

Product Data Sheet

Product Name: TDI-011536

Cat. No.: GC65889

Chemical Properties

Cas. No. 2687970-96-1

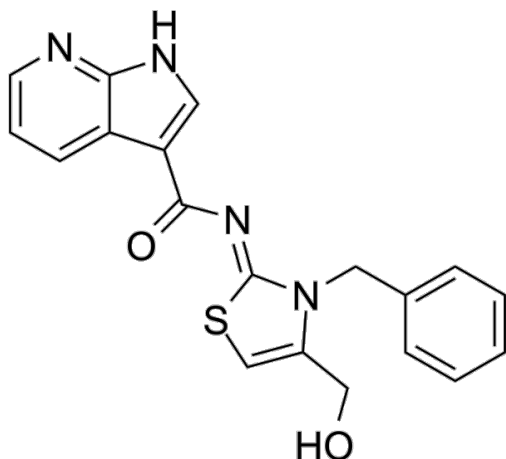
Formula $C_{19}H_{16}N_4O_2S$ M.Wt 364.42

Solubility DMSO : 125 mg/mL (343.01 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Cell experiment [1]:

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Cell lines MDA-MB-231 cells

Preparation Method MDA-MB-231 cells were cultured in Dulbecco's Modified Eagle Medium (DMEM) supplemented with 10% fetal bovine serum (FBS), 100U/ml penicillin, and 100µg/ml streptomycin, and were maintained in a humidified incubator at 37°C and 5% CO₂. The microtubule inhibitor nocodazole was treated at a concentration of 1µM for 8-10 hours to disrupt the microtubules. Thymidine was treated at a concentration of 2mM for 24 hours to synchronize the cell cycle. Then, the cells were transferred to fresh culture medium and cultured for 6 hours, and a second thymidine treatment was performed under the same conditions. After the final incubation, the cells were washed twice with 2ml of preheated PBS to release them, and then continued to be cultured in the preheated medium. The cells were treated with TDI-011536 (3µM) for 24 hours, and then the YAP protein activity was analyzed.

Reaction
Conditions 3µM; 24h

Applications TDI-011536 treatment suppressed the activity of YAP by inhibiting the Hippo signaling pathway, without altering the localization.

Animal experiment [2]:

Animal models Male C57BL/6 mice

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Preparation Method Six-to-eight-week-old male C57BL/6 mice were housed under standard conditions with a 12h light-dark cycle at a temperature of 22-24°C and habituated for 1 week before the experiments. Mice were anesthetized with 3% isoflurane, and the left kidneys were ablated. Three weeks later, mice were deprived of water for 24h, and then injected with furosemide (100mg/kg) via the tail vein. Twenty minutes later, mice were administered with ioversol (3.5g/kg) or an equal volume of normal saline via the tail vein. Mice were randomly divided into 5 groups (n=8): vehicle control, contrast-induced acute kidney injury (CI-AKI) model, TDI-011536, zinc acetate, and zinc acetate+TDI-011536 treatment. For the TDI-011536+zinc acetate group, TDI-011536 (50mg/kg) and/or zinc acetate (15mg/kg) were administered i.p. 30min and/or 2h before ioversol injection. 24h after ioversol injection, blood samples were drawn from the retro-orbital venous plexus for assessment, then the mice were sacrificed by cervical dislocation under deep anesthesia with 5% isoflurane, and the kidneys were harvested for analysis.

Dosage form 50mg/kg for once; i.p.

Applications TDI-011536 combined with zinc acetate treatment synergistically improved the renal tubular ferroptosis induced by the contrast agent in mice.

References:

- [1] Gresele P, Corona C, Alberti P, et al. Picotamide protects mice from death in a pulmonary embolism model by a mechanism independent from thromboxane suppression[J]. Thrombosis and haemostasis, 1990, 64(05): 080-086.
- [2] Dai B, Liu X, Du M, et al. LATS1 inhibitor and zinc supplement synergistically ameliorates contrast-induced acute kidney injury: Induction of Metallothionein-1 and suppression of tubular ferroptosis[J]. Free Radical Biology and Medicine, 2024, 223: 42-52.

Background

TDI-011536 is a LATS kinase inhibitor that can regulate the Hippo signaling pathway, with an IC₅₀

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value of 0.76nM for LATS1^[1]. The side chain hydroxyl group of TDI-011536 forms hydrogen bonds with Asp789, thereby enhancing water solubility and metabolic stability^[2]. TDI-011536 has been widely used to inhibit the nuclear translocation of YAP1 in cell models, affecting the expression of E-cadherin and Snail1, as well as epithelial-mesenchymal transition (EMT)^[3].

In vitro, TDI-011536 treatment at 1μM for 72 hours significantly improved the wound healing of RPE monolayer cells^[4]. Treatment with 6μM TDI-011536 for 48 hours can reduce the increase in the phosphorylation levels of LATS1 and YAP1 in HeLa and SiHa cells caused by Caulerpin^[5]. 5μM of TDI-011536 pretreatment of human monocyte-derived macrophages (MDM) for one hour significantly inhibited Ebola virus infection and replication within the cells^[6].

In vivo, thirty minutes before the injection of ioversol, a single dose of TDI-011536 (50mg/kg) was intraperitoneally injected, which synergistically improved the renal tubular ferroptosis induced by the contrast agent in mice when combined with zinc acetate^[7].

References:

- [1] Kastan N R, Oak S, Liang R, et al. Development of an improved inhibitor of Lats kinases to promote regeneration of mammalian organs[J]. Proceedings of the National Academy of Sciences, 2022, 119(28): e2206113119.
- [2] Lao Z, Chen X, Pan B, et al. Pharmacological regulators of Hippo pathway: Advances and challenges of drug development[J]. The FASEB Journal, 2025, 39(6): e70438.
- [3] Wang Z, Pan X, Ma X, et al. FV-429 suppresses cancer cell migration and invasion by EMT via the Hippo/YAP1 pathway in pancreatic cancer cells[J]. Anti-Cancer Drugs, 2025: 10.1097.
- [4] Souverein E A, Fouladian Z, Reid M, et al. Hippo pathway inhibition induces regeneration of retinal pigment epithelium[J]. Investigative Ophthalmology & Visual Science, 2024, 65(7): 6143-6143.
- [5] Yang G, Mo Y, Rong H, et al. Caulerpin suppresses tumor-associated angiogenesis and tumor growth via Hippo signaling in cervical cancer[J]. Toxicology and Applied Pharmacology, 2025: 117541.
- [6] Liang J, Djurkovic M A, Leavitt C G, et al. Hippo signaling pathway regulates Ebola virus transcription and egress[J]. Nature communications, 2024, 15(1): 6953.
- [7] Dai B, Liu X, Du M, et al. LATS1 inhibitor and zinc supplement synergistically ameliorates contrast-induced acute kidney injury: Induction of Metallothionein-1 and suppression of tubular ferroptosis[J]. Free Radical Biology and Medicine, 2024, 223: 42-52.

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