

**Product Name:** ACET

**Catalog No.:** 2728

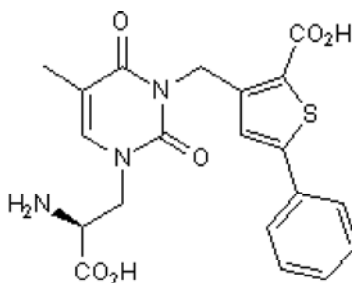
**Batch No.:** 6

CAS Number: 936095-50-0

IUPAC Name: (S)-1-(2-Amino-2-carboxyethyl)-3-(2-carboxy-5-phenylthiophene-3-yl-methyl)-5-methylpyrimidine-2,4-dione

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>20</sub>H<sub>19</sub>N<sub>3</sub>O<sub>6</sub>S·¾H<sub>2</sub>O  
**Batch Molecular Weight:** 442.96  
**Physical Appearance:** Off White solid  
**Solubility:** DMSO to 20 mM  
 3eq. NaOH to 10 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 98.9% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	54.23	4.66	9.49
Found	54.17	4.32	9.48

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**Description:**

ACET is a potent and selective GluK1 (formerly GluR5) containing kainate receptor antagonist ( $IC_{50} = 7$  nM) that displays selectivity over GluK2 (formerly GluR6) containing kainate, NMDA, AMPA and group I mGlu receptors. Reversibly blocks induction of NMDA receptor-independent long term potentiation (LTP) in vitro at nanomolar concentrations. Please refer to IUPHAR Guide to Pharmacology for the most recent naming conventions.

**Physical and Chemical Properties:**

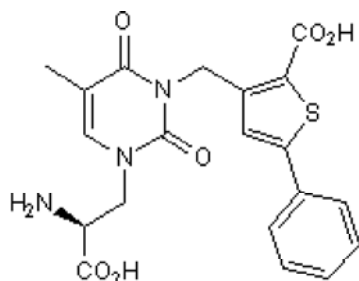
Batch Molecular Formula:  $C_{20}H_{19}N_3O_6S \cdot \frac{3}{4}H_2O$

Batch Molecular Weight: 442.96

Physical Appearance: Off White solid

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

DMSO to 20 mM

3eq. NaOH to 10 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:**

**Dargan *et al* (2009)** ACET is a highly potent and specific kainate receptor antagonist: Characterisation and effects on hippocampal mossy fibre function. *Neuropharmacology* **56** 121. PMID: 18789344.

**Dolman *et al* (2007)** Synthesis and pharmacological characterisation of N3-substituted willardiine derivatives: role of the substituent at the 5-position of the uracil ring in the development of highly potent and selective GLUK5 kainate receptor antagonis *J.Med.Chem.* **50** 1558. PMID: 17348638.

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