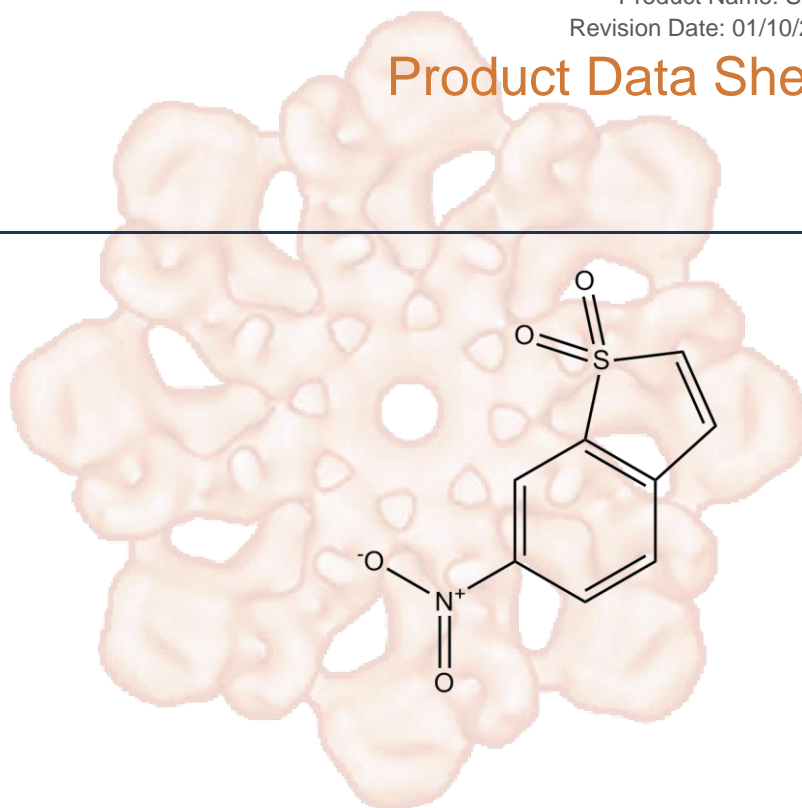


Product Data Sheet

Stattic

Cat. No.:	A2224
CAS No.:	19983-44-9
Formula:	C ₈ H ₅ NO ₄ S
M.Wt:	211.19
Synonyms:	
Target:	JAK/STAT Signaling
Pathway:	STAT
Storage:	Store at -20°C



Solvent & Solubility

≥ 10.6mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Solvent Concentration	Mass		
		1mg	5mg	10mg
	1 mM	4.7351 mL	23.6754 mL	47.3507 mL
	5 mM	0.9470 mL	4.7351 mL	9.4701 mL
	10 mM	0.4735 mL	2.3675 mL	4.7351 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

STAT3 inhibitor, small-molecule and potent

IC₅₀ & Target

2.562 ± 0.409 μM (UM-SCC-17B cell line) (STAT3), 3.481 ± 0.953 μM (OSC-19 cell line) (STAT3), 2.282 ± 0.423 μM (Cal33 cell line) (STAT3), 2.648 ± 0.542 μM (UM-SCC-22B cell line) (STAT3)

In Vitro

Cell Viability Assay

Cell Line: Head and neck squamous cell carcinoma (HNSCC) cell lines UM-SCC-17B, OSC-19, Cal33, and UM-SCC-22B

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:	0 ~ 100 M; 24 hrs
	Applications:	Stattic significantly inhibited STAT3 activation and expression, leading to decreased cell survival and proliferation as well as increased radiosensitivity. The Stattic treatment also reduced STAT3-mediated HIF-1 expression.
In Vivo	Animal experiment	
	Animal models:	UM-SCC-17B cells xenografted mouse model
	Dosage form:	50 mg/kg; p.o.; 5 days a week for 4 weeks
	Applications:	In a murine orthotopic xenograft, oral administration of Stattic effectively reduced the growth of HNSCC tumors, and analysis of tumor lysates validated decreased STAT3 phosphorylation.
	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. Linnan Yang, Jing Sun, et al. "Synergetic Functional Nanocomposites Enhance Immunotherapy in Solid Tumors by Remodeling the Immunoenvironment." *Advanced Science*. 16 February 2019.
2. Lee YC, Wang LJ, et al. "ABT-263-induced MCL1 upregulation depends on autophagy-mediated 4EBP1 downregulation in human leukemia cells." *Cancer Lett*. 2018 Jun 15;432:191-204.PMID:29913235
3. Kim W, Khan SK, et al. "Hippo signaling interactions with Wnt/ β -catenin and Notch signaling repress liver tumorigenesis." *J Clin Invest*.2017 Jan 3;127(1):137-152.PMID:27869648
4. Furtek SL, Matheson CJ, et al. "Evaluation of quantitative assays for the identification of direct signal transducer and activator of transcription 3 (STAT3) inhibitors." *Oncotarget*. 2016 Nov 22;7(47):77998-78008.PMID:27793003
5. Syn Kok Yeo, Jian Wen, Song Chen¹, and Jun-Lin Guan, "Autophagy differentially regulates distinct breast cancer stem-like cells in murine models via EGFR/Stat3 and Tgf β /Smad signaling." *Published OnlineFirst April 13, 2016*.

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References

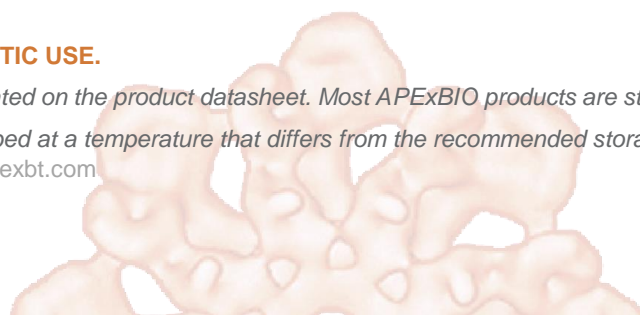
- [1]. Jochen Schust, Bianca Sperl, Angela Hollis, Thomas U. Mayer, and Thorsten Berg. Stattic: A Small-Molecule Inhibitor of STAT3 Activation and Dimerization. *Chemistry & Biology*. 2006(13):1235-1242.
- [2]. Makoto Adachi, Caixia Cui, Cristina T. Dodge, Mihir K. Bhayani, Stephen Y. Lai. Targeting STAT3 inhibits growth and enhances radiosensitivity in head and neck squamous cell carcinoma. *Oral Oncology*. 2012 July(48):1220-1226.

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.

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