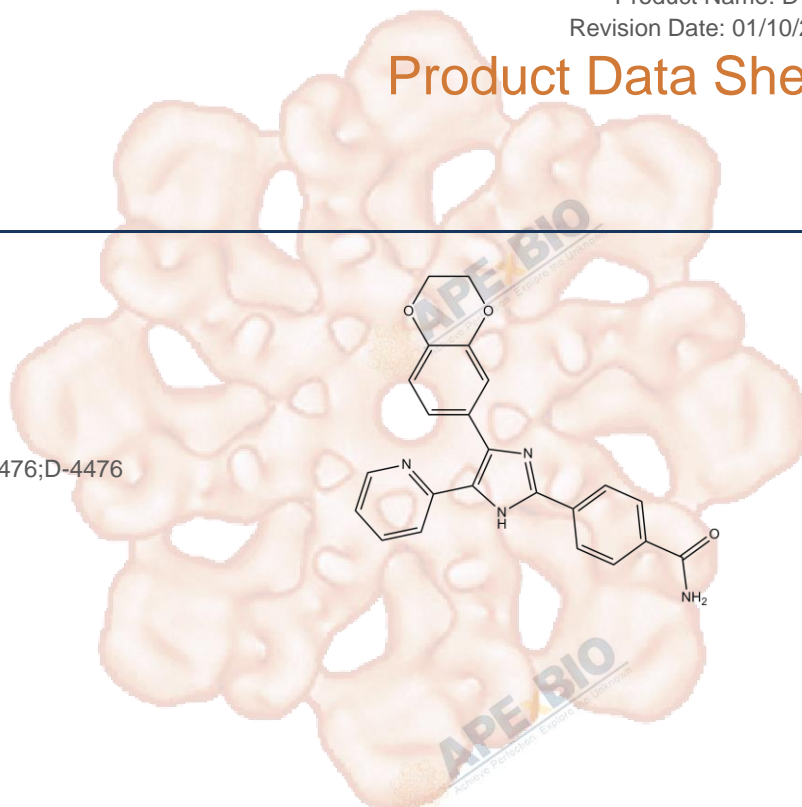


Product Data Sheet

D4476

Cat. No.:	A3342
CAS No.:	301836-43-1
Formula:	C ₂₃ H ₁₈ N ₄ O ₃
M.Wt:	398.41
Synonyms:	Casein Kinase I Inhibitor;D 4476;D-4476
Target:	Stem Cell
Pathway:	CK1
Storage:	Store at -20°C



Solvent & Solubility

insoluble in H₂O; ≥19.9 mg/mL in DMSO; ≥41.5 mg/mL in EtOH with gentle warming and ultrasonic

In Vitro

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1mg	5mg	10mg
	1 mM		2.5100 mL	12.5499 mL	25.0998 mL
	5 mM		0.5020 mL	2.5100 mL	5.0200 mL
	10 mM		0.2510 mL	1.2550 mL	2.5100 mL

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

Biological Activity

Shortsummary

CK1/ALK5 inhibitor,specific and cell permeable

IC₅₀ & Target

In Vitro

Cell Viability Assay

Cell Line:	H4IIE, Hela and HCT116 cell lines
Preparation method:	The solubility of this compound in DMSO is >19.9 mg/mL. 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:	H4IIE: 0-150 μM for 1 h; Hela: 50 μM; HCT116: 5-40 μM for 48 h

	Applications:	In H4IIE hepatoma cells, D4476 specifically inhibited the phosphorylation of endogenous forkhead box transcription factor O1a (FOXO1a) on Ser322 and Ser325 within its MPD, without affecting the phosphorylation of other sites. It was also found that although the treatment of in HCT116 cells with D4476 led to a partial p53-dependent growth arrest, the induction of p53-independent apoptosis by D4476 suggested a critical role for the MDM2-CK1 complex in maintaining E2F-1 anti-apoptotic signaling.
In Vivo	Animal experiment Applications:	

Product Citations

1. Mansour TA, Lucot K, et al. "Whole genome variant association across 100 dogs identifies a frame shift mutation in DISHEVELLED 2 which contributes to Robinow-like syndrome in Bulldogs and related screw tail dog breeds." PLoS Genet. 2018 Dec 6;14(12):e1007850.PMID:30521570

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References

- [1] Rena G, et al. D4476, a cell-permeant inhibitor of CK1, suppresses the site-specific phosphorylation and nuclear exclusion of FOXO1a. EMBO Rep. 2004 Jan;5(1):60-5.
- [2] Huart AS, MacLaine NJ, Meek DW, Hupp TR. CK1alpha plays a central role in mediating MDM2 control of p53 and E2F-1 protein stability. J Biol Chem. 2009 Nov 20;284(47):32384-94.

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. Short-term 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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