EBV lytic cycle inducer-1

Cat. No.: HY-149577

CAS No.: 394668-43-0

Molecular Formula: $C_{14}H_{12}BrN_3O$

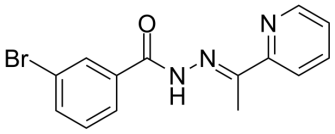
Molecular Weight: 318.17

Target: EBV

Pathway: Anti-infection

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 : 12.5 mg/mL (39.29 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1430 mL	15.7149 mL	31.4297 mL
	5 mM	0.6286 mL	3.1430 mL	6.2859 mL
	10 mM	0.3143 mL	1.5715 mL	3.1430 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: ≥ 0.56 mg/mL (1.76 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.56 mg/mL (1.76 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.56 mg/mL (1.76 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Epstein-Barr virus (EBV) lytic cycle inducer-1 Dp44mT (compound C7) is an iron-chelatoe-like compound. Dp44mT cooperates with HDAC inhibitor Romidespin (HY-15149) and SAHA to induce EBV lytic cycle. Dp44mT reactivates EBV lytic cycle by activating the ERK1/2-autophagy axis in epithelial cancers[1][2].

In Vitro

Dp44mT (compound C7) (0-80 μM; 48 h) induces lytic cycle in cell line-dependent manner, with higher toxicity in AGS-BX1 than in AGS[1].
Dp44mT (10 μM; 0-72 h) induces lytic cycle in a time-dependent manner[1].

Dp44mT (1.25-2.5 μM; 24 h) cooperates with HDAC inhibitor Romidespin and SAHA to induce EBV lytic cycle[1].
Dp44mT (20 μM; 48 h) leads to the EBV lytic cycle through induction of the ERK-autophagy axis[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Immunofluorescence[1]

Cell Line:	AGS AGS-BX1
Concentration:	10 μM
Incubation Time:	24 h, 48 h, 72 h
Result:	Resulted the expression of IE proteins Zta, Rta, and early EBV lytic protein BMRF1 peaking at 24h post treatment.

Immunofluorescence[1]

Cell Line:	AGS-BX1
Concentration:	1.25 μM, 2.5 μM
Incubation Time:	24 h
Result:	Synergistically induced the expression of the viral IE protein Zta could together with 2.5 μM of SAHA and 2.5 nM of Rmidepsin.

Immunofluorescence[2]

Cell Line:	HA cells
Concentration:	20 μM
Incubation Time:	24 h
Result:	A significantly lower expression of Zta was observed in cells treated with the iron-precomplexed C7 when compared to cells treated with C7 with 41% higher.

Cell Proliferation Assay[1]

Cell Line:	AGS, AGS-BX1
Concentration:	0 μM, 1.25 μM, 2.5 μM, 5 μM, 10 μM, 20 μM, 40 μM, 80 μM
Incubation Time:	48 h
Result:	Displayed significantly higher toxicity to the EBV-positive cell line AGS-BX1 than the EBV-negative counterpart.

REFERENCES

[1]. Chung King Choi, et al. Identification of Novel Small Organic Compounds with Diverse Structures for the Induction of Epstein-Barr Virus (EBV) Lytic Cycle in EBV-Positive Epithelial Malignancies. PLoS One. 2015 Dec 30;10(12):e0145994.

[2]. Stephanie Pei Tung Yiu, et al. Intracellular Iron Chelation by a Novel Compound, C7, Reactivates Epstein–Barr Virus (EBV) Lytic Cycle via the ERK-Autophagy Axis in EBV-Positive Epithelial Cancers Cancers 2018 Dec; 10(12): 505.

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

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