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Zuschläge

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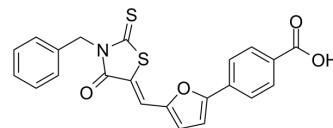
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Leukadherin-1

Cat. No.:	HY-15701
CAS No.:	344897-95-6
Molecular Formula:	C ₂₂ H ₁₅ NO ₄ S ₂
Molecular Weight:	421.49
Target:	Complement System; Integrin
Pathway:	Immunology/Inflammation; Cytoskeleton
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (11.86 mM; Need ultrasonic)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.3725 mL	11.8627 mL	23.7254 mL
	5 mM		0.4745 mL	2.3725 mL	4.7451 mL
	10 mM		0.2373 mL	1.1863 mL	2.3725 mL

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

BIOLOGICAL ACTIVITY

Description

Leukadherin-1, a specific agonist of the leukocyte surface integrin CD11b/CD18, increases CD11b/CD18-dependent cell adhesion to fibrinogen with an EC₅₀ of 4 μM. Leukadherin-1 enhances leukocyte adhesion to ligands (such as ICAM-1) and vascular endothelium and thus reduces leukocyte transendothelial migration and influx to the injury sites. Leukadherin-1 suppresses innate inflammatory signaling^{[1][2][3]}.

In Vitro

Leukadherin-1 is a specific agonist of the leukocyte surface integrin CD11b/CD18 (αMβ2; CR3; Mac-1). Leukadherin-1 pretreatment reduces secretion of interferon (IFN)γ, tumour necrosis factor (TNF) and macrophage inflammatory protein (MIP)1β by monokine-stimulated NK cells. Leukadherin-1 pretreatment also reduces secretion of IL1β, IL6 and TNF by Toll-like receptor (TLR)2 and TLR7/8-stimulated monocytes^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Leukadherin-1 (1 mg/kg; i.p.; twice daily for 14 days) is beneficial in preventing hyperoxia-induced neonatal lung injury, an experimental model of bronchopulmonary dysplasia (BPD)^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Newborn Sprague Dawley rat pups ^[1]
Dosage:	1 mg/kg
Administration:	I.p.; twice daily for 14 days
Result:	Beneficial on preventing the lung inflammatory response, improved alveolarization and vascular development, and reduced pulmonary vascular remodeling and PH in a hyperoxia-induced experimental model of BPD.

CUSTOMER VALIDATION

- Pharmaceuticals. 2023, 16(2), 282.
- Invest Ophthalmol Vis Sci. 2023 May 1;64(5):7.

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REFERENCES

- [1]. Jagarapu J, et al. Efficacy of Leukadherin-1 in the Prevention of Hyperoxia-Induced Lung Injury in Neonatal Rats. Am J Respir Cell Mol Biol. 2015;53(6):793-801.
- [2]. Maiguel D, et al. Small molecule-mediated activation of the integrin CD11b/CD18 reduces inflammatory disease. Sci Signal. 2011;4(189):ra57.
- [3]. Roberts AL, et al. The complement receptor 3 (CD11b/CD18) agonist Leukadherin-1 suppresses human innate inflammatory signalling. Clin Exp Immunol. 2016;185(3):361-371.

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

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