

Product Data Sheet

Product Name: RSL3-NH2 hydrochloride

Cat. No.: GC81538

Chemical Properties

Cas. No. 3051815-40-5

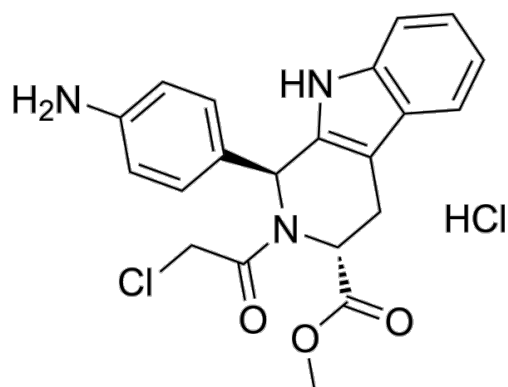
Formula $C_{21}H_{21}Cl_2N_3O_3$ M.Wt 434.32

Solubility DMSO: 100 mg/mL (230.24 mM; Need ultrasonic) Storage -20°C, protect from light, stored under argon

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



Background

RSL3-NH2 hydrochloride is a GPX4 inhibitor and ferroptosis inducer. RSL3-NH2 hydrochloride triggers the iron-dependent cell death pathway associated with lipid peroxidation by inhibiting GPX4 activity. RSL3-NH2 hydrochloride exhibits significant cytotoxicity against colorectal cancer cells and effectively induces their ferroptosis. RSL3-NH2 hydrochloride can serve as a ADC payload for synthesizing a ADC and be used in colorectal cancer-related research [1].

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

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In Vivo, ADC Conjugated from RSL3-NH₂ hydrochloride and Bispecific Antibody: CDH17 x GUCY2C-RSL3-NH₂ ADC (1 mg/kg; intravenous injection; once every 5 days; 7 doses total) induces significant regression of SW1463 colorectal cancer tumors and robust ferroptosis (elevated levels of MDA and 4-HNE) in nude mice^[1]. CDH17 x GUCY2C-RSL3-NH₂ hydrochloride ADC (1 mg/kg; intravenous injection; once every 5 days; 7 injections in total) induces significant regression of LS1034 colorectal tumors in nude mice and triggers strong ferroptosis (elevated levels of MDA and 4-HNE)^[1]. CDH17 x GUCY2C-RSL3-NH₂ hydrochloride ADC (1 mg/kg; intravenous injection; once every 5 days; 7 injections total) exhibits favorable safety in double-humanized BALB/c mice, with no hepatotoxicity or organ damage detected^[1].

In Vitro, The ADC formed by conjugating RSL3-NH₂ hydrochloride with a bispecific antibody, namely CDH17 x GUCY2C-RSL3-NH₂ hydrochloride ADC, potently inhibits the proliferation of SW1463 and LS1034 cells and induces significant MDA and lipid ROS accumulation, with IC₅₀ values of 4.97 µg/mL and 2.249 µg/mL at 72 h, respectively^[1]. CDH17 x GUCY2C-RSL3-NH₂ hydrochloride ADC (5 µg/mL; 72 h) exhibits bystander cytotoxicity against CDH17/GUCY2C-negative HT-29 cells when co-cultured with CDH17/GUCY2C-positive SW1463 or LS1034 cells^[1].

References:

[1]. Zhang Y, et al. Development of a bispecific CDH17-GUCY2C ADC bearing the ferroptosis inducer RSL3 for the treatment of colorectal cancer. Cell Death Discov. 2025;11(1):347. Published 2025 Jul 28.

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