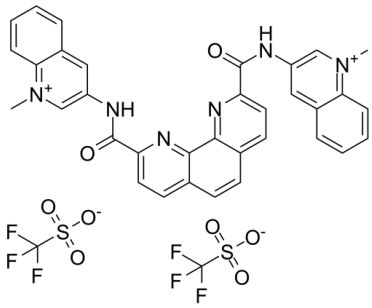
Data Sheet

Product Name:	Phen-DC3 Trifluoromethanesulfonate
Cat. No.:	CS-7711
CAS No.:	929895-45-4
Molecular Formula:	C36H26F6N6O8S2
Molecular Weight:	848.75
Target:	G-quadruplex
Pathway:	Cell Cycle/DNA Damage
Solubility:	DMSO : ≥ 34 mg/mL (40.06 mM)



BIOLOGICAL ACTIVITY:

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. IC50 & 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].

PROTOCOL (Extracted from published papers and Only for reference)

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 (2×10^5 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].

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.

CAIndexNames:

Quinolinium, 3,3'-[1,10-phenanthroline-2,9-diylbis(carbonylimino)]bis[1-methyl-, 1,1,1-trifluoromethanesulfonate (1:2)

SMILES:

[O-]S(=O)(C(F)(F)F)=O.C[N+]1=C2C=CC=CC2=CC(NC(C3=CC=C4C=CC5=CC=C(C(NC6=C[N+](C)=C7C=CC=CC7=C6)=O)N=C5C4=N3)=O)=C1.[O-]S(=O)(C(F)(F)F)=O

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

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