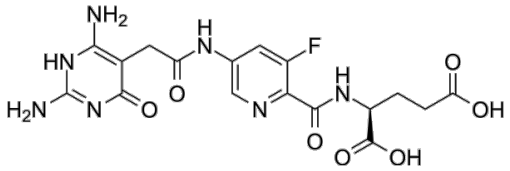
# Product Data Sheet

Product Name: TH9619
Cat. No.: GC73599

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 2379556-22-4 | | |
| Formula | $C_{17}H_{18}FN_7O_7$ | M.Wt | 451.37 |
| Solubility | DMSO : 100 mg/mL (221.55 mM; ultrasonic and warming and heat to 60°C) | Storage | -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 | | | |




## Background

TH9619 is a potent inhibitor of dedrogenase and cyclodrolase activities in both MTHFD1 and MTHFD2 with a IC50 value of 47 nM, and selectively kills cancer cells. TH9619 induces apoptosis by blocking the S phase. TH9619 has antitumor activity.

TH9619 (7.8-1,000 nM, 420 s) displays high selectivity toward binding and stabilizing MTHFD2 over other common folate metabolism targets in intact HL-60 and LCL-889 cells[1].TH9619 (1 nM-1 μM,

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96 h) shows overall strong antiproliferative efficacy in AML cells and T-ALL Jurkat cells[1].TH9619 (1-100 μM, 96 h) target MTHFD1(DC) but not mitochondrial MTHFD2 in SW620 cells[2].

TH9619 (30 mg/kg, s.c., twice daily for 50 days) impairs cancer progression and lowers systemic tmidine levels in HL-60 cells xenograft acute myeloid leukemia (AML) NOG mice model[1].Plasma concentration and pharmacokinetic (PK) evaluation of TH9619 following subcutaneous administration of 10 mg/kg in female NOG mice[1]

References:
[1]. Bonagas N, et al. Pharmacological targeting of MTHFD2 suppresses acute myeloid leukemia by inducing tmidine depletion and replication stress. Nat Cancer. 2022 Feb;3(2):156-172.
[2]. Green AC, et al. Formate overflow drives toxic folate trapping in MTHFD1 inhibited cancer cells. Nat Metab. 2023 Apr;5(4):642-659.

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