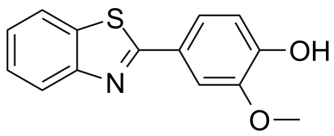
YL-109

Cat. No.:	HY-18619
CAS No.:	36341-25-0
Molecular Formula:	$C_{14}H_{11}NO_2S$
Molecular Weight:	257.31
Target:	Aryl Hydrocarbon Receptor
Pathway:	Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (388.64 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.8864 mL	19.4318 mL	38.8636 mL
	5 mM	0.7773 mL	3.8864 mL	7.7727 mL
	10 mM	0.3886 mL	1.9432 mL	3.8864 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 3 mg/mL (11.66 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 3 mg/mL (11.66 mM); Clear solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3 mg/mL (11.66 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

YL-109 is an antitumor agent that can induce carboxyl terminus of Hsp70-interacting protein (CHIP) expression through aryl hydrocarbon receptor (AhR) signaling. YL-109 has ability to inhibit breast cancer cell growth and invasiveness[1].

In Vitro

YL-109 (0.001-10 μM; 96 h or 24 h) inhibits cell proliferation, motility, and invasiveness in breast cancer cells[1].
YL-109 (1 μM) increases both CHIP mRNA and protein levels in MDA-MB-231 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	MCF-7 and MDA-MB-231 cells
Concentration:	0.001, 0.01, 0.1, 1, 10 μM
Incubation Time:	96 hours
Result:	Strongly inhibited cell proliferation of MCF-7 and MDA-MB-231 cells in a dose-dependent manner (IC_{50}=85.8 nM and 4.02 μM, respectively).

In Vivo

YL-109 (15 mg/kg; s.c. for every 2 d) inhibits both tumor growth and cancer metastasis of breast cancer cells in vivo[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	BALB/cAjcl-nu/nu female mice (4-5 weeks) inoculated with MCF-7 or MDA-MB-231 cells[1]
Dosage:	15 mg/kg
Administration:	S.c. every 2 days for 63 days
Result:	Suppressed tumor growth in mice injected with MCF-7 and MDA-MB-231 cells.

CUSTOMER VALIDATION

- Research Square Preprint. 2023 Oct 3.

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REFERENCES

[1]. Hiyoshi H, et al. 2-(4-Hydroxy-3-methoxyphenyl)-benzothiazole suppresses tumor progression and metastatic potential of breast cancer cells by inducing ubiquitin ligase CHIP. Sci Rep. 2014 Nov 18;4:7095.

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