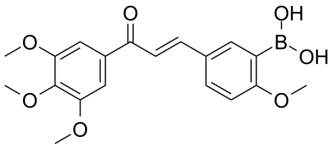
YK-3-237

Cat. No.:	HY-19634
CAS No.:	1215281-19-8
Molecular Formula:	$C_{19}H_{21}BO_7$
Molecular Weight:	372.18
Target:	Sirtuin
Pathway:	Cell Cycle/DNA Damage; Epigenetics
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (268.69 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6869 mL	13.4344 mL	26.8687 mL
5 mM	0.5374 mL	2.6869 mL	5.3737 mL
10 mM	0.2687 mL	1.3434 mL	2.6869 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: ≥ 2.5 mg/mL (6.72 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

YK-3-237, a SIRT1 activator, targets mutant p53. YK-3-237 inhibits the proliferation of triple-negative breast cancer cells[1].

IC_{50} & Target

SIRT1

In Vitro

YK-3-237 exhibits the anti-proliferative activities toward most of the breast cancer cell lines tested at submicromolar concentration. YK-3-237 preferentially inhibits the proliferation of breast cancer cell lines carrying mtp53[1].
YK-3-237 inhibits the proliferation of triple-negative breast cancer (TNBC) HS578T, MDA-MB-453, SUM1315MO2, SUM149PT, BT549, MDA-MB-231, MDA-MB-436, MDA-MB-468, HCC1937 with IC_{50}s of 0.160±0.043, 0.241±0.086, 0.253±0.028, 0.289±0.066, 0.353±0.017, 0.431±0.136, 0.501±0.062, 1.436±0.754, 5.031±2.010 μM, respectively[1].
YK-3-237 inhibits the proliferation of Luminal T47D, MCF7, and ZR-75-1 with IC_{50}s of 1.573±0.370, 2.402±0.256, 3.822±0.967

μM, respectively[1].
YK-3-237 inhibits the proliferation of HER2 BT474 and SK-BR-3 with IC_{50}s of 1.249±0.372 and 0.346±0.066 μM, respectively[1].
YK-3-237 (0.01-10 μM; 24 hours) deacetylates mtp53 in TNBC cell lines[1].
YK-3-237 is a potent activator of Sirt1, on the activation of renal interstitial fibroblasts using NRK-49F cells[2].
Exposure of cells to YK-3-237 also significantly reduces expression of α-SMA and fibronectin in a dose-dependent manner, with the maximum inhibition occurring at 10 μM[2].

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

Cell Viability Assay[1]

Cell Line:	BT549, MDA-MB-468, HS578T, SUM149PT
Concentration:	0, 0.01, 0.03, 0.1, 0.3, 1, 3, 10 μM
Incubation Time:	24 hours
Result:	Reduced both the acetylation of K382 and the level of mtp53 in a dose-dependent manner in mtp53 TNBC cell lines.

REFERENCES

[1]. Yong Weon Yi, et al. Targeting mutant p53 by a SIRT1 activator YK-3-237 inhibits the proliferation of triple-negative breast cancer cells. Oncotarget. 2013 Jul;4(7):984-94.

[2]. Murugavel Ponnusamy, et al. Activation of Sirtuin-1 Promotes Renal Fibroblast Activation and Aggravates Renal Fibrogenesis. J Pharmacol Exp Ther. 2015 Aug;354(2):142-51.

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