Poloxamer 188

Cat. No.: HY-D1005A

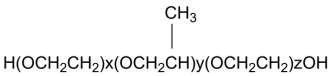
CAS No.: 9003-11-6

Target: Biochemical Assay Reagents

Pathway: Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL

H_2O : ≥ 100 mg/mL

* "≥" means soluble, but saturation unknown.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 25 mg/mL (Infinity mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Poloxamer 188 is a nonionic linear copolymer with surfactant properties. Poloxamer 188 exhibits anti-thrombotic, anti-inflammatory, and cytoprotective activities in various tissue injury models. Poloxamer 188 can be used for drug delivery[1][2][3][4].

In Vitro

Poloxamer 188 (10-1000 μM, 5 h) has a protective effect on cerebral microvascular endothelial cells (MBEC) in mice[2].
Docetaxel-loaded PLGA/poloxamer 188 nanoparticles leads to an increased level of drug uptake and cytotoxicity in the docetaxel-resistant MCF-7 TAX30 human breast cancer cells against Docetaxel-loaded PLGA nanoparticles[4].

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

Cell Viability Assay [2]

Cell Line:	MBEC
Concentration:	10, 100, 1000 μM
Incubation Time:	5 h

Result:	Increased the cell number of hypoxic cells at high concentrations.

In Vivo

Poloxamer 188 (150 mg/kg intravenously, 240 minutes apart) significantly reduces ischemia-reperfuse-associated muscular edema and lipid peroxidation[3].

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

Animal Model:	TourniquetInduced Ischemia-Reperfusion Injury in Rats[3]
Dosage:	150 mg/kg
Administration:	i.v
Result:	Reduced the elevated TBARS but not to control levels and SOD activity was at control levels.

REFERENCES

[1]. Lotze FP, et al. Poloxamer 188 Exerts Direct Protective Effects on Mouse Brain Microvascular Endothelial Cells in an In Vitro Traumatic Brain Injury Model. Biomedicines. 2021 Aug 19;9(8):1043.

[2]. Walters TJ, et al. Poloxamer-188 reduces muscular edema after tourniquet-induced ischemia-reperfusion injury in rats. J Trauma. 2011 May;70(5):1192-7.

[3]. Yan F, et al. The effect of poloxamer 188 on nanoparticle morphology, size, cancer cell uptake, and cytotoxicity. Nanomedicine. 2010 Feb;6(1):170-8.

[4]. Guoyuan Li, et al. Enhanced Oral Bioavailability of Magnolol via Mixed Micelles and Nanosuspensions Based on Soluplus ®-Poloxamer 188. Drug Deliv. 2020 Dec;27(1):1010-1017.

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