PLGA (75:25)

Cat. No.: HY-B2247A

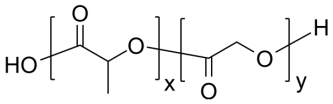
CAS No.: 34346-01-5

Target: Biochemical Assay Reagents

Pathway: Others

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 : 100 mg/mL (Need ultrasonic)

BIOLOGICAL ACTIVITY

Description

PLGA (75:25) is a low toxicity, biocompatible and biodegradable controlled drug delivery carrier, can achieve slow release in the organism. PLGA (75:25) is a copolymer of 75% poly lactic acid (PLA) and 25% poly glycolic acid (PGA). PLGA (75:25) has been extensively studied as delivery vehicles for agents, proteins and various other macromolecules such as DNA, RNA and peptides[1][2][3].

In Vitro

PLGA (75:25) (0.03-5 mg/mL; 72 h) only affects the viability of Calu-3 cells at concentrations that are too high for clinical use [1].

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

Cell Viability Assay[1]

Cell Line:	Calu-3 cells
Concentration:	0.03-5 mg/mL (for PLgA (75:25)/PVA and PLgA (75:25)/CS); 3-5 mg/mL (for PLgA (75:25)/CS and PLgA (75:25)/PF68); 0.03-1 mg/mL (for PLgA (75:25)/PVA and PLgA (75:25)/PF68) (CS (chitosan), PF68 and PVA (poly vinyl alcohol) serve as cationic stabilizer)
Incubation Time:	72 h
Result:	Showed low toxicity to cells (cell viability was always higher than 50%) even at the highest concentration tested, when xposured to PLgA (75:25)/PVA, PLgA (75:25)/CS and PLgA (75:25)/PF68 nanoparticles. Increased cell viability, after short exposure (4 hours) to PLGA/PF68 nanoparticles.

In Vivo

PLGA (75:25) (40 mg/kg Risperidone (PLGA (75:25) as a drug delivery carrier); s.c.; single) shows a good activity of sustained drug release for 45 days[2].

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Animal Model:	Male Sprague-Dawley rats[2].
Dosage:	40 mg/kg (dose of Risperidone, PLGA (75:25) as a drug delivery carrier).
Administration:	Subcutaneous injection; single.
Result:	Achieved slow release in vivo: after an initial burst, a sharp drop occurred and the drug levels through day 22 remained in a steady manner while progressing to a decline up to day 45.

REFERENCES

[1]. Mura S, et al. Influence of surface charge on the potential toxicity of PLGA nanoparticles towards Calu-3 cells. Int J Nanomedicine. 2011;6:2591-605.

[2]. D'Souza S, et al. Development of Risperidone PLGA Microspheres. J Drug Deliv. 2014;2014:620464.

[3]. Makadia HK, et al. Poly Lactic-co-Glycolic Acid (PLGA) as Biodegradable Controlled Drug Delivery Carrier. Polymers (Basel). 2011 Sep 1;3(3):1377-1397.

[4]. Chung TW, Tsai YL, Hsieh JH, Tsai WJ. Different ratios of lactide and glycolide in PLGA affect the surface property and protein delivery characteristics of the PLGA microspheres with hydrophobic additives. J Microencapsul. 2006;23(1):15-27.

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