

## Certificate of Analysis

**Product Name:** NS 9283

**Catalog No.:** 5112

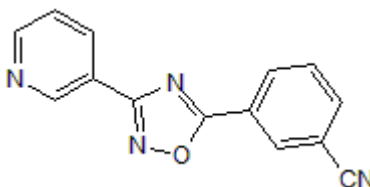
**Batch No.:** 1

CAS Number: 913830-15-6

IUPAC Name: 3-[3-(3-Pyridinyl)-1,2,4-oxadiazol-5-yl]benzonitrile

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>14</sub>H<sub>8</sub>N<sub>4</sub>O  
**Batch Molecular Weight:** 248.24  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 50 mM  
 1eq. HCl to 20 mM  
**Storage:** Store at +4°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.27 (Ethyl acetate:Petroleum ether [1:1])  
**HPLC:** Shows 99.6% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	67.74	3.25	22.57
Found	67.81	3.25	22.44

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

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**Description:**

Positive allosteric modulator of  $\alpha 4\beta 2$  receptor; increases the potency of Ach-evoked currents ~60 fold without effecting the maximum efficacy (HEK293-h $\alpha 4\beta 2$  cells). Reduces the rate of recovery from desensitization and slows the rate of deactivation. Displays a synergistic effect on the  $E_{max}$  when given with NS206 at 3 $\alpha$ :2 $\beta$  receptors.

**Physical and Chemical Properties:**

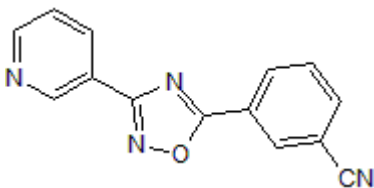
Batch Molecular Formula: C<sub>14</sub>H<sub>8</sub>N<sub>4</sub>O

Batch Molecular Weight: 248.24

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**References:**

**Grupe et al** (2013) Unravelling the mechanism of action of NS9283, a positive allosteric modulator of ( $\alpha 4$ )<sub>3</sub>( $\beta 2$ )<sub>2</sub> nicotinic ACh receptors. *Br.J.Pharmacol.* **168** 2000. PMID: 23278456.

**Olsen et al** (2013) Two distinct allosteric binding sites at  $\alpha 4\beta 2$  nicotinic acetylcholine receptors revealed by NS206 and NS9283 give unique insights to binding activity-associated linkage at Cys-loop receptors. *J.Biol.Chem.* **288** 35997. PMID: 24169695.

**Mohler et al** (2014) Discriminative-stimulus effects of NS9283, a nicotinic  $\alpha 4\beta 2^*$  positive allosteric modulator, in nicotine-discriminating rats. *Psychopharmacology (Berl)*. **231** 67. PMID: 23925734.

**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 50 mM

1eq. HCl to 20 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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