

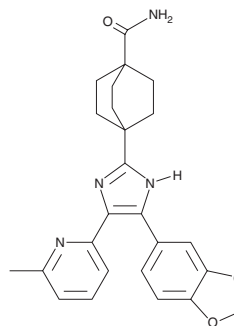
PRODUCT INFORMATION



SM-16

Item No. 34061

CAS Registry No.: 614749-78-9
Formal Name: 4-[4-(1,3-benzodioxol-5-yl)-5-(6-methyl-2-pyridinyl)-1H-imidazol-2-yl]-bicyclo[2.2.2]octane-1-carboxamide
MF: C₂₅H₂₆N₄O₃
FW: 430.5
Purity: ≥98%
Supplied as: A 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

SM-16 is supplied as a solid. A stock solution may be made by dissolving the SM-16 in the solvent of choice, which should be purged with an inert gas. SM-16 is soluble in organic solvents such as ethanol, DMSO and dimethyl formamide (DMF). The solubility of SM-16 is slightly soluble in ethanol and is approximately 30 mg/ml in DMSO and DMF.

SM-16 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SM-16 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. SM-16 has a solubility of approximately 0.16 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

SM-16 is an inhibitor of activin-like kinase 5 (ALK5), also known as the TGF- β type 1 receptor ($K_i = 44$ nM).¹ It is selective for ALK5 over a panel of 60 non-ALK kinases, as well as ALK1 and ALK6, at 10 μ M. SM-16 inhibits TGF- β 1-induced reporter activity ($IC_{50} = 64$ nM) and SMAD2/3 phosphorylation ($IC_{50S} = 160$ -620 nM) *in vitro*. *In vivo*, SM-16 (15 and 30 mg/kg) inhibits neointimal formation and luminal narrowing in a rat model of carotid injury. SM-16 (5 mg/kg) inhibits tumor growth in an AB12 murine malignant mesothelioma model.²

References

1. Fu, K., Corbley, M.J., Sun, L., *et al.* SM16, an orally active TGF-beta type I receptor inhibitor prevents myofibroblast induction and vascular fibrosis in the rat carotid injury model. *Arterioscler. Thromb. Vasc. Biol.* **28**(4), 665-671 (2008).
2. Suzuki, E., Kim, S., Cheung, H.-K., *et al.* A novel small-molecule inhibitor of transforming growth factor beta type I receptor kinase (SM16) inhibits murine mesothelioma tumor growth *in vivo* and prevents tumor recurrence after surgical resection. *Cancer Res.* **67**(5), 2351-2359 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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