

**Product Name:** KN-62

**Catalog No.:** 1277

**Batch No.:** 9

CAS Number: 127191-97-3

IUPAC Name: 4-[(2S)-2-[(5-isoquinolinylsulfonyl)methylamino]-3-oxo-3-(4-phenyl-1-piperazinyl)propyl] phenyl isoquinolinesulfonic acid ester

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>38</sub>H<sub>35</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub>·½H<sub>2</sub>O

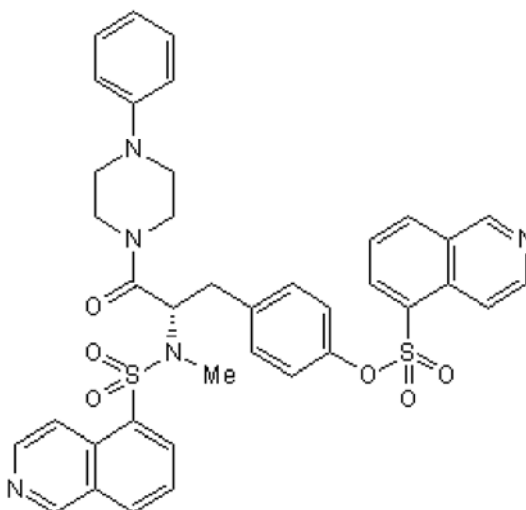
**Batch Molecular Weight:** 726.34

**Physical Appearance:** Pale yellow solid

**Solubility:** DMSO to 100 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 98.3% purity

**Chiral HPLC:** Shows 100% purity

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

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	62.84	4.93	9.64
Found	62	4.69	9.65

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**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

[www.tocris.com/distributors](http://www.tocris.com/distributors)

Tel: +1 612 379 2956

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**9**

CAS Number: 127191-97-3

IUPAC Name: 4-[(2S)-2-[(5-isoquinolinesulfonyl)methylamino]-3-oxo-3-(4-phenyl-1-piperazinyl)propyl] phenyl isoquinolinesulfonic acid ester

**Description:**

KN-62 is a selective, cell-permeable inhibitor of CaM kinase II (IC<sub>50</sub> = 0.9 μM). Binds directly to the calmodulin binding site of the enzyme. Potent non-competitive antagonist at the P2X<sub>7</sub> receptor (IC<sub>50</sub> = 15 nM).

**Physical and Chemical Properties:**

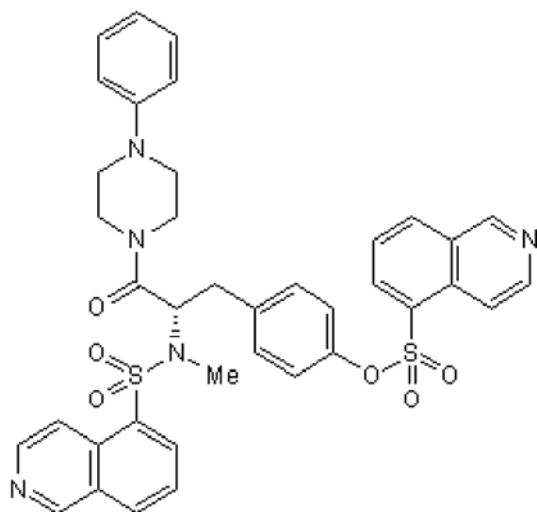
Batch Molecular Formula: C<sub>38</sub>H<sub>35</sub>N<sub>5</sub>O<sub>6</sub>S<sub>2</sub>·¼H<sub>2</sub>O

Batch Molecular Weight: 726.34

Physical Appearance: Pale yellow solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**References:**

**Chessell et al** (1998) Effects of antagonists at the human recombinant P2X<sub>7</sub> receptor. *Br.J.Pharmacol.* **124** 1314. PMID: 9720806.

**Hidaka and Yokokura** (1996) Molecular and cellular pharmacology of a calcium/calmodulin-dependent protein kinase II (CaM kinase II) inhibitor, KN-62, and proposal of CaM kinase phosphorylation cascades. *Adv.Pharmacol.* **36** 193. PMID: 8783561.

**Tokumitsu et al** (1990) KN-62, 1-[N-O-bis(5-isoquinolinesulfonyl)-N-methyl-L-tyrosyl]-4-phenylpiperazine, a specific inhibitor of Ca<sup>2+</sup>/calmodulin-dependent protein kinase II. *J.Biol.Chem.* **265** 4315. PMID: 2155222.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 100 mM

This product may be supplied in a sealed glass ampoule, please refer to the Tocris catalogue for opening instructions. This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

**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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Tel:+1 612 379 2956