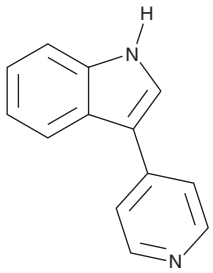
PRODUCT INFORMATION

3-(4-Pyridyl)indole

Item No. 17922

CAS Registry No.: 7272-84-6
Formal Name: 3-(4-pyridinyl)-1H-indole
Synonyms: Rho Kinase Inhibitor III, ROCK Inhibitor III, Rockout
MF: $C_{13}H_{10}N_2$
FW: 194.2
Purity: ≥98%
UV/Vis.: λ_{max}: 221, 314 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

3-(4-Pyridyl)indole is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-(4-pyridyl)indole in the solvent of choice, which should be purged with an inert gas. 3-(4-Pyridyl)indole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 3-(4-pyridyl)indole in ethanol and DMF is approximately 30 mg/ml and 20 mg/ml in DMSO.

3-(4-Pyridyl)indole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3-(4-pyridyl)indole should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 3-(4-Pyridyl)indole has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Two Rho-associated kinases (ROCK), ROCK1 and ROCK2, act downstream of the G protein Rho to regulate cytoskeletal stability. The ROCKs play important roles in diverse cellular functions including cell adhesion and proliferation, smooth muscle contraction, and stem cell renewal.[1-3] 3-(4-Pyridyl)indole is a ROCK1 inhibitor (IC_{50} = 25 µM) that promotes cell spreading, inhibits membrane blebbing, and induces dissolution of actin stress fibers in a wound healing assay.[4] It also inhibits ROCK2 and PRK2, another Rho-dependent kinase, with similar potency, while inhibiting MSK-1 and PKA with relatively weaker potency.[4]

References

1. Olson, M.F. Applications for ROCK kinase inhibition. *Curr. Opin. Cell Biol.* **20(2)**, 242-248 (2008).
2. Narumiya, S., Tanji, M., and Ishizaki, T. Rho signaling, ROCK and mDia1, in transformation, metastasis and invasion. *Cancer Metastasis Rev.* **28(1-2)**, 65-76 (2009).
3. Watanabe, K., Ueno, M., Kamiya, D., *et al*. A ROCK inhibitor permits survival of dissociated human embryonic stem cells. *Nat. Biotechnol.* **25(6)**, 681-686 (2007).
4. Yarrow, J.C., Totsukawa, G., Charras, G.T., *et al*. Screening for cell migration inhibitors via automated microscopy reveals a Rho-kinase inhibitor. *Chem. Biol.* **12(3)**, 385-395 (2005).

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