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Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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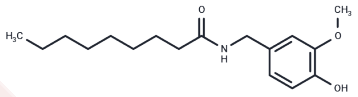
Data Sheet (Cat.No.T1321)

TargetMol

Nonivamide

Chemical Properties



CAS No. : 2444-46-4

Formula: C17H27NO3

Molecular Weight: 293.4

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Nonivamide (Nonanoic acid vanillylamide) is found in herbs and spices. Nonivamide is an alkaloid from Capsicum species Nonivamide is a flavoring ingredient. Nonivamide is an organic compound and a capsaicinoid. It is an amide of pelargonic acid and vanillylamine. It is present in chili peppers, but is commonly manufactured synthetically. It is more heat-stable than capsaicin.
Targets(IC50)	TRP/TRPV Channel
In vitro	Nonivamide, a synthetic derivate of natural capsaicin, has an effective antifouling activity. Capsaicin exhibits 4d-EC50 values of 5.5±0.5 mg/L, 23±2 mg/L, 6.9±0.2 mg/L, and 15.6±0.4 mg/L in static toxicity tests conducted using Pseudomonas putida, Lake Erie bacteria, Vibrio natriegens, and Vibrio parahaemolyticus, respectively. A significant growth inhibitory effect ($p<0.01$) is observed in the group treated with 1 mg/L of Nonivamide for 4 d, and the EC50 value (4 d-EC50) is 5.1 mg/L[1]. Nonivamide treatment causes calcium release from the ER and altered the transcription of growth arrest- and DNA damage-inducible transcript 3 (GADD153), GADD45α, GRP78/BiP, ATF3, CCND1, and CCNG2) in a manner comparable with prototypical ER stress-inducing agents. ER calcium flux is evaluated by pretreating cells with 2.5 μM thapsigargin for 5 min followed by addition of 2.5 μM Nonivamide. Treatment of TRPV1-overexpressing cells with 2.5 μM Nonivamide produces marked increases in cytosolic calcium due to release of calcium from ER stores. Treatment of TRPV1-overexpressing cells with 1 μM Nonivamide causes an approximate 50% loss in cell viability after a 24-h period. BEAS-2B cells treated with 100 and 200 μM Nonivamide also exhibits a shift in the relative amount of EIF2α-P and an increase in the expression of GADD153 mRNA and protein[2]. Treatment with Nonivamide reduces lipid accumulation to a similar extent as CAP; the effects are not different from the effects after CAP treatment at any of the tested concentrations. Compared to untreated control cells, treatment with Nonivamide decreases lipid accumulation by 5.34±1.03% ($P<0.05$) at 0.01 μM up to 10.4±2.47% ($P<0.001$) at 1 μM[3].
Cell Research	Nonivamide is dissolved in ethanol to 1,000× stock solutions freshly each time and final ethanol concentration during the assays never exceeded 0.2% (v/v)[3]. In the MTT assay, the reduction of yellow tetrazolium salt MTT to a purple formazan by mitochondrial and ER enzymes is used as a measure for cell viability. Cells are seeded in 96-well plates and treated with 1?nM-10?μM CAP or Nonivamide with or without addition of 25-100?μM BCH or the corresponding ethanol concentration (0.1-0.2% (v/v), solvent control) for 12 days after initiation of differentiation. Cell culture media is exchanged every second day. On Day 12, 100?μL of the MTT working reagent (0.83?mg/mL MTT diluted in PBS/serum-free

media (1:5)), is added to each well, and cells are incubated at 37°C for approximately 15?min. The MTT working solution is removed and the purple formazan formed during incubation is dissolved in 150?μL DMSO per well. Absorbance is measured at 550?nm with 690?nm as reference wavelength using multiwell plate reader. The number of metabolically active cells is calculated relative to untreated control cells or the corresponding solvent control (100%)[3].

Solubility Information

Solubility	DMSO: 50 mg/mL (170.42 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4083 mL	17.0416 mL	34.0832 mL
5 mM	0.6817 mL	3.4083 mL	6.8166 mL
10 mM	0.3408 mL	1.7042 mL	3.4083 mL
50 mM	0.0682 mL	0.3408 mL	0.6817 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.

Reference

Zhang B, Zhao J, Wang Z, et al. Identification of Multi-Target Anti-AD Chemical Constituents From Traditional Chinese Medicine Formulae by Integrating Virtual Screening and In Vitro Validation. Frontiers in Pharmacology.