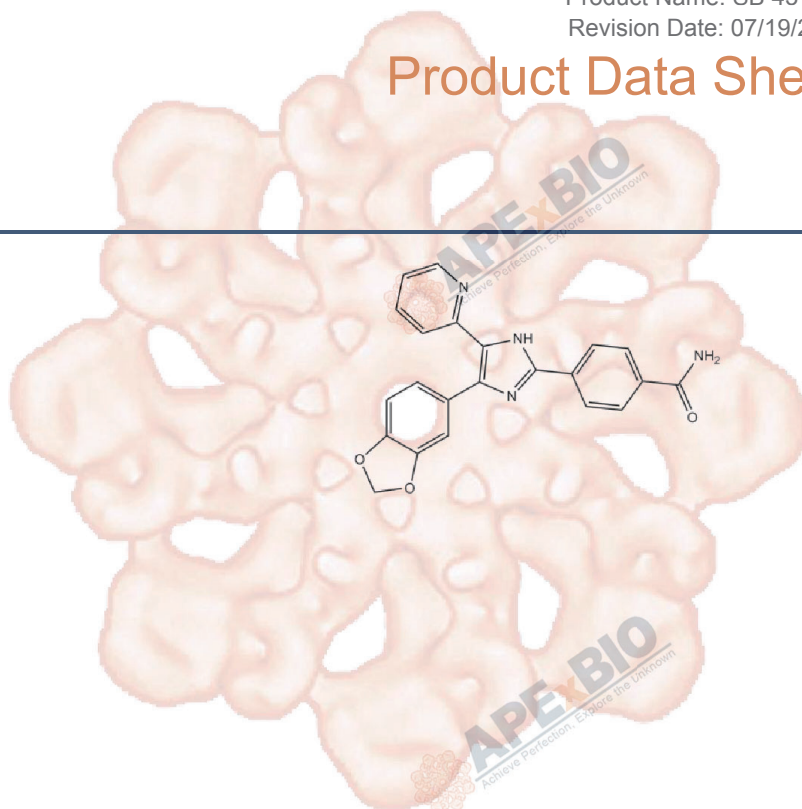


Product Data Sheet

SB 431542

Cat. No.:	A8249
CAS No.:	301836-41-9
Formula:	C ₂₂ H ₁₆ N ₄ O ₃
M.Wt:	384.39
Synonyms:	
Target:	TGF-β / Smad Signaling
Pathway:	TGF-βR1(ALK5)
Storage:	Store at RT



Solvent & Solubility

insoluble in H₂O; ≥10.06 mg/mL in EtOH with ultrasonic; ≥19.22 mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	Concentration			
	1 mM	2.6015 mL	13.0076 mL	26.0152 mL
	5 mM	0.5203 mL	2.6015 mL	5.2030 mL
	10 mM	0.2602 mL	1.3008 mL	2.6015 mL

Please refer to the solubility information to select the appropriate solvent

Biological Activity

Shortsummary

ALK inhibitor

IC₅₀ & Target

94 nM (ALK5)

In Vitro

Cell Viability Assay

Cell Line: D54MG, U87MG and U373MG cells

Preparation method:

The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions:

10 μM, 24 hours

	Applications:	SB-431542 at both 0.1 and 1 μmol/L had a modest effect on DNA synthesis, but at 10 μmol/L, there was a consistent 60% to 70% reduction of thymidine incorporation for D54MG, U87MG, and U373MG cells. No evidence of apoptotic cell death on SB-431542 treatment was detected either by direct observation or on propidium iodide flow cytometric analysis. Thus, SB-431542 acts to inhibit the proliferation of the tested malignant glioma lines.
In Vivo	Animal experiment	
	Animal models:	BALB/c mice injected with colon-26 cells
	Dosage form:	Intraperitoneal injection, 1 μM
	Applications:	Intraperitoneal injection of SB-431542 resulted in triggering CTL activities against colon-26 targets compared with vehicle alone. Moreover, the CTL activity against colon-26 cells was more potent when treated with SB combined a ligand for toll-like receptor 4, OK-432, compared with OK-432 alone. Thus, SB-431542 is likely to produce antitumor immunological outcomes through alteration of DC function suppressed by TGFβ.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Wu F, Wu D, et al. "Generation of hepato-biliary organoids from human induced pluripotent stem cells." J Hepatol. 2019 Jan 7. pii: S0168-8278(19)30002-9.PMID:30630011
2. Bae JS, Jeon Y, et al. "Depletion of MOB1A/B causes intestinal epithelial degeneration by suppressing Wnt activity and activating BMP/TGF-β signaling." Cell Death Dis. 2018 Oct 22;9(11):1083.PMID:30349003

See more customer validations on www.apexbt.com.

References

- [1] Hjelmeland M D, Hjelmeland A B, Sathornsumetee S, et al. SB-431542, a small molecule transforming growth factor-β-receptor antagonist, inhibits human glioma cell line proliferation and motility. Molecular Cancer Therapeutics, 2004, 3(6): 737-745.
- [2] Tanaka H, Shinto O, Yashiro M, et al. Transforming growth factor b signaling inhibitor, SB-431542, induces maturation of dendritic cells and enhances anti-tumor activity. Oncology reports, 2010, 24: 1637-1643.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage

temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



APExBIO Technology

www.apexbt.com

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com

