

# Certificate of Analysis

**Product Name:** ZK 200775

**Catalog No.:** 2345

**Batch No.:** 1

CAS Number: 161605-73-8

IUPAC Name: [[3,4-Dihydro-7-(4-morpholinyl)-2,3-dioxo-6-(trifluoromethyl)-1(2*H*)-quinoxaliny]methyl]phosphonic acid

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>14</sub>H<sub>15</sub>N<sub>3</sub>O<sub>6</sub>F<sub>3</sub>P·¼H<sub>2</sub>O

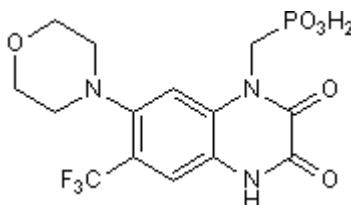
**Batch Molecular Weight:** 413.75

**Physical Appearance:** White solid

**Solubility:** DMSO to 100 mM  
ethanol to 50 mM

**Storage:** Desiccate at +4°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.13 (Dichloromethane:Methanol [2:1])

**HPLC:** Shows 99.4% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	40.64	3.78	10.16
Found	40.57	3.8	10.03

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**Description:**

Competitive AMPA/kainate antagonist. In rat cortical membranes, displays high affinity for [<sup>3</sup>H]-AMPA (K<sub>i</sub> = 120 nM) and [<sup>3</sup>H]-CNQX (K<sub>i</sub> = 32 nM) binding sites and low affinity for kainate and NMDA channel-associated binding sites (IC<sub>50</sub> values range from 2.5 to 11 μM). Inhibits currents induced by AMPA, kainate and NMDA with IC<sub>50</sub> values of 21 nM, 27 nM, and > 1 μM respectively. Displays anxiolytic, anticonvulsant and muscle relaxant activity in vivo.

**Physical and Chemical Properties:**

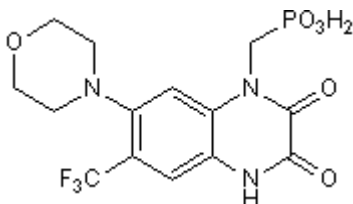
Batch Molecular Formula: C<sub>14</sub>H<sub>15</sub>N<sub>3</sub>O<sub>6</sub>F<sub>3</sub>P · ¼H<sub>2</sub>O

Batch Molecular Weight: 413.75

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**References:**

**Turski et al** (1998) ZK200775: a phosphonate quinoxalinedione AMPA antagonist for neuroprotection in stroke and trauma. *Proc.Natl.Acad.Sci.USA.* **95** 10960.

**Kosowski et al** (2004) Nicotine-induced dopamine release in the nucleus accumbens is inhibited by the novel AMPA antagonist ZK200775 and the NMDA antagonist CGP39551n. *Psychopharmacology* **175** 114.

**Elger et al** (2005) Novel α-amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA) receptor antagonists of 2,3-benzodiazepine type: chemical synthesis, in vitro characterization, and in vivo prevention of acute neurodegeneration. *J.Med.Chem.* **48** 4618. PMID: 15999999.

**Sobolevsky** (2009) X-ray structure, symmetry and mechanism of an AMPA-subtype glutamate receptor. *Nature* **462** 745. PMID: 19946266.

**Storage:** Desiccate 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.

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