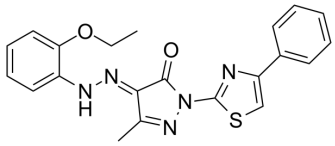
BAM7

Cat. No.:	HY-15341
CAS No.:	331244-89-4
Molecular Formula:	$C_{21}H_{19}N_5O_2S$
Molecular Weight:	405.47
Target:	Bcl-2 Family
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (12.33 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4663 mL	12.3314 mL	24.6627 mL
5 mM	0.4933 mL	2.4663 mL	4.9325 mL
10 mM	0.2466 mL	1.2331 mL	2.4663 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.5 mg/mL (1.23 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

BAM7 is a direct and selective activator of proapoptotic BAX with an IC_{50} of 3.3 μM.

IC_{50} & Target

Bax
3.3 μM (IC_{50})

In Vitro

BAM7 is selective for the BH3-binding site on BAX. BAM7 activates BAX and BAX-dependent cell death. Whereas treatment with BAX or BAM7 alone has no effect on the liposomes, the combination of BAM7 and BAX yields dose-responsive liposomal release of entrapped fluorophore. BAM7 dose- and time-responsively impairs the viability of $Bak^{-/-}$ MEFs that exclusively express BAX but has no effect on $Bak^{-/-}$ MEFs that contain BAK but lack BAX. In contrast, standard proapoptotic stimuli such as serum withdrawal, Staurosporine and Etoposide induces an equivalent apoptotic response in $Bax^{-/-}$ and $Bak^{-/-}$ MEFs. As further evidence of BAM7 specificity of action, (i) BAM7 does not affect the viability of $Bax^{-/-}$ $Bak^{-/-}$ MEFs; (ii) ANA-BAM16, which does not bind or activate BAX, has no effect on $Bak^{-/-}$ MEFs; and (iii) BAM7 selectively induces cell death of $Bax^{-/-}$ $Bak^{-/-}$

MEFs reconstituted with wild-type BAX but not BAXK21E , which bears the mutation that abrogates BAM7 binding[1].

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

PROTOCOL

Cell Assay [1]

MEF cells are maintained in DMEM high glucose supplemented with 10% (v/v) FBS, 100 U/mL Penicillin, 100 μg/mL Streptomycin, 2 mM L-glutamine, 50 mM HEPES, 0.1 mM MEM nonessential amino acids and 50 μM β-mercaptoethanol. MEFs (2.5×10^3 cells per well) are seeded in 96-well opaque plates for 18-24 h and then incubated with serial dilutions of BAM7 (3.75, 5, 7.5, 10 and 15 μM), ANA-BAM16 or vehicle (0.15% (v/v) DMSO) in DMEM at 37°C in a final volume of 100 μL. Cell viability is assayed at 24 h by addition of CellTiter-Glo reagent, and luminescence is measured using a SpectraMax M5 microplate reader. Viability assays are performed in at least triplicate, and the data are normalized to vehicle-treated control wells[1].

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

CUSTOMER VALIDATION

- Biochem Pharmacol. 2020 Jun 6;114085.
- J Nutr. 2020 Jul 1;150(7):1731-1737.

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REFERENCES

[1]. Gavathiotis E, et al. Direct and selective small-molecule activation of proapoptotic BAX. Nat Chem Biol. 2012 Jul;8(7):639-45.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA