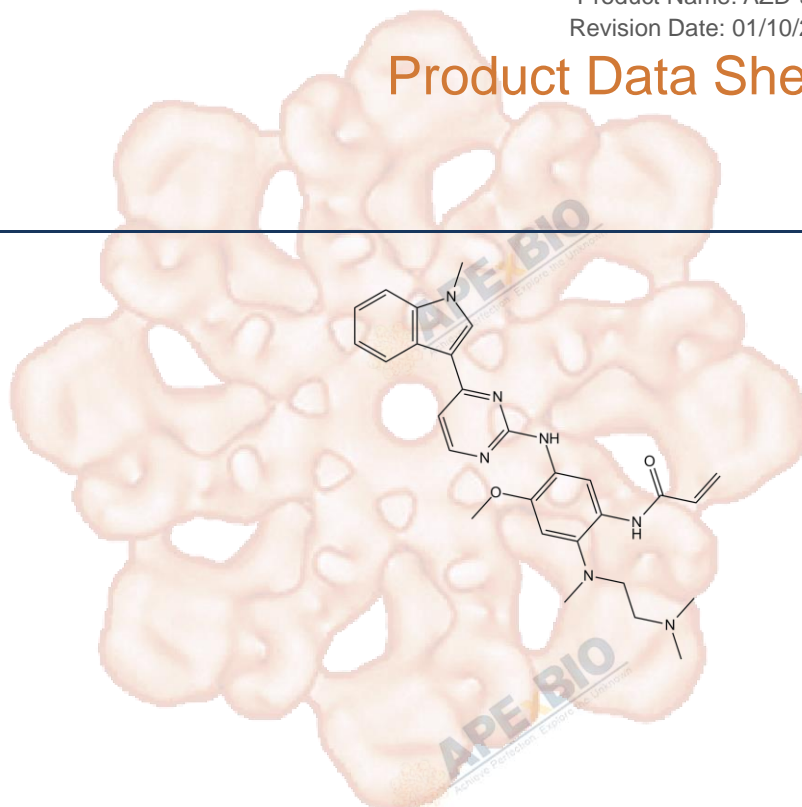


Product Data Sheet

AZD-9291

Cat. No.:	B1104
CAS No.:	1421373-65-0
Formula:	C ₂₈ H ₃₃ N ₇ O ₂
M.Wt:	499.61
Synonyms:	osimertinib
Target:	JAK/STAT Signaling
Pathway:	EGFR
Storage:	Store at -20°C



Solvent & Solubility

≥24.98 mg/mL in DMSO; insoluble in H₂O; ≥8.09 mg/mL in EtOH with ultrasonic

In Vitro

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1mg	5mg	10mg
	1 mM		2.0016 mL	10.0078 mL	20.0156 mL
	5 mM		0.4003 mL	2.0016 mL	4.0031 mL
	10 mM		0.2002 mL	1.0008 mL	2.0016 mL

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

Biological Activity

Shortsummary

Mutated forms EGFR inhibitor

IC₅₀ & Target

12.92 nM (Exon 19 deletion EGFR), 11.44 nM (L858R/T790M EGFR), 493.8 nM (wild type EGFR)

In Vitro

Cell Viability Assay

Cell Line: Human lung cancer cells with EGFR-mutations or wild type EGFR stable expression

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.

	Applications:	AZD9291 potently inhibits EGFR phosphorylation in EGFRm+ (e.g. PC9; < 25 nM) and EGFR m+/T790M (e.g. H1975; < 25 nM) cell lines in vitro, whilst demonstrating much less activity against wild-type EGFR lines (e.g. LoVo; > 500 nM). Consistently, AZD9291 showed significantly more potent inhibition of proliferation in mutant EGFR cell lines compared to wild-type in vitro.
In Vivo	Animal experiment	
	Animal models:	EGFRm+ and EGFRm+/T790M transgenic mice
	Dosage form:	5 mg/kg
	Applications:	AZD9291 administered once daily orally at 5 mg/kg caused profound regression of tumours across EGFRm+ (PC9; 178% growth inhibition) and EGFRm+/T790M (H1975; 119% growth inhibition) tumour models in vivo, after 14 days dosing. Furthermore 5 mg/kg AZD9291 was sufficient to cause significant shrinkage of EGFRm+ and EGFRm+/T790M transgenic mouse lung tumours. Tumour growth inhibition was associated with profound inhibition of EGFR phosphorylation and key downstream signaling pathways such as AKT and ERK. Chronic long-term treatment of PC9 and H1975 xenograft tumours with AZD9291 led to a complete and sustained macroscopic response, with no visible tumours after 40 days dosing, and being maintained beyond 100 days. Furthermore, pre-clinical data also indicates that AZD9291 could target tumours that have acquired resistance to the more recently identified HER2-amplification mechanism, thus potentially extending its benefit in TKI resistant patients.
	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. Richtmann S, Wilkens D, et al. "FAM83A and FAM83B as Prognostic Biomarkers and Potential New Therapeutic Targets in NSCLC." *Cancers (Basel)*. 2019 May 11;11(5). pii: E652.PMID:31083571
2. Cheriyan VT, Alsaab H, et al. "A CARP-1 functional mimetic compound is synergistic with BRAF-targeting in non-small cell lung cancers." *Oncotarget*. 2018 Jul 3;9(51):29680-29697.PMID:30038713

See more customer validations on www.apexbt.com.

References

1. Darren Cross¹, Sue Ashton¹, Caroline Nebhan² et al. AZD9291: an irreversible, potent and selective third generation tyrosine kinase inhibitor (TKI) targeting EGFR activating (EGFRm+) and resistance (T790M) mutations in advanced lung adenocarcinoma. *Mol Cancer Ther* 2013;12(11 Suppl):A109.

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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