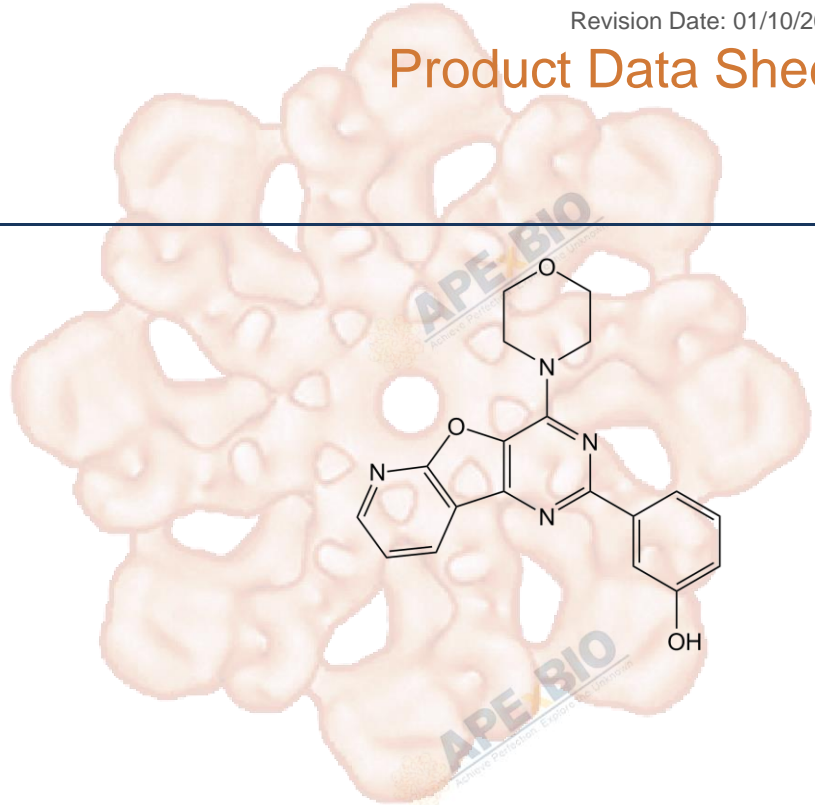


# Product Data Sheet

## PI-103

<b>Cat. No.:</b>	A2067
<b>CAS No.:</b>	371935-74-9
<b>Formula:</b>	C <sub>19</sub> H <sub>16</sub> N <sub>4</sub> O <sub>3</sub>
<b>M.Wt:</b>	348.36
<b>Synonyms:</b>	
<b>Target:</b>	PI3K/Akt/mTOR Signaling
<b>Pathway:</b>	PI3K
<b>Storage:</b>	Store at -20°C



### Solvent & Solubility

≥21.9 mg/mL in DMSO; insoluble in H<sub>2</sub>O; insoluble in EtOH

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	<b>Concentration</b>			
	<b>1 mM</b>	2.8706 mL	14.3530 mL	28.7059 mL
	<b>5 mM</b>	0.5741 mL	2.8706 mL	5.7412 mL
	<b>10 mM</b>	0.2871 mL	1.4353 mL	2.8706 mL

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

### Biological Activity

Shortsummary

Class I PI3K, mTOR and DNA-PK inhibitor

IC<sub>50</sub> & Target

2 nM (p110α), 3 nM (p110β), 3 nM (p110δ), 15 nM (p110γ), 30 nM (mTOR), 23 nM (DNA-PK)

In Vitro

#### Cell Viability Assay

Cell Line:	A549 and H460 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:	72 hours, 2 μM for A549 cells 0.5 μM for H460 cells

	Applications:	Incubation of A549 cells with 2 $\mu$ M PI-103 for 72 h induced an ~60% reduction in cell number. In contrast to A549 cells, H460 cells were highly sensitive to low-dose PI-103. Treatment of H460 cells with 0.5 $\mu$ M PI-103 for 72 h resulted in ~60% inhibition. Results showed that exposure of A549 and H460 cells to PI-103 with the indicated concentrations for 72 h induced growth inhibition in a dose-dependent manner.
In Vivo	<b>Animal experiment</b>	
	Animal models:	FVB/N wild type mice injected with 37-31E-F3 cells
	Dosage form:	Intraperitoneal injection, 10 mg/kg, daily
	Applications:	PI-103 treatment promoted a significant in vivo tumor growth compared with the DMSO treated mice. It was effective by partially inhibiting the Akt and S6 ribosomal protein phosphorylation. Tumors from PI-103-treated mice showed higher levels of cyclin D1 and more proliferating cells as indicated by the number of Ki67 positive cells. PI-103-treated tumors had the lowest apoptotic rate.
	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. Sabha N, Volpatti JR, et al. "PIK3C2Binhibition improves function and prolongs survival in myotubular myopathy animalmodels." J Clin Invest. 2016 Sep 1;126(9):3613-25.PMID:27548528

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## References

[1] Zou Z Q, Zhang X H, Wang F, et al. A novel dual PI3K/mTOR inhibitor PI-103 with high antitumor activity in non-small cell lung cancer cells. Int J Mol Med, 2009, 24(1): 97-101.

[2] López - Fauqued M, Gil R, Grueso J, et al. The dual PI3K/mTOR inhibitor PI - 103 promotes immunosuppression, in vivo tumor growth and increases survival of sorafenib-treated melanoma cells. International journal of cancer, 2010, 126(7): 1549-1561.

## 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

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of the product, follow the storage recommendations on the product data sheet.



**APExBIO Technology**

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