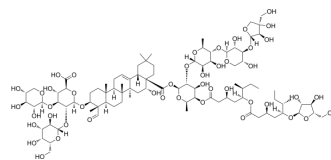


QS-21

Cat. No.:	HY-101092
CAS No.:	141256-04-4
Molecular Formula:	C ₉₂ H ₁₄₈ O ₄₆
Molecular Weight:	1990.13
Target:	NOD-like Receptor (NLR)
Pathway:	Immunology/Inflammation
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (50.25 mM; Need ultrasonic)
 H₂O : 50 mg/mL (25.12 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	0.5025 mL	2.5124 mL	5.0248 mL
5 mM	0.1005 mL	0.5025 mL	1.0050 mL
10 mM	0.0502 mL	0.2512 mL	0.5025 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (50.25 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (1.26 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (1.26 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (1.26 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

QS-21, an immunostimulatory saponin, could be used as a potent vaccine adjuvant. QS-21 stimulates Th2 humoral and Th1 cell-mediated immune responses through action on antigen presenting cells (APCs) and T cells. QS-21 can activate the NLRP3 inflammasome with subsequent release of caspase-1 dependent cytokines, IL-1β and IL-18^{[1][2][3]}.

IC₅₀ & Target

NLRP3 inflammasome

In Vivo

Studies in mouse APCs (DCs and macrophages) identify QS-21 as an activator of the NLRP3 inflammasome, and cause subsequent release of caspase-1 dependent proinflammatory cytokines I1-1 β /I1-18 that can promote Th 17 cell maturation or drive INF- γ -mediated Th1 responses, respectively^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Fernández-Tejada A, et al. Development of Improved Vaccine Adjuvants Based on the Saponin Natural Product QS-21 through Chemical Synthesis. *Acc Chem Res.* 2016;49(9):1741-1756.
- [2]. Marty-Roix R, et al. Identification of QS-21 as an Inflammasome-activating Molecular Component of Saponin Adjuvants. *J Biol Chem.* 2016;291(3):1123-1136
- [3]. Lacaille-Dubois MA. Updated insights into the mechanism of action and clinical profile of the immunoadjuvant QS-21: A review. *Phytomedicine.* 2019;60:152905.

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

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