

CHI3L1-IN-3

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

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| Description | CHI3L1-IN-3 is a CHI3L1 inhibitor that binds to CHI3L1 with dissociation constants (Kd) of 13.76 μ M and 13.5 μ M as measured by MST and SPR assays, respectively. It demonstrates an extended plasma half-life and microsomal stability, along with a low intrinsic clearance rate. In three-dimensional multicellular glioblastoma (GBM) spheroid models, CHI3L1-IN-3 induces dose-dependent cytotoxicity, reduces spheroid mass, and inhibits cell migration. This compound is valuable for glioblastoma research. |
| Targets(IC50) | glycosidase |
| In vitro | CHI3L1-IN-3 (Compound 11g) exhibits enhanced stability with a plasma half-life of 2.0 hours in mice and 2.5 hours in humans. Its microsomal half-life is 2.2 hours in mice and 2.8 hours in humans, with low clearance rates of 15 mL/min/mg in mice and 19 mL/min/mg in humans. At 50 μ M for 72 hours, it shows low cytotoxicity in hBMECs and HepG2 cells and no cytotoxicity in NHA cells. Additionally, CHI3L1-IN-3 (5-25 μ M, 72 h) inhibits the viability of glioblastoma (GBM) spheroid cells in a dose-dependent manner. When applied at 10 μ M for 72 hours, it reduces spheroid mass by over 50%, linked to widespread cell death and loss of structural cohesion. Furthermore, CHI3L1-IN-3 (10 μ M, 24-96 h) inhibits GBM spheroid migration by 60%. The compound demonstrates antiproliferative activity in glioblastoma cell lines, with IC50 values of 2.19 μ M for U251 MG cells and 5.06 μ M for T98G cells. Finally, CHI3L1-IN-3 (5-25 μ M, 72 h) reduces pSTAT3 levels in GBM spheroids in a dose-dependent manner. |

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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