Fenoldopam

Cat. No.: HY-B0735

CAS No.: 67227-56-9

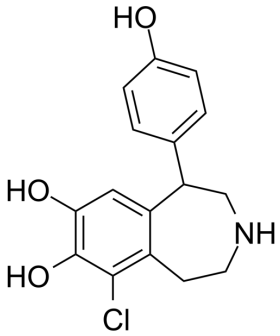
Molecular Formula: $C_{16}H_{16}ClNO_3$

Molecular Weight: 305.76

Target: Dopamine Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Fenoldopam(SKF 82526) is a drug and synthetic benzazepine derivative which acts as a selective D1 receptor partial agonist.Target: D1 ReceptorFenoldopam is a selective dopamine-1 (DA1) agonist with natriuretic/diuretic properties. Fenoldopam stimulated cAMP accumulation in LLC-PK1 cells in a dose-dependent manner, an effect which could be blocked by the DA1-selective antagonist Sch 23390. Although fenoldopam was more potent than DA (EC50 55.5 +/- 7.75 nM vs. 1.65 +/- 0.64 microM) in stimulating cAMP accumulation in LLC-PK1 cells, the maximum stimulation obtained by fenoldopam was only 37% of the maximum stimulation obtained by DA(Emax 13.0 +/- 2.95 pmol/mg of protein vs. 35.6 +/- 10.19 pmol/mg of protein) [1]. Fenoldopam is a selective dopamine1 (DA1) receptor agonist. Most of the DA1 receptor agonist activity of fenoldopam resides in the R-enantiomer, which also shows weaker alpha 2-adrenoceptor antagonist activity Fenoldopam produces vasodilation in vascular beds that are rich in vascular DA1 receptors [2].

CUSTOMER VALIDATION

- Cell. 2021 Feb 18;184(4):943-956.e18.
- Biomed Pharmacother. 2021, 111500.
- Biochem Biophys Res Commun. 18 December 2021.
- SLAS Discov. 2020 Sep;25(8):895-905.

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REFERENCES

[1]. Grenader, A. and D.P. Healy, Fenoldopam is a partial agonist at dopamine-1 (DA1) receptors in LLC-PK1 cells. J Pharmacol Exp Ther, 1991. 258(1): p. 193-8.

[2]. Nichols, A.J., R.R. Ruffolo, Jr., and D.P. Brooks, The pharmacology of fenoldopam. Am J Hypertens, 1990. 3(6 Pt 2): p. 116S-119S.

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

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