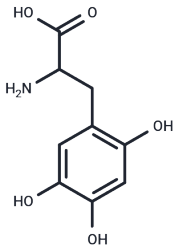
Data Sheet (Cat.No.T26396)

TargetMol

6-Hydroxy-DOPA

Chemical Properties



CAS No. :	21373-30-8
Formula:	C9H11NO5
Molecular Weight:	213.19
Storage:	Store at low temperature,Keep away from direct sunlight Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	6-Hydroxy-DOPA is an allosteric inhibitor of RAD52, it inhibits proliferation of BRCA-deficient cancer cells in vitro and also inhibits APE1.
Targets(IC50)	DNA/RNA Synthesis
In vitro	We identify the small molecule 6-hydroxy-DL-dopa (6-OH-dopa) as a major allosteric inhibitor of the RAD52 ssDNA binding domain. For example, we find that multiple small molecules bind to and completely transform RAD52 undecamer rings into dimers, which abolishes the ssDNA binding channel observed in crystal structures. 6-OH-Dopa also disrupts RAD52 heptamer and undecamer ring superstructures, and suppresses RAD52 recruitment and recombination activity in cells with negligible effects on other double-strand break repair pathways.
In vivo	Importantly, we show that 6-OH-dopa selectively inhibits the proliferation of BRCA-deficient cancer cells, including those obtained from leukemia patients. Taken together, these data demonstrate small-molecule disruption of RAD52 rings as a promising mechanism for precision medicine in BRCA-deficient cancers.

Solubility Information

Solubility	DMSO: 2.14 mg/mL (10.04 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.6907 mL	23.4533 mL	46.9065 mL
5 mM	0.9381 mL	4.6907 mL	9.3813 mL
10 mM	0.4691 mL	2.3453 mL	4.6907 mL
50 mM	0.0938 mL	0.4691 mL	0.9381 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Chandramouly G, McDevitt S, Sullivan K, Kent T, Luz A, Glickman JF, Andrake M, Skorski T, Pomerantz RT. Small-Molecule Disruption of RAD52 Rings as a Mechanism for Precision Medicine in BRCA-Deficient Cancers. Chem Biol. 2015 Nov 19;22(11):1491-1504. doi: 10.1016/j.chembiol.2015.10.003. Epub 2015 Nov 5. PubMed PMID: 26548611; PubMed Central PMCID: PMC4701204.

Simeonov A, Kulkarni A, Dorjsuren D, Jadhav A, Shen M, McNeill DR, Austin CP, Wilson DM 3rd. Identification and characterization of inhibitors of human apurinic/apyrimidinic endonuclease APE1. PLoS One. 2009 Jun 1;4(6): e5740. doi: 10.1371/journal.pone.0005740. PubMed PMID: 19484131; PubMed Central PMCID: PMC2685009.