

# Certificate of Analysis

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

**Product Name:** TPCA-1

**Catalog No.:** 2559

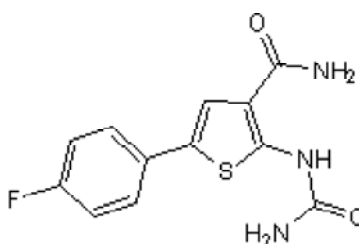
**Batch No.:** 5

**CAS Number:** 507475-17-4

**IUPAC Name:** 2-[(Aminocarbonyl)amino]-5-(4-fluorophenyl)-3-thiophenecarboxamide

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>12</sub>H<sub>10</sub>FN<sub>3</sub>O<sub>2</sub>S  
**Batch Molecular Weight:** 279.29  
**Physical Appearance:** Off-white solid  
**Solubility:** DMSO to 100 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.16 (Ethyl acetate:Methanol [9:1])  
**HPLC:** Shows 97.8% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon Hydrogen Nitrogen		
Theoretical	51.61	3.61	15.05
Found	51.59	3.72	14.95

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

## Product Information

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

**Product Name:** TPCA-1

**Catalog No.:** 2559

**Batch No.:** 5

**CAS Number:** 507475-17-4

**IUPAC Name:** 2-[(Aminocarbonyl)amino]-5-(4-fluorophenyl)-3-thiophenecarboxamide

### Description:

Potent, selective inhibitor of I $\kappa$ B kinase (IKK)  $\beta$  ( $IC_{50}$  = 17.9 nM) that displays > 22-fold selectivity over IKK $\alpha$  and > 550-fold selectivity over other kinases and enzymes. Inhibits production of pro-inflammatory cytokines in vitro and in vivo and inhibits NF- $\kappa$ B nuclear localization. Reduces the severity and onset of collagen-induced arthritis; anti-inflammatory.

### Physical and Chemical Properties:

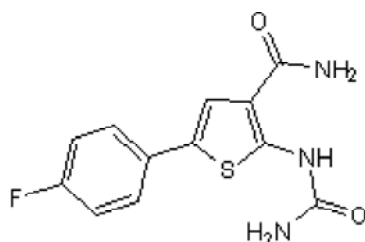
Batch Molecular Formula: C<sub>12</sub>H<sub>10</sub>FN<sub>3</sub>O<sub>2</sub>S

Batch Molecular Weight: 279.29

Physical Appearance: Off-white solid

**Minimum Purity:** ≥97%

### Batch Molecular Structure:



**Storage:** Store at -20°C

### Solubility & Usage Info:

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:

**Birrell *et al*** (2006) I $\kappa$ B kinase-2-independent and-dependent inflammation in airway disease models: relevance of IKK-2 inhibition to the clinic. *Mol.Pharmacol.* **69** 1791. PMID: 16517756.

**Birrell *et al*** (2005) IK-B kinase-2 inhibitor blocks inflammation in human airway smooth muscle and a rat model of asthma. *Am.J.Respir.Crit.Care Med.* **172** 962. PMID: 16002568.

**Podolin *et al*** (2005) Attenuation of murine collagen-induced arthritis by a novel, potent, selective small molecule inhibitor of I $\kappa$ B kinase 2, TPCA-1 (2-[(aminocarbonyl)amino]-5-(4-fluorophenyl)-3-thiophenecarboxamide), occurs via reduction of proinflammatory cytokines and J.Pharmacol.Exp.Ther. **312** 373. PMID: 15316093.

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