Braco-19 trihydrochloride

Cat. No.: HY-15523A

CAS No.: 1177798-88-7

Molecular Formula: $C_{35}H_{46}Cl_3N_7O_2$

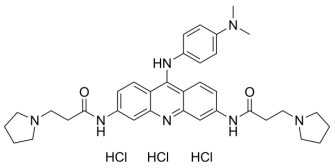
Molecular Weight: 703.14

Target: DNA/RNA Synthesis; CMV

Pathway: Cell Cycle/DNA Damage; Anti-infection

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (71.11 mM; ultrasonic and warming and heat to 80°C)

H_2O : 22 mg/mL (31.29 mM; Need ultrasonic and warming)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.4222 mL	7.1110 mL	14.2219 mL
5 mM	0.2844 mL	1.4222 mL	2.8444 mL
10 mM	0.1422 mL	0.7111 mL	1.4222 mL

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

BIOLOGICAL ACTIVITY

Description

Braco-19 trihydrochloride 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[1]

In Vitro

Braco-19 trihydrochloride, 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 trihydrochloride (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 trihydrochloride (0-40 μM; 24 hours) decreases the AdV virus growth in a dose-dependent manner in eGFP-transinfected HEK 293 cells[2].

BRACO-19 trihydrochloride (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 trihydrochloride (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 trihydrochloride (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].

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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 2;283:197960.

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