TOCRIS
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Print Date: Jan 14th 2016

Certificate of Analysis

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Product Name: **PF 4778574** **Catalog No.: 4900** **Batch No.: 1**

CAS Number: 1219633-99-4

IUPAC Name: *N*-[(3*R*,4*S*)-3-[4-(5-cyano-2-thienyl)phenyl]tetrahydro-2*H*-pyran-4-yl]-2-propanesulfonamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{19}H_{22}N_2O_3S_2$

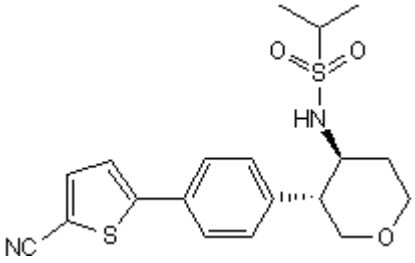
Batch Molecular Weight: 390.52

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 50 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.9% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	58.44	5.68	7.17
Found	58.29	5.67	7.28

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Description:

Positive allosteric modulator of AMPA receptors (K_i = 85 nM). Prevents ketamine-induced working memory impairments. Brain penetrant.

Physical and Chemical Properties:

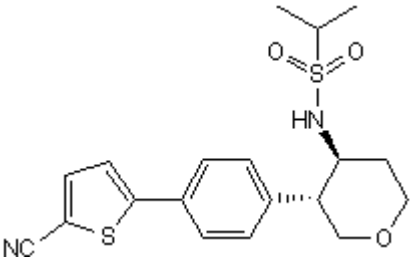
Batch Molecular Formula: $C_{19}H_{22}N_2O_3S_2$

Batch Molecular Weight: 390.52

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM
ethanol to 50 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:

Roberts *et al* (2010) Prevention of ketamine-induced working memory impairments by AMPA potentiators in a nonhuman primate model of cognitive dysfunction. Behav.Brain Res. ***212*** 41. PMID: 20347881.

Doran *et al* (2012) An evaluation of using rat-derived single-dose neuropharmacokinetic parameters to project accurately large animal unbound brain drug concentrations. Drug Metab.Dispos. ***40*** 2162. PMID: 22899853.

Shaffer *et al* (2013) Positive allosteric modulation of AMPA receptors from efficacy to toxicity: the interspecies exposure-response continuum of the novel potentiator PF-4778574. J.Pharmacol.Exp.Ther. ***347*** 212. PMID: 23899905.