Product Name: ACET
Catalog No.: 2728
Batch No.: 4
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: $\text{C}_{20}\text{H}_{19}\text{N}_{3}\text{O}_{6}\text{S} \cdot \frac{1}{2}\text{H}_{2}\text{O}$
Batch Molecular Weight: 438.46
Physical Appearance: White solid
Solubility: 3eq. NaOH to 20 mM
Storage: Store at RT

Batch Molecular Structure:

2. ANALYTICAL DATA

HPLC: Shows >99.1% purity
$^1$H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

<table>
<thead>
<tr>
<th></th>
<th>Theoretical</th>
<th>Found</th>
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<tbody>
<tr>
<td>Carbon</td>
<td>54.79</td>
<td>54.96</td>
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<tr>
<td>Hydrogen</td>
<td>4.6</td>
<td>4.31</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>9.58</td>
<td>9.57</td>
</tr>
</tbody>
</table>
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IUPAC Name: (S)-1-(2-Amino-2-carboxyethyl)-3-(2-carboxy-5-phenylthiophene-3-yl-methyl)-5-methylpyrimidine-2,4-dione

Description:
Potent and selective GluK1 (formerly GluR5) containing kainate receptor antagonist (IC₅₀ = 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: C₂₀H₁₉N₂O₆S·½H₂O
Batch Molecular Weight: 438.46
Physical Appearance: White solid
Minimum Purity: >98%

Storage: Store at RT

Solubility & Usage Info:
3eq. NaOH 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.

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.