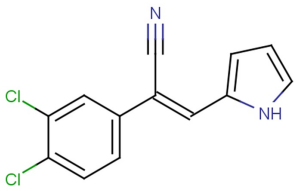
Data Sheet (Cat.No.T10325)

TargetMol
A DRUG SCREENING EXPERT

ANI-7

Chemical Properties



CAS No.:	931417-26-4
Formula:	C13H8Cl2N2
Molecular Weight:	263.12
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	ANI-7 is an activator of aryl hydrocarbon receptor (AhR) pathway. ANI-7 inhibits the growth of multiple cancer cells and potently and selectively inhibits the growth of MCF-7 breast cancer cells (GI50: 0.56 μM).
Targets(IC_{50})	Chk2: None
In vitro	ANI-7 (2.5 μM; 24 hours; MCF10A and MDA-MB-468 cells) treatment induces significant S-phase and G2 + M-phase cell cycle arrest within 24 hours of treatment in MDA-MB-468 cells. ANI-7 (2 μM; 12-24 hours; MDA-MB-468 cells) treatment results in a significant increase in the content and phosphorylation of CHK2, and induces a significant increase in H2AX in MDA-MB-468 cells, indicative of DNA double-strand damage. Comparisons of the GI50 values show that ANI-7 produces a GI50 value of 0.38 μM in MCF-7 cells, whereas values of 3.0-42 μM are observed in cell lines from lung, colon, ovary, neuronal, glial, prostate, and pancreas. The only other tumor type that shows appreciable growth inhibition by ANI-7 is the A431 vulva cell line (GI50 of 0.51μM). ANI-7 potently inhibits the growth of T47D, ZR-75-1, MCF-7, SKBR3, and MDA-MB-468 breast cancer cells (GI50 range of 0.16-0.38 μM), moderately inhibits the growth of BT20 and BT474 cells (GI50 range of 1-2 μM), and essentially fails to inhibit the growth of MDA-MB-231 and MCF10A cells (GI50 range of 17-26 μM). Moreover, ANI-7 maintained its ability to inhibit the growth of drug-resistant cells (MCF-7/VP16: GI50 of 0.21 μM) [1].

Solubility Information

Solubility	DMSO: 20.83 mg/mL (79.17 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.801 mL	19.003 mL	38.005 mL
5 mM	0.76 mL	3.801 mL	7.601 mL
10 mM	0.38 mL	1.9 mL	3.801 mL
50 mM	0.076 mL	0.38 mL	0.76 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. ilbert J, et al. (Z)-2-(3,4-Dichlorophenyl)-3-(1H-Pyrrol-2-yl)Acrylonitrile Exhibits Selective Antitumor Activity in Breast Cancer Cell Lines via the Aryl Hydrocarbon Receptor Pathway. Mol Pharmacol. 2018 Feb;93(2):168-177.
2. Baker JR, et al. Dichlorophenylacrylonitriles as AhR Ligands That Display Selective Breast Cancer Cytotoxicity in vitro. ChemMedChem. 2018 Jul 18;13(14):1447-1458.
3. Mark Tarleton, et al. Library synthesis and cytotoxicity of a family of 2-phenylacrylonitriles and discovery of an estrogen dependent breast cancer lead compound. Medicinal Chemistry Communication. January 20112. (1):31-37.

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