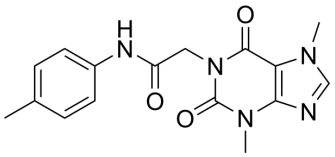
T-1-PMPA

Cat. No.:	HY-158149
CAS No.:	1323883-62-0
Molecular Formula:	$C_{16}H_{17}N_5O_3$
Molecular Weight:	327.34
Target:	EGFR; Apoptosis
Pathway:	JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	T-1-PMPA is a potent EGFR inhibitor with apoptotic properties. T-1-PMPA effectively inhibits $EGFR^{WT}$ and $EGFR^{790m}$, with IC_{50} values of 86 nM and 561.73 nM, respectively[1].

IC_{50} & Target	$EGFR^{WT}$	$EGFR^{T790M}$
	86 nM (IC_{50})	561.73 nM (IC_{50})

In Vitro

T-1-PMPA (0.312-10 μM; 24 h) shows significant suppression of the proliferation of HepG2 and MCF7 malignant cell lines, with IC_{50} values of 3.51 μM and 4.13 μM, respectively[1]. In HepG2 cells, T-1-PMPA increases the proportion of cells in the early stage of apoptosis from 0.77 to 29.17%, the late stage of apoptosis from 0.17 to 8.81%, and the overall stage from 3.05 to 42.03%. Additionally, the percentage of necrotic cells increased to 4.05% compared to 2.21% in the control cells. The qRT-PCR analysis further supported the apoptotic effects by revealing significant increases in the levels of caspase-3 and caspase-9. T-1-PMPA controlls the levels of TNFα and IL2 by 74 and 50%[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HepG2 and MCF7 malignant cell lines
Concentration:	0.312 μM, 0.625 μM, 1.25 μM, 2.5 μM, 5 μM, 10 μM
Incubation Time:	24 h
Result:	Showed significant suppression of the proliferation of HepG2 and MCF7 malignant cell lines.

REFERENCES

[1]. Ibrahim H Eissa, et al. New Theobromine Apoptotic Analogue with Anticancer Potential Targeting the EGFR Protein: Computational and In Vitro Studies. ACS Omega. 2024 Mar 27;9(14):15861-15881.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA