



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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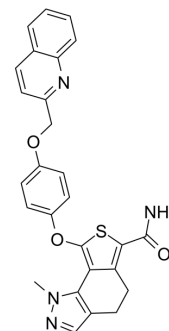
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## TD-198946

Cat. No.:	HY-15642
CAS No.:	364762-86-7
Molecular Formula:	C <sub>27</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> S
Molecular Weight:	482.55
Target:	Others
Pathway:	Others
Storage:	<div>Powder</div> <div>-20°C 3 years</div> <div>4°C 2 years</div> <div>In solvent</div> <div>-80°C 2 years</div> <div>-20°C 1 year</div>



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 28 mg/mL (58.03 mM)  
 \* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.0723 mL	10.3616 mL	20.7232 mL
	5 mM		0.4145 mL	2.0723 mL	4.1446 mL
	10 mM		0.2072 mL	1.0362 mL	2.0723 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

TD-198946, a thienindazole derivative, is a potent chondrogenic agent.

#### In Vitro

TD-198946 is a potent chondrogenic agent. TD-198946 strongly induces chondrogenic differentiation without promoting hypertrophy in cell and metatarsal organ cultures. TD-198946 induces stronger Col2a1 promoter activity than insulin in ATDC5 cells. In C3H10T1/2 cells, ATDC5 cells and primary mouse chondrocytes, TD-198946 dose-dependently stimulates endogenous expression of the chondrocyte markers Col2a1 and Acan, with maximum effects around 1-10 μM<sup>[1]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

When administered directly into the joint space, TD-198946 successfully prevents and repairs degeneration of the articular cartilage. TD-198946 exerts its effect through the regulation of Runx1 expression, which is downregulated in both mouse and human OA cartilage compared with normal tissue<sup>[1]</sup>. TD-198946 has disease-modifying effects on progressed osteoarthritis. TD-198946 may prevent the progression of osteoarthritis by acting on the remaining chondrocytes rather than repairing damaged cartilage, it may be most effective as a therapeutic during the early or middle stages of osteoarthritis, before the articular cartilage is fully eroded<sup>[2]</sup>. Cartilaginous cell-sheets are generated by culturing mouse and canine costal

chondrocytes and human mesenchymal stem cells with TD-198946 on temperature-responsive dishes. The transplanted cell-sheets are then successfully used to promote the reconstruction of permanent cartilage, with no evidence of chondrocyte hypertrophy in the knee articular cartilage defects created in mice and canines<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

### Animal Administration <sup>[1]</sup>

Mice: Each of the prevention and repair models had two groups: (1) TD-198946-treated animals and (2) saline-treated animals. In all the mice tested the left knee joints underwent the operation and the right knee joints are sham-operated. Mice are re-anaesthetised and given a 10 µL intra-articular injection of TD-198946 or saline immediately after surgery (prevention model) or 4 weeks following surgery (repair model) every 5 days for 8 or 4 weeks, respectively<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Front Cell Dev Biol. 2023 May 10.

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## REFERENCES

- [1]. Yano F, et al. A novel disease-modifying osteoarthritis drug candidate targeting Runx1. Ann Rheum Dis. 2013 May;72(5):748-53.
- [2]. Yano F, et al. Disease-modifying effects of TD-198946 on progressed osteoarthritis in a mouse model. Ann Rheum Dis. 2014 Nov;73(11):2062-4.
- [3]. Yano F, et al. Cell-sheet technology combined with a thienindazole derivative small compound TD-198946 for cartilage regeneration. Biomaterials. 2013 Jul;34(22):5581-7.
- [4]. Kobayashi M, Chijimatsu R, Hart DA, et al. Evidence that TD-198946 enhances the chondrogenic potential of human synovium-derived stem cells through the NOTCH3 signaling pathway. J Tissue Eng Regen Med. 2021;15(2):103-115.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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