

## Certificate of Analysis

[www.tocris.com](http://www.tocris.com)

**Product Name:** 4-Acetyl-1,1-dimethylpiperazinium iodide

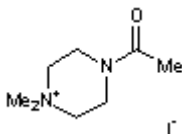
**Catalog No.:** 0352

**Batch No.:** 2

**CAS Number:** 75667-84-4

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>8</sub>N<sub>17</sub>IN<sub>2</sub>O  
**Batch Molecular Weight:** 284.14  
**Physical Appearance:** White crystalline solid  
**Solubility:** water to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.7 (Ethyl acetate:Methanol [1:1])  
**Melting Point:** Between 270 - 272°C  
**<sup>1</sup>H NMR:** Consistent with structure

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

## Product Information

[www.tocris.com](http://www.tocris.com)

**Product Name:** 4-Acetyl-1,1-dimethylpiperazinium iodide

**Catalog No.:** 0352

**Batch No.:** 2

**CAS Number:** 75667-84-4

### Description:

Structural analog of acetylcholine that acts as a nicotinic agonist ( $K_i = 29.9$  nM at  $\alpha 4\beta 2$ ). Upregulates the number of  $\alpha 4\beta 2$  binding sites in M10 cells in vitro by 440%.

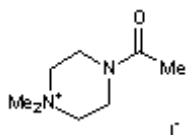
### Physical and Chemical Properties:

Batch Molecular Formula:  $C_8H_{17}IN_2O$

Batch Molecular Weight: 284.14

Physical Appearance: White crystalline solid

### Batch Molecular Structure:



**Storage:** Store at RT

### Solubility & Usage Info:

water to 100 mM

CAUTION - This product is hygroscopic and we recommend that it is desiccated upon arrival. Solutions should be made up as soon as the vial is opened.

### 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:

**Spivak et al** (1986) Structural and electronic requirements for potent agonists at a nicotinic receptor. *Eur.J.Pharmacol.* **120** 127. PMID: 3485051.

**Spivak et al** (1988) Binding of semirigid nicotinic agonists to nicotinic and muscarinic receptors. *Mol.Pharmacol.* **36** 177. PMID: 2747625.

**Warpman et al** (1998) Regulation of nicotinic receptor subtypes following chronic nicotinic agonist exposure in M10 and SH-SY5Y neuroblastoma cells. *J.Neurochem.* **70** 2028. PMID: 9572289.

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

### bio-techne.com

info@bio-techne.com  
techsupport@bio-techne.com

### North America

Tel: (800) 343 7475

### China

info.cn@bio-techne.com  
Tel: +86 (21) 52380373

### Europe Middle East Africa

Tel: +44 (0)1235 529449

### Rest of World

[www.tocris.com/distributors](http://www.tocris.com/distributors)  
Tel: +1 612 379 2956