

Product Data Sheet

Product Name: Ifenprodil hemitartrate

Cat. No.: GC10471

Chemical Properties

Cas. No. 23210-58-4

Chemical Name 4-((1R,2S)-2-(4-benzylpiperidin-1-yl)-1-hydroxypropyl)phenol hemi((2R,3R)-2,3-dihydroxysuccinate)

SMILES C[C@@](N1CCC(CC2=CC=CC=C2)CC1)([H])[C@@](O)([H])C3=CC=C(O)C=C3.C[C@@](N4CCC(CC5=CC=CC=C5)CC4)([H])[C@@](O)([H])C6=CC=C(O)C=C6.O[C@](C(O)=O)([H])[C@](O)([H])C(O)=O

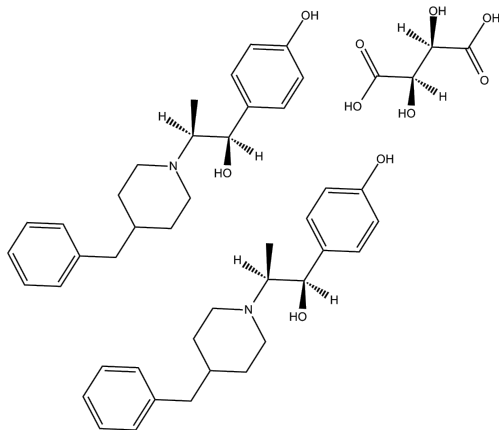
Formula $C_{21}H_{27}NO_2 \cdot \frac{1}{2}C_4H_6O_6$ M.Wt 400.49

Solubility DMF: 50 mg/ml, DMSO: 30 mg/ml, Ethanol: 30 mg/ml, PBS (pH 7.2): 1 mg/ml Storage Store at RT

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

Ifenprodil is a selective antagonist of NMDA receptors that contain NR2B subunits ($IC_{50} = 0.3 \mu M$) and displays 150-fold weaker activity at those bearing NR2C or NR2D subunits.[1] Ifenprodil also acts

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as a potent ligand at receptors for $\sigma 1$, emopamil binding proteins, and their σ -like, fungal counterpart ERG2 ($K_{is} = 2, 5, \text{ and } 1 \text{ nM}$). [2] This compound has been described as an α -adrenergic vasodilator, but is also reported to constrict cerebrovascular smooth muscle in vitro ($EC_{50} = 2.4 \mu\text{M}$). [3]

Reference:

[1]. Bräuner-Osborne, H., Egebjerg, J., Nielsen, E.O., et al. Ligands for glutamate receptors: Design and therapeutic prospects J. Med. Chem. 43(14), 2609-2645 (2000).

[2]. Laggner, C., Schieferer, C., Fiechtner, B., et al. Discovery of high-affinity ligands of $\sigma 1$ receptor, ERG2, and emopamil binding protein by pharmacophore modeling and virtual screening J. Med Chem. 48(15), 4754-4764 (2005).

[3]. Young, A.R., Bouloy, M., Boussard, J.F., et al. Direct vascular effects of agents used in the pharmacotherapy of cerebrovascular disease on isolated cerebral vessels Journal of Cerebral Blood Flow and Metabolism 1(1), 117-128 (1981).

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