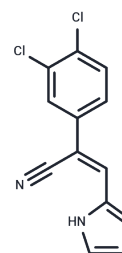


ANI-7

Chemical Properties

CAS No. :	931417-26-4
Formula:	C ₁₃ H ₈ Cl ₂ N ₂
Molecular Weight:	263.12
Storage:	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	ANI-7 is an activator of the aryl hydrocarbon receptor (AhR) pathway, inhibiting the growth of various cancer cells and selectively inhibiting the growth of MCF-7 breast cancer cells (GI50: 0.56 μ M).
Targets(IC50)	Aryl Hydrocarbon Receptor, Chk
In vitro	ANI-7 (2.5 μ M; 24 hours; MCF10A and MDA-MB-468 cells) treatment induces significant S-phase and G2 + M-phase cell cycle arrest within 24 hours in MDA-MB-468 cells. ANI-7 (2 μ M; 12-24 hours; MDA-MB-468 cells) significantly increases CHK2 content and phosphorylation and induces a significant increase in H2AX, indicating DNA double-strand damage. GI50 values show ANI-7 has a GI50 of 0.38 μ M in MCF-7 cells, while values of 3.0-42 μ M are seen in lung, colon, ovary, neuronal, glial, prostate, and pancreas cell lines. The A431 vulva cell line shows appreciable growth inhibition (GI50 of 0.51 μ M) by ANI-7. ANI-7 potently inhibits T47D, ZR-75-1, MCF-7, SKBR3, and MDA-MB-468 breast cancer cells (GI50 range 0.16-0.38 μ M), moderately inhibits BT20 and BT474 cells (GI50 range 1-2 μ M), and essentially fails to inhibit MDA-MB-231 and MCF10A cells (GI50 range 17-26 μ M). Additionally, ANI-7 maintains its inhibitory effect on drug-resistant cells (MCF-7/VP16: GI50 of 0.21 μ M) [1].

Solubility Information

Solubility	DMSO: 45 mg/mL (171.02 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (7.6 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8005 mL	19.0027 mL	38.0055 mL
5 mM	0.7601 mL	3.8005 mL	7.6011 mL
10 mM	0.3801 mL	1.9003 mL	3.8005 mL
50 mM	0.076 mL	0.3801 mL	0.7601 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

Gilbert 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.

Baker JR, et al. Dichlorophenylacrylonitriles as AhR Ligands That Display Selective Breast Cancer Cytotoxicity in vitro. *ChemMedChem*. 2018 Jul 18;13(14):1447-1458.

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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