

Product Datasheet

Nonivamide (orb1225537)

Catalog Number orb1225537

Category Small Molecules

Description A capsaicin analog that acts as an agonist of TRPV1 channel; causes calcium release from the ER and alters the transcription of GADD153, GADD45alpha, GRP78/BiP, ATF3, CCND1, and CCNG2 in human bronchial epithelial and alveolar cells; stimulates the Ca(2+)-dependent release of serotonin and dopamine in SH-SY5Y cells at 1 uM; also enhances miRNA let-7d expression and decreases adipogenesis PPAR γ expression in 3T3-L1 cells. Pain Phase 3 Clinical(In Vitro): Nonivamide, a synthetic derivate of natural capsaicin, has an effective antifouling activity. Capsaicin exhibits 4d-EC50 values of 5.5 \pm 0.5 mg/L, 23 \pm 2 mg/L, 6.9 \pm 0.2 mg/L, and 15.6 \pm 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. Nonivamide treatment causes calcium release from the ER and altered the transcription of growth arrest- and DNA damage-inducible transcript 3 (GADD153), GADD45 α , 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 μ M thapsigargin for 5 min followed by addition of 2.5 μ M Nonivamide. Treatment of TRPV1-overexpressing cells with 2.5 μ M Nonivamide produces marked increases in cytosolic calcium due to release of calcium from ER stores. Treatment of TRPV1-overexpressing cells with 1 μ M Nonivamide causes an approximate 50% loss in cell viability after a 24-h period. BEAS-2B cells treated with 100 and 200 μ M Nonivamide also exhibits a shift in the relative amount of EIF2 α -P and an increase in the expression of GADD153 mRNA and protein. 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 \pm 1.03% (P<0.05) at 0.01 μ M up to 10.4 \pm 2.47% (P<0.001) at 1 μ M.

Target TRP/TRPV Channel

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Purity	>98% (HPLC)
MW	293.4012
Target Areas	TRPV1
Solubility (25°C)	10 mM in DMSO
CAS Number	2444-46-4
Formula	C ₁₇ H ₂₇ NO ₃
SMILES	<chem>O=C(NC(CCCCCCCC)=O)C1=CC=C(O)C(OC)=C1</chem>
Chemical Name	Nonanamide, N-[(4-hydroxy-3-methoxyphenyl)methyl]-
Storage	Storage temperature: -20°C. Stability: ≥ 2 years
Note	For research use only
Expiration Date	12 months from date of receipt.

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