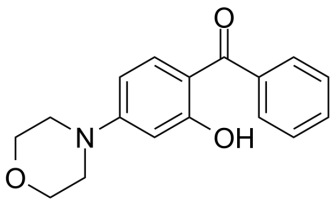
AMA-37

Cat. No.:	HY-100706
CAS No.:	404009-46-7
Molecular Formula:	$C_{17}H_{17}NO_3$
Molecular Weight:	283.32
Target:	DNA-PK
Pathway:	Cell Cycle/DNA Damage; PI3K/Akt/mTOR
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (352.96 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5296 mL	17.6479 mL	35.2958 mL
	5 mM	0.7059 mL	3.5296 mL	7.0592 mL
	10 mM	0.3530 mL	1.7648 mL	3.5296 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.82 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.82 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AMA-37, an Arylmorpholine analog, is ATP-competitive DNA-PK inhibitor, with IC_{50} values of 0.27 μM (DNA-PK), 32 μM (p110α), 3.7 μM (p110β), and 22 μM (p110γ), respectively[1][2].

IC_{50} & Target

IC50: 0.27 μM (DNA-PK)[1].

In Vitro

AMA-37 inhbits PI3K poorly[2].

AMA-37 (20 μM) reduces the ability of UCN-01, isogranulatimide, and debromohymenialdesine, but not caffeine, to overcome G2 arrest ($\rho < 0.05$)[3].

Inhibition of DNA-PK with AMA37 leads to radiosensitization[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Zachary A Knight, et al. A pharmacological map of the PI3-K family defines a role for p110alpha in insulin signaling. Cell. 2006 May 19;125(4):733-47.

[2]. Zachary A Knight, et al. Isoform-specific phosphoinositide 3-kinase inhibitors from an arylmorpholine scaffold. Bioorg Med Chem. 2004 Sep 1;12(17):4749-59.

[3]. Christopher M Sturgeon, et al. Effect of combined DNA repair inhibition and G2 checkpoint inhibition on cell cycle progression after DNA damage. Mol Cancer Ther. 2006 Apr;5(4):885-92.

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