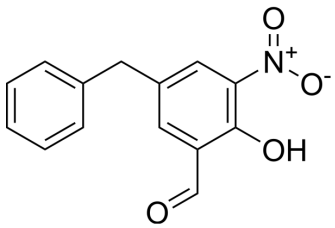
# Col003

| | |
|---|---|
| **Cat. No.:** | HY-124817 |
| **CAS No.:** | 328565-16-8 |
| **Molecular Formula:** | $C_{14}H_{11}NO_4$ |
| **Molecular Weight:** | 257.24 |
| **Target:** | HSP |
| **Pathway:** | Cell Cycle/DNA Damage; Metabolic Enzyme/Protease |
| **Storage:** | 4°C, stored under nitrogen<br>* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen) |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 50 mg/mL (194.37 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.8874 mL | 19.4371 mL | 38.8742 mL |
| | 5 mM | 0.7775 mL | 3.8874 mL | 7.7748 mL |
| | 10 mM | 0.3887 mL | 1.9437 mL | 3.8874 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 (9.72 mM); Clear solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description**

Col003 is a selective and potent inhibitor of Hsp47 and competitively binds to the collagen binding site on Hsp47 ($IC_{50}$=1.8 μM). Col003 discourages the interaction of Hsp47 with collagen and inhibits collagen secretion by destabilizing the collagen triple helix. Col003 can be used for the investigation of fibrosis[1]

**$IC_{50}$ & Target**

HSP47
1.8 μM ($IC_{50}$)

**In Vitro**

Col003 (4.4-40 μM) is cleaved from Col001 (AK-778). Col003 has an inhibitory effect on the interaction of Hsp47 with collagen in Hsp47 KO $^{?/?}$ MEFs[1].
?Col003 (0.01-100 μM) exhibits dose-dependent effects on the interactions of Hsp47 with collagen. The $IC_{50}$?value is 1.8 μM for Hsp47[1].
?Col003 (100 μM; 20-60 mins) has an nhibitory effects on collagen secretion and accumulation. It inhibits collagen secretion by wild-type MEFs and the secretion is not abolished completely[1].
?Col003 (100 μM) degrades α,α′-dipyridyl collagen secretion completely by incubation with trypsin at a high temperature (50

°C for 15 min), but it resistant to trypsin digestion at 37 °C[1].
?.

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

Western Blot Analysis[1]

| | |
|---|---|
| Cell Line: | Wild-type MEFs |
| Concentration: | 100 μM |
| Incubation Time: | After 50 °C or 37 °C for 15 min |
| Result: | Affected correctly folded triple helix structures and α,α′-dipyridyl on collagen secretion. |

## CUSTOMER VALIDATION

- Front Pharmacol. 2022 Jan 10;12:792263.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Ito S, et al. A small-molecule compound inhibits a collagen-specific molecular chaperone and could represent a potential remedy for fibrosis. J Biol Chem. 2017 Dec 8;292(49):20076-20085.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA