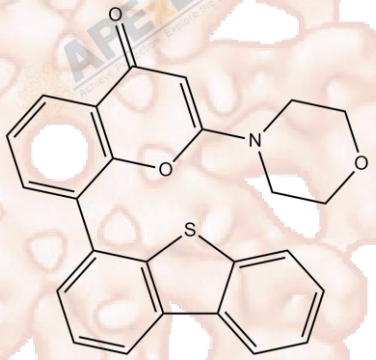
Product Data Sheet

NU7441 (KU-57788)



Cat. No.:	A8315
CAS No.:	503468-95-9
Formula:	C25H19NO3S
M.Wt:	413.49
Synonyms:	KU 57788; NU-7441; KU57788; NU7441; NU 7441
Target:	PI3K/Akt/mTOR Signaling
Pathway:	DNA-PK
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

insoluble in EtOH; insoluble in H2O; ≥4.13 mg/mL in DMSO

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1mg	5mg	10mg
1 mM	2.4184 mL	12.0922 mL	24.1844 mL
5 mM	0.4837 mL	2.4184 mL	4.8369 mL
10 mM	0.2418 mL	1.2092 mL	2.4184 mL

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

Biological Activity

Shortsummary	DNA-PK inhibitor
IC_{50} & Target	14 nM (DNA-PK)

In Vitro

Cell Viability Assay

Cell Line:	LoVo and SW620 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:	1 μM, 16 hours
	Applications:	To investigate the effects of NU7441 on the cell cycle phase distribution, LoVo and SW620 cells were treated with NU7441 for 16 hours, with and without 2Gy ionizing radiation or coincident 16 hours of exposure to etoposide or doxorubicin, by flow cytometry. NU7441 alone caused a modest 15% increase in G1, with consequent 24% reduction in the S phase in p53 mutant SW620 cells. In the p53 wt LoVo cells, NU7441 caused a more substantial 54% increase in G1 and 72% decrease in S phase in accordance with its pronounced growth inhibitory effect in this cell line.
In Vivo	**Animal experiment**	
	Animal models:	CD-1 nude mice bearing SW620 cancer xenografts
	Dosage form:	Intraperitoneal injection, 10 mg/kg
	Applications:	Mice were treated with normal saline (contro animals), single agent NU7441 (dissolved in 40% PEG 400 in saline), or etoposide phosphate (11.35 mg/kg in saline) i.p. daily for 5 days. For combinations, NU7441 was given immediately before etoposide phosphate. Tumors in control mice reached four times their starting volume (RTV4) at a median time of 5.6 days (i.e., time to RTV4 = 5.6 days). Treatment with etoposide phosphate alone caused a tumor growth delay of 2.7 days (time to RTV4 = 8.3 days), which was extended to 5.4 days (time to RTV4 = 11 days, P = 0.0159 compared with etoposide alone) by coadministration of NU7441. Thus, NU7441 enhanced etoposide phosphate efficacy by 100%.
	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. Piekna-Przybylska D, Nagumotu K, et al. "HIV-1 infection renders brain vascular pericytes susceptible to the extracellular glutamate." J Neurovirol. 2018 Nov 6.PMID:30402824

2. Piekna-Przybylska D, Maggirwar SB. "CD4+ memory T cells infected with latent HIV-1 are susceptible to drugs targeting telomeres." Cell Cycle.2018;17(17):2187-2203.PMID:30198385

3. Piekna-Przybylska D, Sharma G, et al. "Deficiency in DNA damage response, a new characteristic of cells infected with latent HIV-1." Cell Cycle. 2017 May 19;16(10):968-978.PMID:28388353

4. Rulina AV, Mittler F, et al. "Distinct outcomes of CRL-Nedd8 pathway inhibition reveal cancer cell plasticity." Cell Death Dis. 2016 Dec 1;7(12):e2505.PMID:27906189

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References

[1] Zhao Y, Thomas H D, Batey M A, et al. Preclinical evaluation of a potent novel DNA-dependent protein kinase inhibitor NU7441. Cancer research, 2006, 66(10): 5354-5362.

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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