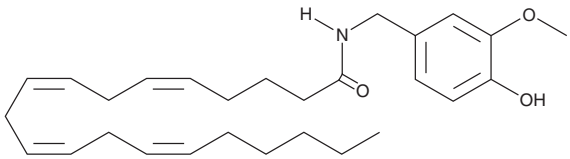
PRODUCT INFORMATION

Arvanil

Item No. 90052

CAS Registry No.:	128007-31-8
Formal Name:	N-[(4-hydroxy-3-methoxyphenyl) methyl]-5Z,8Z,11Z,14Z-eicosatetraenamide
Synonym:	N-Vanillylarachidonamide
MF:	$C_{28}H_{41}NO_3$
FW:	439.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 229, 281 nm
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Arvanil is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of arvanil in these solvents is at least 13 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of arvanil is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. For maximum aqueous solubility, arvanil can be directly disolved in 0.1 M Na_2CO_3 (1 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

Description

Arvanil is a structural analog of capsaicin, which is the noxious, active component of hot peppers of the *Capsicum* family. Arvanil is the amide of vanillylamine and arachidonic acid. Arvanil induces analgesia in rat and mouse models of pain.[1] It has complex interactions with the cannabinoid system, in that it potentiates the agonist activity of endogenous cannabinoids by inhibiting the reuptake of arachidonyl ethanolamide (AEA). It is an agonist at CB_1 (K_i values of 0.25 to 0.52 µM), but not CB_2 receptors, and is able to inhibit rat brain FAAH.[3] The vasodilator, analgesic, and anti-inflammatory properties of arvanil are not clearly explained by its interactions with cannabinoid and vanilloid receptors, suggesting other possible sites of action.

References

1. Di Marzo, V., Bisogno, T., Melck, D., *et al.* Interactions between synthetic vanilloids and the endogenous cannabinoid system. *FEBS Lett.* **436**, 449-454 (1998).
2. Janusz, J.M., Buckwalter, B.L., Young, P.A., *et al.* Vanilloids. 1. Analogs of capsaicin with antinociceptive and antiinflammatory activity. *J. Med. Chem.* **36**, 2595-2604 (1993).
3. Glaser, S.T., Abumrad, N.A., Fatade, F., *et al.* Evidence against the presence of an anandamide transporter. *Proc. Natl. Acad. Sci. USA* **100(7)**, 4269-4274 (2003).

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