

## Certificate of Analysis

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

**Product Name:** Aniracetam

**Catalog No.:** 0867

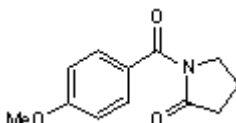
**Batch No.:** 3

CAS Number: 72432-10-1

IUPAC Name: 1-(4-Methoxybenzoyl)-2-pyrrolidinone

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>12</sub>H<sub>13</sub>NO<sub>3</sub>  
**Batch Molecular Weight:** 219.24  
**Physical Appearance:** Cream solid  
**Solubility:** ethanol to 25 mM  
 DMSO to 100 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.2 (Chloroform:Methanol [9:1])  
**Melting Point:** Between 123 - 127°C  
**HPLC:** Shows >99.5% purity  
<sup>1</sup>H NMR: Consistent with structure  
 Mass Spectrum: Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	65.74	5.98	6.39
Found	65.34	5.99	6.17

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

**Product Name:** Aniracetam

**Catalog No.:** 0867

**Batch No.:** 3

CAS Number: 72432-10-1

IUPAC Name: 1-(4-Methoxybenzoyl)-2-pyrrolidinone

**Description:**

Nootropic, with modulatory actions through allosteric potentiation of AMPA specific receptors, reduction of glutamate receptor desensitization and potentiation of metabotropic glutamate receptor activity. Anxiolytic following systemic administration.

**Physical and Chemical Properties:**

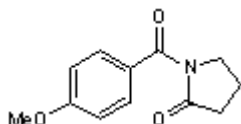
Batch Molecular Formula: C<sub>12</sub>H<sub>13</sub>NO<sub>3</sub>

Batch Molecular Weight: 219.24

Physical Appearance: Cream solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

ethanol to 25 mM  
DMSO 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.

**References:**

**Ito et al** (1990) Allosteric potentiation of quisqualate receptors by a nootropic drug aniracetam. *J.Physiol.* **424** 553. PMID: 1975272.

**Isaacson and Nicholl** (1991) Aniracetam reduces glutamate receptor desensitisation and slows the decay of fast excitatory synaptic currents in the hippocampus. *Proc.Natl.Acad.Sci.U.S.A.* **88** 10936. PMID: 1660156.

**Nakamura and Kurasawa** (2001) Anxiolytic effects of aniracetam in three different mouse models of anxiety and the underlying mechanism. *Eur.J.Pharmacol.* **420** 33. PMID: 11412837.

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

Tel:+1 612 379 2956