Product Data Sheet

R428

Cat. No.:	A8329
CAS No.:	1037624-75-1
Formula:	C30H34N8
M.Wt:	506.64
Synonyms:	R-428; R 428; BGB324; Bemcentinib
Target:	Tyrosine Kinase
Pathway:	Axl
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

⩾25 mg/mL in DMSO with gentle warming; insoluble in H2O; insoluble in EtOH

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	1.9738 mL	9.8689 mL	19.7379 mL
5 mM	0.3948 mL	1.9738 mL	3.9476 mL
10 mM	0.1974 mL	0.9869 mL	1.9738 mL

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

Biological Activity

Shortsummary	Selective Axl inhibitor
IC_{50} & Target	14 nM (Axl)

In Vitro

Cell Viability Assay

Cell Line:	MDA-MB-231 cells, 4T1 cells and Hela 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:	Five-point R428 dose titration (≤ 10 μM); Cells were preincubated with R428 for

		3 h.
	Applications:	R428 inhibits Axl with low nanomolar activity and blocked Axl-dependent events, including Akt phosphorylation, breast cancer cell invasion, and proinflammatory cytokine production.
In Vivo	**Animal experiment**	
	Animal models:	Female BALB/c mice were inoculated in the mammary fat pad with 0.5 × 106 4T1 cells.
	Dosage form:	Oral dosing with R428 (7–75 mg/kg twice daily) or vehicle continued until days 19 to 21.
	Applications:	Oral administration of R428 displayed a dose-dependent reduction in expression of the cytokine granulocyte macrophage colony-stimulating factor and the epithelial-mesenchymal transition transcriptional regulator Snail. R428 administration reduced metastatic burden and extended survival in MDAMB-231 intracardiac and 4T1 orthotopic (median survival, >80 days compared with 52 days; $P < 0.05$) mouse models of breast cancer metastasis.
	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. Goyette MA, Cusseddu R, et al. "AXL knockdown gene signature reveals a drug repurposing opportunity for a class of antipsychotics to reduce growth and metastasis of triple-negative breast cancer." Oncotarget. 2019 Mar 12;10(21):2055-2067.PMID:31007848

2. Chen F, Song Q, et al. "Axl inhibitor R428 induces apoptosis of cancer cells by blocking lysosomal acidification and recycling independent of Axl inhibition." Am J Cancer Res. 2018 Aug 1;8(8):1466-1482.PMID:30210917

3. McDaniel NK, Cummings CT, et al. "MERTK mediates intrinsic and adaptive resistance to AXL-targeting agents." Mol Cancer Ther. 2018 Aug 9. pii: molcanther.1239.2017.PMID:30093568

4. Goyette MA, Duhamel S, et al. "The Receptor Tyrosine Kinase AXL Is Required at Multiple Steps of the Metastatic Cascade during HER2-Positive Breast Cancer Progression." Cell Rep. 2018 May 1;23(5):1476-1490.PMID:29719259

5. Zuo Q, Liu J, et al. "AXL/AKT axis mediated-resistance to BRAF inhibitor depends on PTEN status in melanoma." Oncogene. 2018 Mar 19.PMID:29551771

See more customer validations on www.apexbt.com.

References

[1]. Holland SJ, Pan A, Franci C et al. R428, a selective small molecule inhibitor of Axl kinase, blocks tumor spread and prolongs survival in models of metastatic breast cancer. Cancer Res. 2010 Feb 15;70(4):1544-54.

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 APExBIO 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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