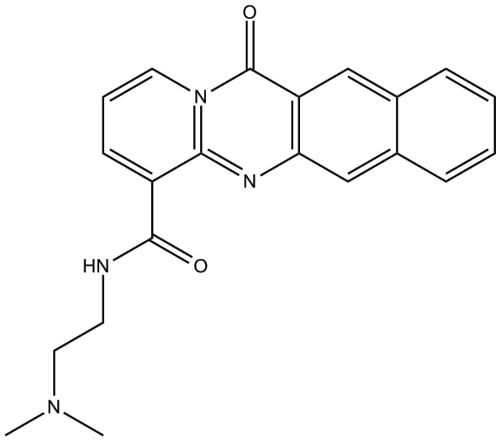
Product Data Sheet

Product Name: BMH-21
Cat. No.: GC15190

Chemical Properties

Cas. No.	896705-16-1		
Chemical Name	N-(2-(dimethylamino)ethyl)-12-oxo-12H-benzo[g]pyrido[2,1-b]quinazoline-4-carboxamide		
SMILES	O=C1C2=C(C=C(C=CC=C3)C3=C2)N=C4C(C(NCCN(C)C)=O)=CC=CN41		
Formula	$C_{21}H_{20}N_4O_2$	M.Wt	360.41
Solubility	≥ 7.4mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

BMH-21 is a planar heterocyclic small molecule DNA intercalator with inhibition of Pol I activity at IC50 = 0.06 µM. [1]
DNA interaction is a well-recognized property for several classes of cancer drugs, which interact with the duplex DNA with three typical binding modalities, namely DNA intercalation, groove binding and covalent interactions. [1]

Caution: Product has not been fully validated for medical applications. For research use only.
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BMH-21 intercalated into dsDNA and had binding preference towards GC-rich DNA sequences. BMH-21 had wide cytotoxic activities against human cancer cell lines, and acted in p53-independent manner, widely considered as a mediator of many cytotoxic agents. BMH-21 played as a novel agent that inhibited transcription of RNA polymerase I (Pol I) by binding to ribosomal (r) DNA that caused Pol I blockade and degradation of the large catalytic subunit of Pol I, RPA194. BMH-21 led to the dissolution of the nucleolar structure. [1] BMH-21 clearly induced p53 expression in the epithelial compartment of human prostate tissues indicating tissue permeability. [2]

References:

[1]. Colis L, Peltonen K, Sirajuddin P et al. DNA intercalator BMH-21 inhibits RNA polymerase I independent of DNA damage response. Oncotarget. 2014 Jun 30;5(12):4361-9.

[2]. Peltonen K, Colis L, Liu H et al. Identification of novel p53 pathway activating small-molecule compounds reveals unexpected similarities with known therapeutic agents. PLoS One. 2010 Sep 27;5(9):e12996.

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