# Phen-DC3 Trifluoromethanesulfonate

**Cat. No.:** HY-15594A

**CAS No.:** 929895-45-4

**Molecular Formula:** $C_{36}H_{26}F_6N_6O_8S_2$

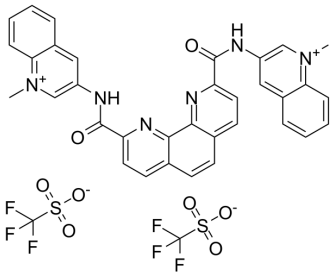
**Molecular Weight:** 848.75

**Target:** G-quadruplex

**Pathway:** Cell Cycle/DNA Damage

**Storage:** 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 34 mg/mL (40.06 mM)

* "≥" means soluble, but saturation unknown.

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 1.1782 mL | 5.8910 mL | 11.7820 mL |
| 5 mM | 0.2356 mL | 1.1782 mL | 2.3564 mL |
| 10 mM | 0.1178 mL | 0.5891 mL | 1.1782 mL |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description**

Phen-DC3 Trifluoromethanesulfonate is a G-quadruplex (G4) specific ligand which can inhibit FANCJ and DinG helicases with $IC_{50}$s of 65±6 and 50±10 nM, respectively.

**$IC_{50}$ & Target**

IC50: 65±6 nM (G4 substrate, FANCJ helicase), 50±10 nM (G4 substrate, DinG helicases)[1]

**In Vitro**

In WT cells, a CEB1-WT array is rather stable but undergoes frequent rearrangements upon addition of 10 μM Phen-DC3 Trifluoromethanesulfonate (Phen-DC3). It is found that the c-Myc allele exhibits significant destabilization upon Phen-DC3 Trifluoromethanesulfonate treatment and PIF1 deletion. The CEB25-L111(T) array is stable in WT cells, it becomes unstable upon addition of Phen-DC3 Trifluoromethanesulfonate or deletion of PIF1. It is also highly destabilized in the presence of Phen-DC3 Trifluoromethanesulfonate or in the absence of PIF1. The CEB1-loop CEB25 allele remaines fully stable in both PIF1-treated and WT cells[2].

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

## PROTOCOL

| | |
|---|---|
| **Cell Assay** [2] | Briefly, untreated WT cells and pif1Δ cells from a fresh patch of cells get from a single colony bearing the parental allele size are diluted in 5 mL of YPD ($2\times10^5$ cells/mL), grown for 8 generations at 30°C with shaking, and spreaded as single colony on YPD plates. To measure minisatellite instability upon Phen-DC3 Trifluoromethanesulfonate treatment, WT cells from a fresh patch on YPD are grown for 8 generations at 30°C in liquid SC containing Phen-DC3 Trifluoromethanesulfonate at 10 μM. Isolated colonies or pools of colonies are analyzed by Southern blot using the EcoRI digestion that cuts at each side of the minisatellite[2].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Cell Death Dis. 2021 Oct 25;12(11):999.
- iScience. 9 October 2022, 105312.
- J Phys Chem B. 2023 Jun 25.
- Patent. US20210188889A1.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Sanjay Kumar Bharti, et al. Specialization among Iron-Sulfur Cluster Helicases to Resolve G-quadruplex DNA Structures That Threaten Genomic Stability. J Biol Chem. 2013 Sep 27; 288(39): 28217–28229.

[2]. Aurèle Piazza, et al. Short loop length and high thermal stability determine genomic instability induced by G-quadruplex-forming minisatellites. EMBO J. 2015 Jun 12; 34(12): 1718–1734.



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