

Product Name: TC 2559 difumarate

Catalog No.: 2737

Batch No.: 2

CAS Number: 2454492-41-0

IUPAC Name: 4-(5-ethoxy-3-pyridinyl)-*N*-methyl-(3*E*)-3-buten-1-amine difumarate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₂H₁₈N₂O. 2C₄H₄O₄

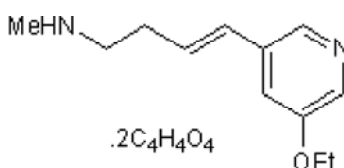
Batch Molecular Weight: 438.43

Physical Appearance: White solid

Solubility: water to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.4% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	54.79	5.98	6.39
Found	54.45	6.29	6.33

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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CAS Number: 2454492-41-0

IUPAC Name: 4-(5-ethoxy-3-pyridinyl)-N-methyl-(3E)-3-buten-1-amine difumarate

Description:

TC 2559 difumarate is a subtype-selective partial agonist for $\alpha 4\beta 2$ nicotinic acetylcholine receptors (EC_{50} values are 0.18, 12.5, 14.0, > 30, > 100 and > 100 μ M for $\alpha 4\beta 2$, $\alpha 4\beta 4$, $\alpha 2\beta 4$, $\alpha 3\beta 4$, $\alpha 3\beta 2$ and $\alpha 7$ receptor subtypes respectively). Displays selectivity for $(\alpha 4)_2(\beta 2)_3$ receptor stoichiometry and enhanced CNS-PNS selectivity ratio. Attenuates scopolamine-induced cognitive deficits in a step-through passive avoidance task.

Physical and Chemical Properties:

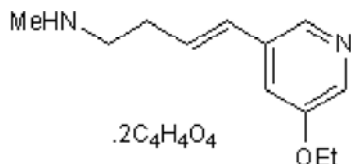
Batch Molecular Formula: $C_{12}H_{18}N_2O \cdot 2C_4H_4O_4$

Batch Molecular Weight: 438.43

Physical Appearance: White solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



References:

Zwart et al (2006) 5-I A-85380 and TC-2559 differentially activate heterologously expressed $\alpha 4\beta 2$ nicotinic receptors. *Eur.J.Pharmacol.* **539** 10. PMID: 16674940.

Chen et al (2003) The nicotinic $\alpha 4\beta 2$ receptor selective agonist, TC-2559, increases DA neuronal activity in the ventral tegmental area of rat midbrain slices. *Neuropharmacology* **45** 334. PMID: 12871651.

Bencherif et al (2000) TC-2559: a novel orally active ligand selective at neuronal acetylcholine receptors. *Eur.J.Pharmacol.* **409** 45. PMID: 11099699.

Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM

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.

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