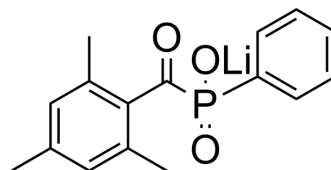


LAP

Cat. No.:	HY-44076
CAS No.:	85073-19-4
Molecular Formula:	C ₁₆ H ₁₆ LiO ₃ P
Molecular Weight:	294.21
Target:	Biochemical Assay Reagents
Pathway:	Others
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (84.97 mM; Need ultrasonic)
H₂O : 7.58 mg/mL (25.76 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.3989 mL	16.9947 mL	33.9893 mL
	5 mM	0.6798 mL	3.3989 mL	6.7979 mL
	10 mM	0.3399 mL	1.6995 mL	3.3989 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (8.50 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (8.50 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (8.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

LAP (Lithium phenyl-2,4,6-trimethylbenzoylphosphinate) is a free radical initiator. The free radicals produced by LAP under bioprinting conditions are potentially cytotoxic and mutagenic. In addition, the concentration of LAP affects the mechanical strength of 3D printed scaffolds. Generally, the concentration range of LAP used for curing is 0.05%-1%. The elastic modulus produced at a concentration of 0.1% is the highest, with enhanced mechanical properties and excellent biocompatibility^[1] [2][3].

REFERENCES

[1]. Nguyen AK, et al. The Photoinitiator Lithium Phenyl (2,4,6-Trimethylbenzoyl) Phosphinate with Exposure to 405 nm Light Is Cytotoxic to Mammalian Cells but Not Mutagenic in Bacterial Reverse Mutation Assays. *Polymers (Basel)*. 2020 Jul 3;12(7):1489.

[2]. Qian Feng, et al. "Multi-modal imaging for dynamic visualization of osteogenesis and implant degradation in 3D bioprinted scaffolds." *Bioactive Materials* 37 (2024): 119-131.

[3]. Nguyen, et al. Toxicity and photosensitizing assessment of gelatin methacryloyl-based hydrogels photoinitiated with lithium phenyl-2, 4, 6-trimethylbenzoylphosphinate in human primary renal proximal tubule epithelial cells. *Biointerphases* 14.2 (2019).

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

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