

Product Data Sheet

Product Name: Q901 TFA

Cat. No.: GC79000

Chemical Properties

Cas. No.

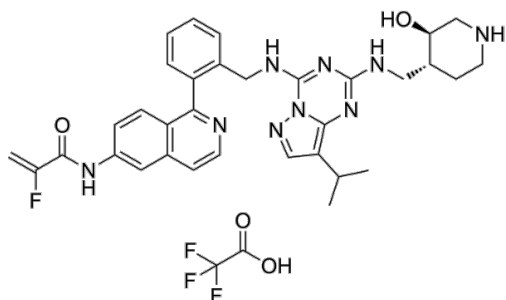
Formula $C_{35}H_{37}F_4N_9O_4$ M.Wt 723.72

Solubility DMSO: 50 mg/mL (69.09 mM; Need ultrasonic) Storage Store at 4°C, stored under nitrogen, away from moisture

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

Q901 (CDK7-IN-21) TFA is a selective and potent CDK7 inhibitor with an IC_{50} of 10 nM. Q901 TFA disrupts MYC and E2F/TP1 -DPCs and sensitizes tumor to TOP1 inhibitors by suppressing RNAPII transition from initiation to elongation. Q901 TFA can inhibit tumor growth and significantly enhances tumor growth inhibition combined with TOP1 inhibitors. Q901 TFA can be used for the research of cancer, such as colon cancer and lung cancer [1].

In Vivo, Q901 (10 mg/kg, i.p., once daily, 30 days) TFA inhibits tumor growth in HCT116 colon cancer

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

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xenograft mice, and significantly enhances tumor growth inhibition combined with T-DXd (10 mg/kg, i.v., single injection on day 0) (TGI = 102%), achieving sustained tumor suppression^[1]. Q901 (3-10 mg/kg, i.p., once daily) TFA inhibits tumor growth in H292 lung cancer xenograft mice and significantly enhances tumor growth inhibition combined with Sacituzumab govitecan (3-10 mg/kg, i.v., on day 1 and 8) ^[1].

In Vitro, Q901 (72-120 h) TFA inhibits the proliferation of MCF-7 breast cancer cells with IC₅₀ values of 95 nM (72 h), 16 nM (96 h) and 5 nM (120 h)^[1]. Q901 (100 nM, 1-24 h) TFA traps CDK7 at promoter-proximal regions, reduces chromatin-bound RNAPII and its Ser5/Ser2 phosphorylation, and downregulates MYC/E2F-driven transcription programs^[1]. Q901 (10-1000 nM, 24-72 h) TFA downregulates DNA damage repair (DDR) genes and increases p-H2AX levels, inducing DNA damage accumulation in MCF-7 cells^[1]. Q901 (1 μM, 24 h) TFA reduces ubiquitination of TOP1-DPCs induced by TPT (1 μM, 0.5-2 h) and prolongs the stability of TOP1-DPCs in MCF-7 cells^[1]. Q901 TFA combined with Topotecan, T-DXd and Sacituzumab govitecan synergistically inhibits the proliferation of H82, DMS53 small cell lung cancer cells, HCT116 colon cancer cells and H292 lung cancer cells^[1].

References:

[1]. Jung H, et al. Sensitizing tumor response to topoisomerase I antibody drug conjugate by selective CDK7 inhibition. bioRxiv [Preprint]. 2025 Nov 25:2025.11.23.690049.

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