Data Sheet (Cat.No.T3955)

AR7

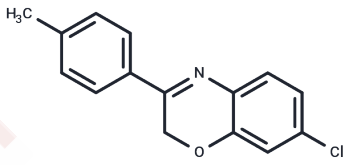
Chemical Properties

CAS No. : 80306-38-3

Formula: C15H12ClNO

Molecular Weight: 257.71

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	AR7 is a retinoic acid receptor α (RARα) antagonist.
Targets(IC50)	Retinoid Receptor
In vitro	Chaperone-mediated autophagy (CMA) contributes to cellular quality control and the cellular response to stress through the selective degradation of cytosolic proteins in lysosomes. Decrease in CMA activity occurs in aging and in age-related disorders. Signaling through the retinoic acid receptor alpha (RARα) inhibits CMA. AR7, an RARα antagonist, significantly activates CMA activity in mouse fibroblasts. A marked increase in CMA-activating potency is found when AR7 and GR1 are combined, supporting their cooperative effect. Treatment with the transcriptional repressor Actinomycin D partially reduces the stimulatory effect of AR7 on CMA, consistent with transcriptional changes contributing to the upregulation of CMA. The antagonistic effect of the retinoid derivatives likely results from a combination of tight binding to RARα and high stability.

Solubility Information

Solubility	DMSO: 12.5 mg/mL (48.5 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8803 mL	19.4017 mL	38.8033 mL
5 mM	0.7761 mL	3.8803 mL	7.7607 mL
10 mM	0.388 mL	1.9402 mL	3.8803 mL
50 mM	0.0776 mL	0.388 mL	0.7761 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

Anguiano J, et al. Chemical modulation of chaperone-mediated autophagy by retinoic acid derivatives. Nat Chem Biol. 2013 Jun;9(6):374-82.
Jiang S, Wang X, He Y, et al. Suppression of USP7 induces BCR-ABL degradation and chronic myelogenous leukemia cell apoptosis. Cell Death & Disease. 2021, 12(5): 1-12.
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Xiong Q, Sun H, Xing W, et al.WDR45 mutation dysregulates iron homeostasis by promoting the chaperone-mediated autophagic degradation of ferritin heavy chain in an ER stress/p38 dependent mechanism.Free Radical Biology and Medicine.2023
Xiong Q, Sun H, Wang Y, et al.Lipid droplet accumulation in Wdr45-deficient cells caused by impairment of chaperone-mediated autophagic degradation of Fasn.Lipids in Health and Disease.2024, 23(1): 91.