

Catalog Number: CM06448

## 产品信息

**Catalog Number:**  
CM06448

**CAS号:**  
120241-79-4

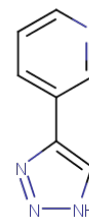
**分子式:**  
C<sub>7</sub>H<sub>6</sub>N<sub>4</sub>

**主要靶点:**  
Sirtuin

**主要通路:**  
DNA损伤和修复|表观遗传

**分子量:**  
146.15

**溶解度:**  
DMSO:28 mg/mL (191.6  
mM),Ethanol:28 mg/mL (191.6  
mM),H<sub>2</sub>O:5 mg/mL (34.21 mM)



## 靶点活性

SIRT3:16 nM|SIRT1:88 nM|SIRT2:92 nM

## 体外活性

3-TYP significantly attenuates melatonin-induced increases in deacetylated-SOD2 expression and SOD2 activity in HepG2 cells exposed to Cd. 3-TYP inhibits melatonin-enhanced SIRT3 activity while not affecting SIRT3 protein expression. 3-TYP pretreatment reverses the protective effects of melatonin on cadmium (Cd)-induced mitochondrial-derived O<sub>2</sub><sup>-</sup> production and autophagic cell death.

## 体内活性

3-TYP significantly decreases SIRT3 activity and increases the acetylation of SOD2 compared with that in the control group, without influencing SIRT3 expression. 3-TYP attenuates the cardioprotective effects of melatonin by decreasing the LVEF and LVFS after 24 hours of reperfusion. 3-TYP also increases the infarct size, serum LDH levels, and apoptotic ratio compared with those in the IR+Mel group. 3-TYP (50 mg/kg, i.p.) does not markedly influence the LVEF, LVFS, infarct size, serum LDH levels, apoptosis, and oxidative stress compared with those of the Sham group. Furthermore, 3-TYP has little effect on gp91phox, Nrf2, NQO 1, Bax, Bcl-2, Caspase-3, and cleaved Caspase-3 expression levels, compared with the Sham group.

## 动物实验

3-TYP is formulated in 1% ethanol. Male C57BL/6 mice are anesthetized with 2% isoflurane, and myocardial ischemia is produced by temporarily exteriorizing the heart via a left thoracic incision and placing a 6-0 silk suture slipknot around the left anterior descending coronary artery. After 30 minutes of myocardial ischemia, the slipknot is released, and the myocardium is reperfused for 3 hour (for western blot analysis and oxidative stress measurement) or 24 hour (for cardiac function, apoptotic index and infarct size determination). Sham-operated mice undergo the same surgical procedures except the suture placed under the left coronary artery is not tied. Ten minutes before reperfusion, mice are randomized to receive either vehicle (1% ethanol) or melatonin (20 mg/kg) by intraperitoneal injection. C57BL/6 mice are randomly divided into the following groups: (i) Sham group: mice underwent the sham operation and are treated with vehicle (1% ethanol); (ii) Mel group: mice are treated with melatonin (20 mg/kg via intraperitoneal injection); (iii) IR+V group: mice underwent the MI/R operation and are treated with vehicle (1% ethanol); (iv) IR+Mel group: mice underwent the MI/R operation and are treated with melatonin (20 mg/kg via intraperitoneal injection 10 minutes before reperfusion); (v) IR+Mel+3-TYP group: mice are pretreated with 3-TYP (3-TYP is intraperitoneally injected at a dose of 50 mg/kg every 2 days for a total of three doses prior to the MI/R surgery), subjected to the MI/R operation, and treated with melatonin (20 mg/kg via intraperitoneal injection 10 minutes before reperfusion); and (vi) IR+3-TYP group: mice are pretreated with 3-TYP and then subjected to the MI/R operation.

## 细胞实验

Cell viability is analyzed using Cell Counting Kit-8. 1×10<sup>4</sup> cells are inoculated into 96-well plates. After being treated, 90 μL of medium and 10 μL of CCK-8 solution are added to each well. The cells are then incubated at 37°C for 2 h. After incubation, the absorption at 450 nm is measured using an Infinite<sup>®</sup> M200 Microplate Reader. The results are expressed as a percentage of the control. The cell death is also evaluated using the trypan blue assay. HepG2 cells are plated in the 6-well plates (5×10<sup>5</sup> cells per well) and incubated for 24 h. After being treated with Cd or melatonin, the cells are detached with 300 μL trypsin-EDTA solution. The mixture of detached cells is centrifugated at 300 g for 5 min. Then, the residue is combined with 800 μL trypan blue solution and dispersed. After 3 min staining, cells are counted using an automated cell counter. The dead cells are stained with the blue color. Cell mortality (%) is expressed as percentage of the dead cell number/the total cell number.

## 描述

3-TYP is a selective SIRT3 inhibitor.

## 储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years