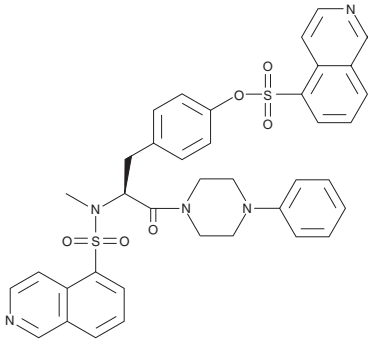
PRODUCT INFORMATION

KN-62

Item No. 13318

CAS Registry No.:	127191-97-3
Formal Name:	5-isoquinolinesulfonic acid, 4-[(2S)-2-[(5-isoquinolinylsulfonyl) methylamino]-3-oxo-3-(4-phenyl-1-piperazinyl)propyl]phenyl ester
MF:	$C_{38}H_{35}N_5O_6S_2$
FW:	721.9
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

KN-62 is supplied as a crystalline solid. A stock solution may be made by dissolving the KN-62 in the solvent of choice, which should be purged with an inert gas. KN-62 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of KN-62 in these solvents is approximately 1 mg/ml in ethanol and 30 mg/ml in DMSO and DMF.

KN-62 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, KN-62 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. KN-62 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

KN-62 is a selective, cell permeable inhibitor of Ca^{2+}/calmodulin-dependent kinase type II (CaMKII; IC_{50} = 900 nM).[1] It does not affect the activity of several other kinases when tested at 10 µM.[2] KN-62 also acts as a non-competitive antagonist of the purinergic receptor P2RX7 (IC_{50} = 15 nM).[3]

References

1. Tokunitsu, H., Chijiwa, T., Hagiwara, M., *et al.* KN-62, 1-[N,O-bis(5-isoquinolinesulfonyl)-N-methyl-L-tyrosyl]-4-phenylpiperazine, a specific Inhibitor of Ca^{2+}/calmodulin-dependent protein kinase II. *J. Biol. Chem.* **265(8)**, 4315-4320 (1990).
2. Davies, S.P., Reddy, H., Caivano, M., *et al.* Specificity and mechanism of action of some commonly used protein kinase inhibitors. *Biochem. J.* **351(1)**, 95-105 (2000).
3. Chessell, I.P., Michel, A.D., and Humphrey, P.P.A. Effects of antagonists at the human recombinant $P2X_7$ receptor. *Br. J. Pharmacol.* **124(6)**, 1314-1320 (1998).

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