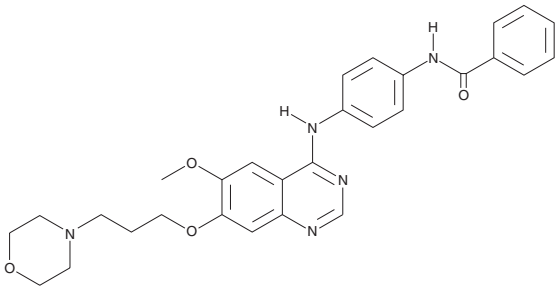
PRODUCT INFORMATION

ZM 447439

Item No. 13601

CAS Registry No.: 331771-20-1
Formal Name: N-[4-[[6-methoxy-7-[3-(4-morpholinyl)propoxy]-4-quinazolinyl]amino]phenyl]-benzamide
MF: $C_{29}H_{31}N_5O_4$
FW: 513.60
Purity: ≥98%
UV/Vis.: λ_{max}: 226, 252, 343 nm
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

ZM 447439 is supplied as a crystalline solid. A stock solution may be made by dissolving the ZM 447439 in the solvent of choice, which should be purged with an inert gas. ZM 447439 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ZM 447439 in these solvents is approximately 20 mg/ml.

ZM 447439 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ZM 447439 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ZM 447439 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The Aurora kinases have important roles in regulating mitosis and cytokinesis, with Aurora B involved in centromere function as part of the Chromosomal Passenger Complex, with survivin, INCENP, and borealin.[1] ZM 447439 is a selective inhibitor of Aurora B kinase (IC_{50} = 50 nM), less potently inhibiting Aurora C and A (IC_{50} = 250 and 1,000 nM, respectively).[2] It has no effect on several other kinases, including Cdk1, Cdk2, Cdk4, Plk1, CHK1, KDR2, and FAK (IC_{50} > 10 µM).[3] ZM 447439 has been used to study the role of Aurora B in molecular events associated with mitosis and cytokinesis.[3,4] Moreover, ZM 447439 selectively inhibits proliferating cells rather than non-dividing cells, suggesting its potential in cancer therapy.[2]

References

1. Carmena, M., Ruchaud, S., and Earnshaw, W.C. Making the Auroras glow: Regulation of Aurora A and B kinase function by interacting proteins. *Curr. Opin. Cell Biol.* **21(6)**, 796-805 (2009).
2. Girdler, F., Gascoigne, K.E., Eyers, P.A., *et al.* Validating Aurora B as an anti-cancer drug target. *J. Cell Sci.* **119(Pt 17)**, 3664-3675 (2006).
3. Ditchfield, C., Johnson, V.L., Tighe, A., *et al.* Aurora B couples chromosome alignment with anaphase by targeting BubR1, Mad2, and Cenp-E to kinetochores. *J. Cell Biol.* **161(2)**, 267-280 (2003).
4. Gadea, B.B. and Ruderman, J.V. Aurora kinase inhibitor ZM447439 blocks chromosome-induced spindle assembly, the completion of chromosome condensation, and the establishment of the spindle integrity checkpoint in *Xenopus* egg extracts. *Mol. Biol. Cell* **16(3)**, 1305-1318 (2005).

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