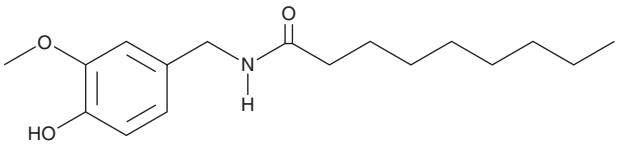
PRODUCT INFORMATION

Nonivamide

Item No. 25328

CAS Registry No.: 2444-46-4
Formal Name: N-[(4-hydroxy-3-methoxyphenyl)methyl] nonanamide
Synonyms: Nonanoic Acid Vanillylamide, NSC 172795, Pelargonic Acid Vanillylamide, Pseudocapsaicin, N-Vanillylnonanamide, N-Vanillylpelargonamide
MF: $C_{17}H_{27}NO_3$
FW: 293.4
Purity: ≥95%
UV/Vis.: λ_{max}: 228 nm
Supplied as: A crystalline 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

Nonivamide is supplied as a crystalline solid. A stock solution may be made by dissolving the nonivamide in the solvent of choice. Nonivamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of nonivamide in these solvents is approximately 31, 13, and 15 mg/ml, respectively.

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. Organic solvent-free aqueous solutions of nonivamide can be prepared by directly dissolving the crystalline solid in aqueous buffers. For maximum aqueous solubility, nonivamide can be directly dissolved 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

Nonivamide is a transient receptor potential vanilloid type 1 (TRPV1) agonist and an analog of capsaicin (Item Nos. 92350 | 10010743) that has been isolated from *Capsicum* species.[1,2] It is toxic to NHBE, BEAS-2B, and BEAS-2B cells overexpressing TRPV1 (TRPV1-OE; LC_{50}s = 160, 115, and 1 µM, respectively), increases calcium flux in TRPV1-OE cells (EC_{50} = 1.4 µM), and increases GADD153 mRNA expression by 7- and 6-fold when used at concentrations of 2 and 20 µM, respectively.[2] Nonivamide (1 µM) also increases the release of dopamine and serotonin from SH-SY5Y cells in a calcium-dependent and TRPV1-independent manner.[3] In mice, it reduces respiration when inhaled and is toxic with LD_{50} values of 200 and 413 mg/kg for oral and inhaled administration, respectively.[4] Formulations containing nonivamide have been used in pepper spray weaponry for riot control.

References

1. Constant, H.L. and Cordell, G.A. *J. Nat. Prod.* **59(4)**, 425-426 (1996).
2. Thomas, K.C., Ethirajan, M., Shahrokh, K., *et al. J. Pharmacol. Exp. Ther.* **337(2)**, 400-410 (2011).
3. Rohm, B., Holik, A.-K., Somoza, M.M., *et al. Mol. Nutr. Food Res.* **57(11)**, 2008-2018 (2013).
4. Satpute, R.M., Kushwaha, P.K., Nagar, D.P., *et al. Inhal. Toxicol.* **30(2)**, 89-97 (2018).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM