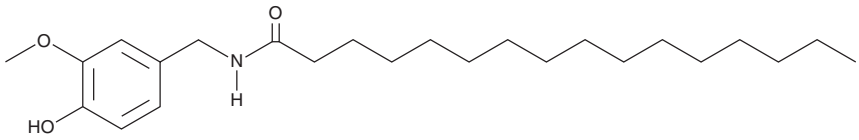
PRODUCT INFORMATION

Palvanil

Item No. 46656

CAS Registry No.:	69693-13-6
Formal Name:	N-[(4-hydroxy-3-methoxyphenyl) methyl]-hexadecanamide
Synonym:	N-palmitoyl Vanillamide
MF:	$C_{24}H_{41}NO_3$
FW:	391.6
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Palvanil is supplied as a solid. A stock solution may be made by dissolving the palvanil in the solvent of choice, which should be purged with an inert gas. Palvanil is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in ethanol.

Description

Palvanil is an agonist of transient receptor potential vanilloid 1 (TRPV1) and a derivative of capsaicin (Item Nos. 92350 | 10010743).[1] It increases intracellular calcium levels in HEK293 cells expressing human TRPV1 (EC_{50} = 5 nM). Palvanil also selectively binds to the cannabinoid 1 (CB_1) receptor over the CB_2 receptor (K_is = 3 and >15 µM, respectively).[2] Unlike olvanil (Item No. 90262) and arvanil (Item No. 90052), palvanil does not inhibit anandamide (arachidonoyl ethanolamide; Item No. 90050) transport into RBL-2H3 cells (IC_{50} = >50 µM). Palvanil inhibits the proliferation of MCF-7, EFM-19, and T47D breast cancer cells (IC_{50}s = 2.2, 1, and 1.6 µM, respectively). It increases whole gastrointestinal (GI) transit time in mice and has antinociceptive activity in a mouse model of visceral pain at 1 mg/kg.[3] Palvanil (0.05 and 0.1 mg/kg) also decreases immobility time in the forced swim test in rats.[4]

References

1. De Petrocellis, L., Bisogno, T., Davis, B.J., *et al.* Overlap between the ligand recognition properties of the anandamide transporter and the VR1 vanilloid receptor: Inhibitors of anandamide uptake with negligible capsaicin-like activity. *FEBS Lett.* **483(1)**, 52-56 (2000).
2. Melck, D., Bisogno, T., De Petrocellis, L., *et al.* Unsaturated long-chain N-acyl-vanillyl-amides (N-AVAMs): Vanilloid receptor ligands that inhibit anandamide-facilitated transport and bind to CB1 cannabinoid receptors. *Biochem. Biophys. Res. Commun.* **262(1)**, 275-284 (1999).
3. Szymaszkiewicz, A., Włodarczyk, J., Wasilewski, A., *et al.* Desensitization of transient receptor potential vanilloid type-1 (TRPV1) channel as promising therapy of irritable bowel syndrome: Characterization of the action of palvanil in the mouse gastrointestinal tract. *Naunyn Schmiedebergs Arch. Pharmacol.* **393(8)**, 1357-1364 (2020).
4. Reyes-Mendez, M.E., Castro-Sánchez, L.A., Dagnino-Acosta, A., *et al.* Capsaicin produces antidepressant-like effects in the forced swimming test and enhances the response of a sub-effective dose of amitriptyline in rats. *Physiol. Behav.* **195**, 158-166 (2018).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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