Product Name: (S)-3,4-DCPG
Catalog No.: 1302  Batch No.: 10
CAS Number: 201730-11-2
IUPAC Name: (S)-3,4-Dicarboxyphenylglycine

1. PHYSICAL AND CHEMICAL PROPERTIES

   Batch Molecular Formula: C₁₀H₉NO₆.H₂O
   Batch Molecular Weight: 257.2
   Physical Appearance: White solid
   Solubility: water to 100 mM
               phosphate buffered saline to 100 mM
               1eq. NaOH to 100 mM
               1eq. HCl to 100 mM
   Storage: Desiccated at RT

2. ANALYTICAL DATA

   TLC: Rf = 0.35 (Pyridine:Acetic acid:Water:Butanol [3:8:11:22])
   HPLC: Shows 98.8% purity
   Chiral HPLC: Shows >98.8% purity
   ¹H NMR: Consistent with structure
   Mass Spectrum: Consistent with structure
   Optical Rotation: [α]₀ = +120.4 (Concentration = 0.5, Solvent = 6N HCl)
   Microanalysis:

       Carbon  Hydrogen  Nitrogen
       Theoretical  46.7   4.31   5.45
       Found  46.95   4.13   5.4
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Description:
Potent, selective mGlu8 agonist (EC50 = 31 nM). Displays > 100-fold selectivity over mGlu1,7 and displays little or no activity at NMDA and kainate receptors. Increases c-Fos expression in stress-related brain areas following systemic administration in mice in vivo. Also potent anticonvulsant in mice in vivo. Caged (S)-3,4-DCPG, Racemate and R-enantiomer also available.

Physical and Chemical Properties:
Batch Molecular Formula: C10H8NO4.H2O
Batch Molecular Weight: 257.2
Physical Appearance: White solid
Minimum Purity: >98%

Batch Molecular Structure:

Storage: Desiccate at RT

Solubility & Usage Info:
Water to 100 mM
phosphate buffered saline to 100 mM
1eq. NaOH to 100 mM
1eq. HCl to 100 mM

CAUTION - Analysis shows that this material rapidly decomposes when dissolved in alkaline solution. Therefore we recommend that this product is dissolved in water.

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:
Linden et al (2003) Systemic administration of the potent mGlu8 receptor agonist (S)-3,4-DCPG induces c-Fos in stress-related brain regions in wild-type, but not mGlu8 receptor knockout mice. Neuropharmacology 45 473. PMID: 12907308.
Thomas et al (2001) (S)-3,4-DCPG, a potent and selective mGlu8a receptor agonist activates metabotropic glutamate receptors on primary afferent terminals in the neonatal rat spinal cord. Neuropharmacology 40 311. PMID: 11166323.