

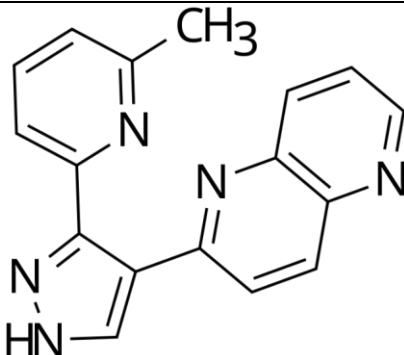


TrailBio® RepSox User Instructions

Product Configurations

Catalog Number	Size	Quantity
TB47964	5 mg	1 vial

Product Description

Category	Specification
Product	RepSox
Synonyms	SJN 2511; SJN-2511; SJN2511; E-616452; ALK5 Inhibitor II
CAS Number	446859-33-2
MDL Number	MFCD09037561
Formula	C ₁₇ H ₁₃ N ₅
Molecular Weight	287.32 g/mol
Storage (Solid)	-20 °C for up to 3 years or 4 °C for up to 2 years
Storage (Solution)	-80 °C for up to 2 years or -20 °C for up to 1 year
Shipping	Ambient temperature
Chemical Structure	 The chemical structure of RepSox is a complex heterocyclic molecule. It consists of a central pyrazole ring. One end of the pyrazole is connected to a 2-methylphenyl group (a benzene ring with a methyl group at the ortho position). The other end of the pyrazole is connected to a quinoline ring system. The quinoline is oriented such that its nitrogen atom is adjacent to the pyrazole ring.

Quality & Analytical Specifications

Test Parameter	Specification
Solid Appearance (Color)	Light brown to yellow
Purity	≥98%

Solubility

Solvent	Solubility	Notes
DMSO	≤33 mg/ml (116 mM)	May require sonication

Solution Preparation Guide

Amount	1 mM	5 mM	10 mM
1 mg	3.480 ml	0.696 ml	0.348 ml
5 mg	17.402 ml	3.480 ml	1.740 ml
10 mg	34.804 ml	6.961 ml	3.480 ml

Biological Description

RepSox is a selective inhibitor of the TGF- β type I receptor ALK5 that suppresses TGF- β /Smad signaling by inhibiting ALK5 autophosphorylation. It has also been reported to induce adipogenesis and promote brown adipocyte differentiation. It can be used to study TGF- β signaling, adipocyte differentiation, thermogenic programming, and obesity-related metabolic research.

Associated Pathways & Applications

Category	Description
Associated Pathways	TGF- β /Smad signaling; SMAD2/3; ALK5 receptor signaling;
Applications	TGF- β pathway studies; stem cell differentiation; adipogenesis and adipocyte browning studies; organoid applications

Activity & Targets

Target	IC ₅₀
ALK5	4 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.

Also available from Trailhead Biosystems®

Cells

- TrailBio® Vascular Leptomeningeal Cells (Cat No. EC040003010)
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