

Arvanil

Chemical Properties

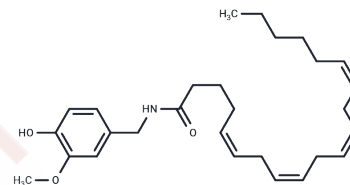
CAS No. : 128007-31-8

Formula: C₂₈H₄₁NO₃

Molecular Weight: 439.63

Storage: Store at low temperature, High Volatility
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Arvanil (N-Vanillylarachidonamide) is a synthetic capsaicin-amphetamine hybrid and a ligand for vanilloid receptor 1 (VR1) and cannabinoid receptor 1 (CB1), exhibiting neuroprotective activity, inhibiting spasm, and enhancing cisplatin chemotherapy sensitivity by inducing ferroptosis in HCC cells in vivo. It induces ferroptosis in liver cancer cells via binding to MICU1.
Targets(IC50)	Cannabinoid Receptor, TRP/TRPV Channel
In vitro	Arvanil directly binds to two amino acid sites of mitochondrial calcium uptake protein 1 (MICU1), Ser47 and Phe128, triggering iron death in living cells. [1] Arvanil inhibits lymphocyte proliferation and IFN- γ production. Phenotypes of activated CD4+T cells treated with Arvanil showed downregulation of T cell activation markers such as CD25, HLA-DR, and CD134/OX40. [2]
In vivo	Arvanil (2 mg/kg, intraperitoneally injected) induced anti-hyperkinetic state in rats injected with 3-nitropropionic acid (3-NP) in bilateral striatum. [3]

Solubility Information

Solubility	Ethanol: 8 mg/mL (18.2 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2746 mL	11.3732 mL	22.7464 mL
5 mM	0.4549 mL	2.2746 mL	4.5493 mL
10 mM	0.2275 mL	1.1373 mL	2.2746 mL
50 mM	0.0455 mL	0.2275 mL	0.4549 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Deng X, et al. Arvanil induces ferroptosis of hepatocellular carcinoma by binding to MICU. *Cancer Gene Ther.* 2024 Jan;31(1):148-157.

Malfitano AM, et al. Arvanil inhibits T lymphocyte activation and ameliorates autoimmune encephalomyelitis. *J Neuroimmunol.* 2006 Feb;171(1-2):110-9.

de Lago E, et al. Arvanil, a hybrid endocannabinoid and vanilloid compound, behaves as an antihyperkinetic agent in a rat model of Huntington's disease. *Brain Res.* 2005 Jul 19;1050(1-2):210-6.

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