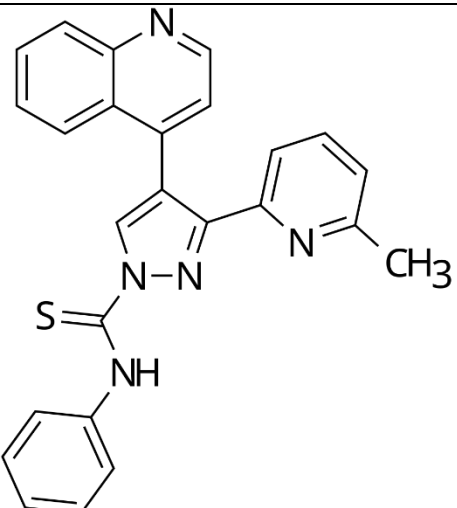


TrailBio® A 83-01 User Instructions

Product Configurations

Catalog Number	Size	Quantity
TB60302	5 mg	1 vial

Product Description

Category	Specification
Product	A 83-01
Synonyms	A-83-01; A83-01; A8301; X3ZNM7QJ2Q
CAS Number	909910-43-6
MDL Number	MFCD08705403
Formula	C ₂₅ H ₁₉ N ₅ S
Molecular Weight	421.52 g/mol
Storage (Solid)	-20 °C for up to 3 years, protect from light
Storage (Solution)	Unstable in solution; freshly prepared solutions are recommended
Shipping	Ambient temperature
Chemical Structure	 The chemical structure of TrailBio A 83-01 is a complex molecule. It features a central pyrazole ring. One side of the pyrazole is connected to a quinoline system (a benzene ring fused to a pyridine ring). The other side of the pyrazole is connected to a 3-methylpyridine ring. Additionally, the pyrazole ring is substituted with a thiophenyl group (a benzene ring attached to a sulfur atom, which is then attached to the pyrazole ring).

Quality & Analytical Specifications

Test Parameter	Specification
Solid Appearance (Color)	Off-white to light yellow
Purity	≥98%

Solubility

Solvent	Solubility	Notes
DMSO	≤100 mg/ml (237 mM)	may require sonication

Solution Preparation Guide

Amount	1 mM	5 mM	10 mM
1 mg	2.372 ml	0.474 ml	0.237 ml
5 mg	11.862 ml	2.372 ml	1.186 ml
10 mg	23.724 ml	4.745 ml	2.372 ml

Biological Description

A 83-01 is a potent inhibitor of the TGF- β type I receptors ALK5, ALK4, and ALK7 that suppresses TGF- β /Smad signaling. It has been reported to inhibit TGF- β -induced Smad activation and reduce cell motility, adhesion, and invasion, and can be used to study TGF- β signaling, epithelial-to-mesenchymal transition, stem cell differentiation, and organoid applications.

Associated Pathways & Applications

Category	Description
Associated Pathways	TGF- β /Smad; ALK receptor; Wnt/ β -catenin
Applications	TGF- β pathway studies; Smad signaling; EMT studies; stem cell culture; organoid applications; invasion studies

Targets & IC₅₀

Target	IC ₅₀
ALK7	7.5 nM
ALK5	12 nM
ALK4	45 nM

Notes

- When using DMSO-based stock solutions, maintain a final DMSO concentration of <0.5% in cell culture applications to minimize potential cellular toxicity, unless a higher concentration has been validated for the specific cell type.
 - Avoid repeated freeze-thaw cycles. Prepare single-use aliquots when possible.
 - Compound may collect on the vial cap or neck during shipping; centrifuge briefly before opening to bring contents to the bottom.
 - Certificate of Analysis (CoA) available upon request. Please contact support@trailbio.com.
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Also available from Trailhead Biosystems®

Cells

- TrailBio® Vascular Leptomeningeal Cells (Cat No. EC040003010)
- TrailBio® Hematopoietic Progenitor Cells (Cat No. ME060001020)
- TrailBio® Endothelial Cells (Cat No. ME010101021)

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- TrailBio® Y-27632 dihydrochloride (Cat No. TB28056)
- TrailBio® Cytarabine (Ara-C) (Cat No. TB47622)
- TrailBio® SB-431542 (Cat No. TB46416)
- TrailBio® LDN-193189 dihydrochloride (Cat No. TB86388)
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