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Produktinformation

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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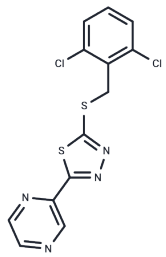
Data Sheet (Cat.No.T7506)

TargetMol

Yoda 1

Chemical Properties



CAS No. : 448947-81-7

Formula: C13H8Cl2N4S2

Molecular Weight: 355.27

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Yoda 1 is an agonist of the Piezo1 channel that agonizes human- and mouse-derived Piezo1 (EC50=17.1/26.6 μM). Yoda 1 is also an inhibitor of glycine transporter protein 2 (GlyT2).
Targets(IC50)	Piezo Channel
In vitro	**METHODS**: HEK293T cells transiently transfected with mouse and human Piezo1 and Piezo2 were treated with Yoda 1 (0-100 μM) and concentration response curves were examined by FLIPR. **RESULTS**: Micromolar concentrations of Yoda1 induced a strong Ca2+ response in cells transfected with human or mouse Piezo1, but not in cells transfected with Piezo2, suggesting selectivity for Piezo1. The apparent EC50 of mouse and human Piezo1 was 17.1 μM and 26.6 μM, respectively.[1] **METHODS**: HUVEC cells were cultured under laminar flow at a constant shear stress of 5dyn/cm2 or under static conditions of Yoda 1 (0.05-2 μM) for 24 h. The surface levels of ICAM-1 or VCAM-1 were measured by flow cytometry. **RESULTS**: Incubation under constant shear stress increased surface expression of ICAM-1 by an average of 1.77±0.19-fold, but not VCAM-1. 24 h of Yoda 1 treatment mimicked this response, inducing a concentration-dependent increase in ICAM-1 surface expression. 1 μM Yoda 1 significantly increased ICAM-1 levels by 1.45±0.11-fold over the control, while VCAM-1 surface expression was unaffected. [2]
In vivo	**METHODS**: To study the effects on osteoblasts, Yoda 1 (5 μmol/kg) was injected intraperitoneally into C57BL/6J mice five times per week for two weeks. **RESULTS**: Yoda 1 did not alter body weight, but increased cortical thickness and cancellous bone mass in the distal femur. Yoda 1 also increased cortical thickness in the vertebrae, with no detectable change in cancellous bone volume in the vertebrae. Consistent with the effects on bone mass, serum osteocalcin (a marker of bone formation) levels were elevated in Yoda 1-treated mice. Yoda 1 activation of Piezo1 mimicked the effects of fluid shear stress on osteoblasts and increased bone mass in the mice. [3]

Solubility Information

Solubility	DMSO: 28 mg/mL (80 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8148 mL	14.0738 mL	28.1476 mL
5 mM	0.563 mL	2.8148 mL	5.6295 mL
10 mM	0.2815 mL	1.4074 mL	2.8148 mL
50 mM	0.0563 mL	0.2815 mL	0.563 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Syeda R, et al. Chemical activation of the mechanotransduction channel PiezoElife. 2015 May 22;4:e07369.
Zheng Q, Zou Y, Teng P, et al. Mechanosensitive Channel PIEZO1 Senses Shear Force to Induce KLF2/4 Expression