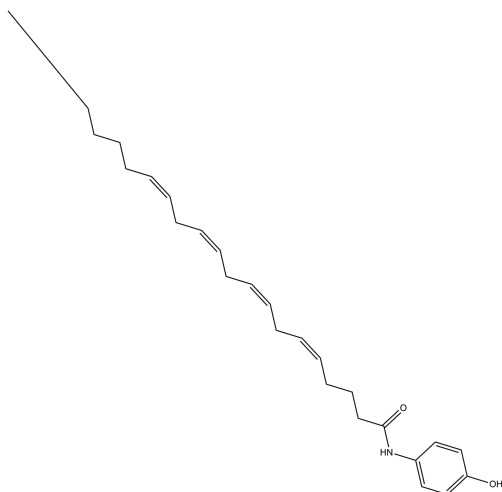
Formula $C_{26}H_{37}NO_2$ M.Wt 395.58

Solubility <19.78mg/ml in ethanol;
<19.78mg/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.

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

Structure



Background

AM 404 is a selective inhibitor of anandamide transport [1]. Also, it is an agonist of CB1 cannabinoid receptor and potential vanilloid type 1 (TRPV1).

The endocannabinoid transporter (eCBT) is a transporter for the endocannabinoid. The blockade of

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anandamide transport has anti-nociceptive effects.

AM 404 is a selective anandamide transport inhibitor. AM404 inhibited anandamide transport with IC₅₀ values of 1 and 5 μ M in neurons and astrocytes, respectively. However, AM404 had no effect on FAAH activity or on uptake of arachidonate or ethanolamine. Also, AM404 exhibited affinity for CB1 receptors with Ki value of 1.8 μ M [1]. In rat hepatic artery contracted with phenylephrine, AM404 evoked relaxations in a concentration-dependent way, which was inhibited by capsazepine, a vanilloid receptor antagonist. These results suggested that AM404 activated vanilloid receptors [2]. In SK-N-SH neuroblastoma cells, AM404 inhibited NFAT and NF- κ B signaling pathways [3].

In mice, AM404 (10 mg/kg) significantly prolonged and enhanced anandamide-induced analgesia [1]. In rats, AM404 inhibited motor behaviors induced by quinpirole, a D2 family receptor agonist. In juvenile spontaneously hypertensive rats, AM404 inhibited hyperactivity [4].

References:

- [1]. Beltramo M, Stella N, Calignano A, et al. Functional role of high-affinity anandamide transport, as revealed by selective inhibition. *Science*, 1997, 277(5329): 1094-1097.
- [2]. Zygmunt PM, Chuang H, Movahed P, et al. The anandamide transport inhibitor AM404 activates vanilloid receptors. *Eur J Pharmacol*, 2000, 396(1): 39-42.
- [3]. Caballero FJ, Soler-Torronteras R, Lara-Chica M, et al. AM404 inhibits NFAT and NF- κ B signaling pathways and impairs migration and invasiveness of neuroblastoma cells. *Eur J Pharmacol*, 2015, 746: 221-232.
- [4]. Beltramo M, de Fonseca FR, Navarro M, et al. Reversal of dopamine D(2) receptor responses by an anandamide transport inhibitor. *J Neurosci*, 2000, 20(9): 3401-3407.

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