

Product Data Sheet

Product Name: Nylidrin
Cat. No.: GC48801

Chemical Properties

Cas. No. 447-41-6

SMILES OC1=CC=C(C(C(C)NC(CCC2=CC=CC=C2)C)O)C=C1

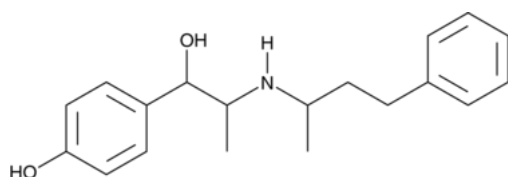
Formula C₁₉H₂₅NO₂ M.Wt 299.4

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, DMSO:PBS (pH 7.2) (1:7): 0.12 mg/ml
Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Nylidrin is an agonist of β -adrenergic receptors and antagonist of NR1A/2B subunit-containing NMDA receptors.^{1,2} It binds to β -adrenergic receptors ($K_d = 0.37 \mu\text{M}$) and activates adenylate cyclase with a K_a value of $1.3 \mu\text{M}$.¹ Nylidrin is selective for NR1A/2B over NR1A/2A and NR1A/2C subunit-containing NMDA receptors ($\text{IC}_{50}\text{s} = 0.18, 32, \text{ and } 42 \mu\text{M}$, respectively, for the recombinant receptors expressed in *Xenopus* oocytes).² It inhibits NMDA-induced currents in primary rat cortical neurons ($\text{IC}_{50} = 0.22 \mu\text{M}$). It also decreases blood pressure and increases heart rate in spontaneously hypertensive rats (SHRs) with a minimum effective dose (MED) of 0.5 mg/kg.³ Nylidrin (20 and 100 μM) inhibits influenza hemagglutinin 2-mediated membrane fusion in Vero E6 cells.⁴ It inhibits infection of MDCK cells by H1N1 and H3N2 influenza isolates *in vitro* ($\text{EC}_{50}\text{s} = 7.2$ and 12.1 μM , respectively) and prevents infection in a mouse model of mouse-adapted H1N1

Caution: Product has not been fully validated for medical applications. For research use only.

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infection.

1. Bilezikian, J.P., Dornfeld, A.M., and Gammon, D.E. Structure-binding-activity analysis of beta-adrenergic amines—I. Binding to the beta receptor and activation of adenylate cyclase *Biochem. Pharmacol.* 27(10)1445-1454 (1978)
2. Whittemore, E.R., Ilyin, V.I., Konkoy, C.S., et al. Subtype-selective antagonism of NMDA receptors by nylidrin *Eur. J. Pharmacol.* 337(2-3)197-208 (1997)
3. Yen, T.T., and Pearson, D.V. Nylidrin: A potent antihypertensive agent in hypertensive rats *Res. Commun. Chem. Pathol. Pharmacol.* 23(1)11-28 (1979)
4. Jang, Y., Shin, J.S., Lee, J.-Y., et al. In vitro and in vivo antiviral activity of nylidrin by targeting the hemagglutinin 2-mediated membrane fusion of influenza A virus *Viruses* 12(5)581 (2020)

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