

Product Data Sheet

Product Name: QBS10072S dihydrochloride

Cat. No.: GC79488

Chemical Properties

Cas. No. 1802735-31-4

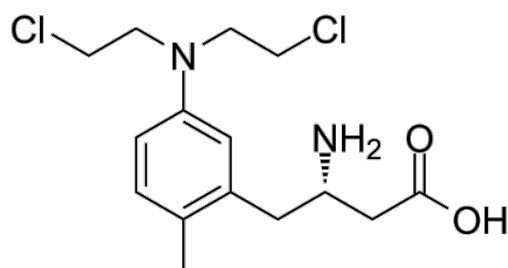
Formula $C_{15}H_{24}Cl_4N_2O_2$ M.Wt 406.18

Solubility 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



HCl HCl

Background

QBS10072S dihydrochloride is a LAT1 -selective substrate with blood-brain barrier permeability that inhibits tumor growth. QBS10072S dihydrochloride enters LAT1-expressing tumor cells via LAT1-mediated active transport, induces interstrand DNA cross-linking and cell apoptosis, and reduces leptomeningeal dissemination. QBS10072S dihydrochloride can be used in studies related to glioblastoma multiforme, diffuse intrinsic pontine glioma, triple-negative breast cancer brain metastases, and aggressive T-cell lymphoma [1] [2] [3].

In Vivo, QBS10072S (10 mg/kg; i.v.; once a week; 8 weeks) dihydrochloride produces highly

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

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significant tumor growth inhibition in a subcutaneous TNBC xenograft model with no obvious toxicity^[2]. QBS10072S (8 mg/kg; i.v.; once a week; 9 weeks; i.p.; twice a week; 9 weeks) dihydrochloride significantly reduces intracranial tumor growth, extends survival, and decreases leptomeningeal dissemination in a TNBC brain metastasis model with no obvious toxicity^[2].

In Vitro, QBS10072S dihydrochloride induces significant cytotoxicity in LAT1-expressing GBM cell lines (including those with high and low MGMT expression) and minimal cytotoxicity in LAT1-negative normal human astrocytes^[1]. QBS10072S dihydrochloride is preferentially cytotoxic to human TNBC cell lines (MDA-MB-157, MDA-MB-468, HCC1806, DU4475, MDA-MB-231-BR3, MDA-MB-231, HCC1937, BT-549) with LC50 values of 1 to 10 μ M, while human ER-positive breast cancer cell lines (MCF-7, EMT6) are less sensitive^[2]. QBS10072S ($\log[\text{QBS}] = -9$ to $\log[\text{QBS}] = -3$) dihydrochloride induces dose-dependent cytotoxicity in human TNBC MDA-MB-231 cells^[2]. QBS10072S dihydrochloride induces dose-dependent cytotoxicity in LAT1-positive Hut78, HH, MJ, and H9 T-cell lymphoma cell lines^[3].

References:

- [1]. Ozawa T, et al. A Novel Blood-Brain Barrier-Permeable Chemotherapeutic Agent for the Treatment of Glioblastoma. *Cureus*. 2021;13(8):e17595. Published 2021 Aug 31.
- [2]. Murga-Zamalloa C, et al. Successful anti-tumor effects with two novel bifunctional chemotherapeutic compounds that combine a LAT1 substrate with cytotoxic moieties in aggressive T-cell lymphomas. *Leuk Res Rep*. 2023;21:100398. Published 2023 Nov 22.

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