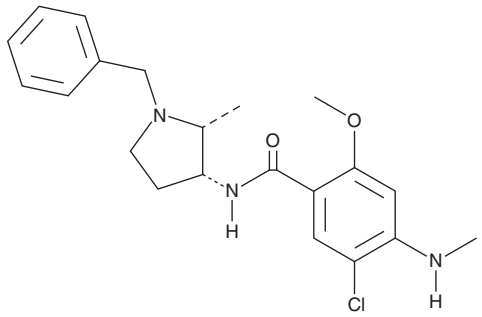
PRODUCT INFORMATION

Nemonapride

Item No. 21376

CAS Registry No.:	75272-39-8
Formal Name:	*rel*-5-chloro-2-methoxy-4-(methylamino)-N-[(2R,3R)-2-methyl-1-(phenylmethyl)-3-pyrrolidinyl]-benzamide
Synonym:	YM-09151-2
MF:	$C_{21}H_{26}ClN_3O_2$
FW:	387.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 212, 282, 308 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nemonapride is supplied as a crystalline solid. A stock solution may be made by dissolving the nemonapride in the solvent of choice, which should be purged with an inert gas. Nemonapride is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of nemonapride in ethanol and DMSO is approximately 10 mg/ml and approximately 20 mg/ml in DMF.

Nemonapride is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, nemonapride should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Nemonapride has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Nemonapride is an antipsychotic that readily passes through the blood brain barrier and exhibits potent neuroleptic effects in animals.[1] It binds dopamine 2 (D_2)-like receptors preferentially over D_1-like receptors (K_is = 0.06, 0.3, and 0.15 nM for D_2, D_3, and D_4, respectively).[1,2] Nemonapride also binds sigma 1 (σ1) and σ2 receptors (K_is = 8.4 and 9.6 nM, respectively) and activates the serotonin 1A receptor (5-HT_{1A}; IC_{50} = 34 nM).[3,4]

References

1. Terai, M., Usuda, S., Kuroiwa, I., *et al.* Selective binding of YM-09151-2, a new potent neuroleptic, to D_2-dopaminergic receptors. *Jpn. J. Pharmacol.* **33(4)**, 749-755 (1983).
2. Seeman, P. and H. H. M. Van Tol. Dopamine receptor pharmacology. *Trends Pharamacol. Sci.* **15(7)**, 264-270 (1994).
3. Ujike, H., Akiyama, K., and Kuroda, S. [3H]YM-09151-2 (nemonapride), a potent radioligand for both sigma 1 and sigma 2 receptor subtypes. *Neuroreport* **7(5)**, 1057-1061 (1996).
4. Assié, M.-B., Cosi, C., and Koek, W. 5-HT_{1A} receptor agonist properties of the antipsychotic, nemonapride: Comparison with bromerguride and clozapine. *Eur. J. Pharmacol.* **334(2-3)**, 141-147 (1997).

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