Print Date: Jan 7th 2019

Certificate of Analysis

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Product Name: **Ro 25-6981 maleate** **Catalog No.: 1594** **Batch No.: 7**

CAS Number: 1312991-76-6

IUPAC Name: (α*R*,β*S*)-α-(4-Hydroxyphenyl)-β-methyl-4-(phenylmethyl)-1-piperidinepropanol maleate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{22}H_{29}NO_2.C_4H_4O_4$

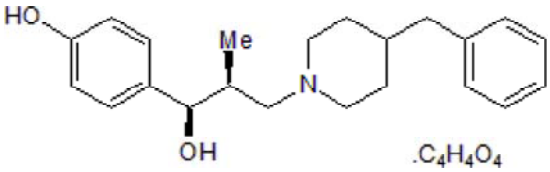
Batch Molecular Weight: 455.55

Physical Appearance: White solid

Solubility: water to 10 mM with gentle warming
DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.68 (Dichloromethane:Methanol:NEt3 [90:9:1])

HPLC: Shows 99.3% purity

Chiral HPLC: Shows 100% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +19.7 (Concentration = 1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	68.55	7.3	3.07
Found	68.18	6.97	3.21

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IUPAC Name: (α*R*,β*S*)-α-(4-Hydroxyphenyl)-β-methyl-4-(phenylmethyl)-1-piperidinepropanol maleate

Description:

Potent and selective activity-dependent blocker of NMDA receptors containing the GluN2B (formally NR2B) subunit. IC_{50} values are 0.009 and 52 μM for cloned receptor subunit combinations GluN1C/GluN2B and GluN1C/GluN2A respectively. Displays neuroprotectant effects in vivo and in vitro. Please refer to IUPHAR Guide to Pharmacology for the most recent naming conventions.

Physical and Chemical Properties:

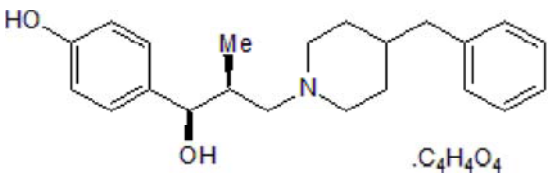
Batch Molecular Formula: $C_{22}H_{29}NO_2.C_4H_4O_4$

Batch Molecular Weight: 455.55

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 10 mM with gentle warming
DMSO to 100 mM

When purchsed as a 1mg unit, this product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Kosowski and Liljequist (2004) The NR2B- selective N-methyl-D-aspartate receptor antagonist Ro 25-6981 [(±)-(*R**,*S**)-α-(4-hydroxyphenyl)-β-methyl-4-(phenylmethyl)-1-piperidine propanol] potentiates the effect of nicotine on locomotor activity and dopamine release in the nucleus accumbens. J.Pharmacol.Exp.Ther. ***311*** 560. PMID: 15256539.

Lynch *et al* (2001) Pharmacological characterization of interactions of RO 25-6981 with the NR2B (ε2) subunit. Eur.J.Pharmacol. ***416*** 185. PMID: 11290368.

Fischer *et al* (1997) Ro 25-6981, a highly potent and selective blocker of N-Methyl-D-aspartate receptors containing the NR2B subunit. Characterization *in vitro*. J.Pharmacol.Exp.Ther. ***283*** 1285. PMID: 9400004.

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