

Product Data Sheet

Product Name: YJ1206 TFA

Cat. No.: GC81862

Chemical Properties

Cas. No.

Formula $C_{51}H_{53}F_4N_{11}O_7$ M.Wt 1008.03

Solubility DMSO: ≥ 100 mg/mL (99.20 mM) Storage Store at 4°C, sealed storage, 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

YJ1206 TFA is an orally active selective CDK12 / CDK13 PROTAC degrader. YJ1206 TFA induces DNA damage and genomic instability, activates the AKT pathway, and triggers apoptosis. YJ1206 TFA reduces tumor cell viability, inhibits tumor growth, and attenuates tumor cell dissemination.

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

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YJ1206 TFA is applicable to research related to prostate cancer and high-grade serous tubo-ovarian cancer [1] [2]. (Pink: CDK12 and CDK13 ligand; Blue: Cereblon E3 ligase ligand; Black: linker).

In Vivo, YJ1206 (100 mg/kg; p.o.; three times per week; for a total of 5 days) TFA completely degrades CDK12, CDK13 and CCNK in castrated VCaP xenograft mice, induces robust apoptosis as detected by PARP cleavage and TUNEL staining, and moderately inhibits tumor growth^[1]. YJ1206 (100 mg/kg; p.o.; three times per week) TFA significantly inhibits tumor growth in the WA74 PDX prostate cancer mouse model, induces regression in 19% of tumors, and causes no significant body weight loss^[1]. YJ1206 (100 mg/kg; p.o.; three times per week; for 4 consecutive weeks) TFA moderately inhibits tumor growth in castrated 22Rv1 xenograft mouse models^[1]. YJ1206 (50-100 mg/kg; p.o.; three times per week) TFA significantly inhibits the growth of CDK12-deficient ovarian cancer subcutaneous allografts in C57BL/6J mice, with a more pronounced therapeutic effect observed at the 100 mg/kg dose^[2]. Oral administration of YJ1206 TFA at a dose of 100 mg/kg three times per week significantly inhibits the growth of subcutaneous xenografts of human CDK12-knockout ovarian cancer in NSG mice^[2].

In Vitro, YJ1206 (0.2-100 nM; 4 h) TFA potently and dose-dependently degrades CDK12 and CDK13 proteins in VCaP prostate cancer cells^[1]. YJ1206 (for 5 days) TFA inhibits the viability of VCaP prostate cancer cells, with an IC₅₀ of 12.55 nM^[1]. YJ1206 (500 nM; 8 h) TFA selectively degrades CDK12, CDK13 and CCNK in 22Rv1 prostate cancer cells, with extremely weak off-target protein degradation activity^[1]. YJ1206 TFA induces gene length-dependent transcription elongation defects in VCaP prostate cancer cells, specifically manifesting as inhibition of long gene expression, alteration of DDR and AKT-mTOR pathway activities, and induction of DNA damage-related changes in gene expression^[1]. YJ1206 (500 nM; 15 h) TFA activates the AKT pathway in VCaP and 22Rv1 prostate cancer cells by increasing the phosphorylation levels of AKTS473, PRAS40 and S6^[1]. YJ1206(0.030-30 μM; 5 days) TFA potently reduces the viability of 6227_KO PRN;Cdk12KO and 6137_J PRN;Cdk12HET mouse ovarian cancer cells, with an IC₅₀ value of approximately 212 nM; whereas it shows weaker efficacy against 15973_WT PRN cells, with an IC₅₀ value of 3337 nM^[2].

References:

[1]. Chang Y, et al. Development of an orally bioavailable CDK12/13 degrader and induction of

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synthetic lethality with AKT pathway inhibition. Cell Rep Med. 2024;5(10):101752.

[2]. Tien JC, et al. Defining CDK12 as a tumor suppressor and therapeutic target in mouse models of tubo-ovarian high-grade serous carcinoma. Proc Natl Acad Sci U S A. 2025;122(24):e2426909122.

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