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产品名称：4-(苯并[D]噻唑-2-基)-2-甲氧基苯酚
产品别名：YL-109

生物活性：

Description

YL-109 is a novel anticancer agent which has ability to inhibit breast cancer cell growth and invasiveness in vitro and in vivo. IC50 value: 85.7 nM(MCF-7 cells proliferation) [1] Target: AhR signaling activcator in vitro: YL-109 strongly inhibited cell proliferation of MCF-7 cells in a dose-dependent manner (IC50= 85.8 nM). Surprisingly, YL-109 had an anti-proliferative effect in a dose-dependent manner (IC50 = 4.02 μM) on MDA-MB-231 cells. YL-109 repressed the sphere-forming ability and the expression of stem cell markers in MDA-MB-231 mammosphere cultures. YL-109 increased the expression of carboxyl terminus of Hsp70-interacting protein (CHIP), which suppresses tumorigenic and metastatic potential of breast cancer cells by inhibiting the oncogenic pathway. YL-109 induced CHIP transcription because of the recruitment of the aryl hydrocarbon receptor (AhR) to upstream of CHIP gene in MDA-MB-231 cells. Consistently, the antitumor effects of YL-109 were depressed by CHIP or AhRknockdown in MDA-MB-231 cells [1]. in vivo: Mice treated with vehicle showed significantly enlarged tumors, whereas mice treated with YL-109 showed attenuated tumor growth using MCF-7 cells. Interestingly, YL-109 also suppressed tumor growth in mice injected with MDA-MB-231 cells. Compared with the vehicle control, YL-109 significantly reduced lung metastasis [1].

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

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

In Vivo:

请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶

1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline

Solubility: ≥ 3 mg/mL (11.66 mM); Clear solution

此方案可获得 ≥ 3 mg/mL (11.66 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 30.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。

	2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline) Solubility: 3 mg/mL (11.66 mM); Clear solution; Need ultrasonic 此方案可获得 3 mg/mL (11.66 mM)的澄清溶液。 以 1 mL 工作液为例，取 100 μL 30.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。 3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 3 mg/mL (11.66 mM); Clear solution 此方案可获得 ≥ 3 mg/mL (11.66 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 以 1 mL 工作液为例，取 100 μL 30.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
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.