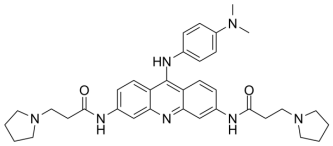
Braco-19

Cat. No.:	HY-15523
CAS No.:	351351-75-2
Molecular Formula:	$C_{35}H_{43}N_7O_2$
Molecular Weight:	593.76
Target:	DNA/RNA Synthesis; CMV
Pathway:	Cell Cycle/DNA Damage; 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 : 33.33 mg/mL (56.13 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6842 mL	8.4209 mL	16.8418 mL
	5 mM	0.3368 mL	1.6842 mL	3.3684 mL
	10 mM	0.1684 mL	0.8421 mL	1.6842 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 (4.21 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (4.21 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Braco-19 is a potent telomerase/telomere inhibitor, preventing the capping and catalytic action of telomerase. Braco-19 acts as G-quadruplex (GQ) binding ligand, stabilizing G-quadruplexes formation at the 3V telomeric DNA overhang and produce rapid senescence or selective cell death. Braco-19 is also a HAdV virus replication inhibitor[1][2].

IC_{50} & Target

IC50: telomerase/telomere[1]

In Vitro

Braco-19, as a well-known GQ binding ligand, interacts specifically with the HAdV GQs and increases their stability, and blocks the HAdV multiplication[2].
BRACO-19 (1.0-10 μM; 5 day) cause zero growth inhibition is found 1 μM, the IC_{50} for BRACO-19 in UXF1138L cells is 2.5 μM, the IC_{100} is 5 μM[1].

BRACO-19 (1 μM; 24 hours) shows dramatically reduced nuclear hTERT expression. However, residual cytoplasmic hTERT staining is observed accompanied by the occurrence of atypical mitoses[1].
BRACO-19 (0-40 μM; 24 hours) decreases the AdV virus growth in a dose-dependent manner in eGFP-transinfected HEK 293 cells[2].
BRACO-19 (0-150 μM; 24 hours) shows a decrease in band intensity in an increasing concentration-dependent manner[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HEK 293 cells
Concentration:	20 μM; 40 μM
Incubation Time:	24 hours
Result:	Displayed low cytotoxicity and decreased the eGFP fluorescence.

In Vivo

BRACO-19 (oral administration or intraperitoneal injection; 2 or 5 mg/kg; 3 weeks) oral dosing regimen are always inactive and the animals have to be sacrificed due to high tumor burden before overall termination of the study, Chronic, i.p. BRACO-19 administration, qdx5 is efficient in inhibiting tumor growth in earlystage xenografts but not advanced-stage xenografts[1].
BRACO-19 (intraperitoneal injection; 2 mg/kg; 3 weeks; starting 6 days after transplantation of UXF1138LX fragments) inhibits tumor growth significantly and under these conditions, marked single-agent antitumor activity is observed, with some animals in the group showing complete regressions (5 of 12 tumors)[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Established UXF1138LX Xenografts in nude mice[1]
Dosage:	2 mg/kg
Administration:	Intraperitoneal injection; 3 weeks; starting 6 days after transplantation of UXF1138LX fragments
Result:	Showed partial tumor regressions with an optimal T/C on day 28 of 4.1%, equal to 95.9% inhibition of tumor growth compared with control.

CUSTOMER VALIDATION

- Biochim Biophys Acta Mol Basis Dis. 2023 Nov 16;1870(2):166961.
- iScience. 9 October 2022, 105312.
- Microbiol Spectr. 2022 Apr 21;e0046022.

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REFERENCES

[1]. Angelika M Burger, et al. The G-quadruplex-interactive Molecule BRACO-19 Inhibits Tumor Growth, Consistent With Telomere Targeting and Interference With Telomerase Function. Cancer Res. 2005 Feb 15;65(4):1489-96.

[2]. Prativa Majee, et al. Genome-wide Analysis Reveals a Regulatory Role for G-quadruplexes During Adenovirus Multiplication. Virus Res. . 2020 Jul

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

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