Clodronate Liposomes

Introduction

To investigate the function of macrophages in a complex in vivo environment, depletion experiment can be utilized. Clodronate liposomes are an effective and versatile way to deplete macrophages in vivo. Clodronate liposomes function on the principle of delivering a potent macrophage-depleting agent, clodronate, encapsulated within a lipid bilayer. When administered in vivo, these liposomes are specifically taken up by macrophages through a process known as phagocytosis. Once internalized, the liposomes release clodronate into the macrophage, ultimately resulting in cell death through apoptosis.

Clodronate liposomes can allow selective depletion from tissues of interest and can be used on transgenic mice. This reagent supports a variety of administration methods, including intravenous injection, intraperitoneal injection, subcutaneous injection, intranasal injection, and direct injection into the testicles. The injection dose varies according to the body weight of the mouse, the frequency of injection, the mode of administration, and the experimental needs. This reagent is recommended for use in conjunction with PBS Liposomes (Cat. No. K2722), which can be used as a blank control for this reagent.

Components and Storage

Components \ Size	5 mL	10 mL	Storage
Clodronate Liposomes	5 mL	10 mL	4°C
Shipping: Blue ice	Shelf life: 6 months		

Properties

Encapsulated Drug	Clodronate, Disodium Salt
Lipid composition	Phosphatidylcholine and cholesterol
Buffer	10 mM Na_2HPO_4, 10 mM NaH_2PO_4, 140 mM NaCl
Drug Concentration	5 mg/mL

Protocol

The injection protocol can be determined and optimized depending on the experiments. Here provides a reference intraperitoneal injection protocol.

1. Before injection, equilibrium Clodronate Liposomes and PBS Liposomes (blank control) to room temperature,

but the temperature cannot exceed 30°C.

***Note:** We provide PBS Liposomes (Cat. Number: K2722). Or use sterile PBS instead of PBS Liposomes。

2. Upside down for 8-10 times. Connect 26 Gauge needle to a 1 mL syringe and suck liposomes. The syringes sucking Clodronate Liposomes and PBS Liposomes should be different.

***Note:** Some liposomes might settle to the bottom of the vial. Mix gently Clodronate Liposomes and PBS Liposomes before use.

3. Grasp the mouse with your left hand and immobilize the mouse's head and limbs. Tilt the mouse slightly and let the head face the ground, so that the organs concentrated in the abdomen move towards the head, away from the injection site.

4. Invert the syringe 6 times before injection and mix the liposomes again.

***Note:** Standing for a long time may cause liposomes to precipitate in the syringe, so mix again before use.

5. Insert the needle into the lower right side of the abdomen an angle of 30 degrees. Inject 200 μL liposomes per mouse with Clodronate Liposomes (experiment group) and PBS Liposomes (control group).

Note

1. This product should not be frozen or exposed to high temperatures. Temperatures that are too high (30°C) or too low (0°C) can disrupt liposome structure.
2. Be sure to warm this reagent to room temperature and mix well before use.
3. This product is strictly forbidden to come into contact with organic solvents such as chloroform, methanol, ethanol, etc., otherwise the liposome structure will be destroyed.
4. This product is not recommended to be diluted unless required for special experiments.
5. For your safety and health, please wear lab coats and gloves during the experiment.
6. For research use only. Not to be used in clinical diagnostic or clinical trials.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com