Lolina A/S

Address: Sindalsvej 30 8240 Risskov Danmark

Email: Info@lolina.dk

Website:https://lolina.dk

Product Specification

Product name	Lolina® Human AD-MSC stem-Prom® nano-Supplement, Xeno Free
Cat.No.	NaC20140104
Size	10 wt. % in H_2O, 1mL
Storage and shipping	Room temperature

Product Description

Lolina® Human AD-MSC stem-Prom® nano-Supplement is an sterile, aqueous suspension of CeO_2 nanoparticles (CeNPs). As an additive for AD-MSC in vitro culture, this supplement has been proved has following functions:

1. **Promotion of Cell Proliferation:** CeNPs can enhance the proliferation of AD-MSCs by reducing oxidative stress and apoptosis. Appropriate concentrations of CeNPs can increase the cell proliferation rate.
2. **Maintain stemness:** The antioxidant properties of CeNPs help maintain the expression of stemness markers of AD-MSCs, such as CD90, CD105, and CD73. By reducing oxidative stress, CeNPs can inhibit premature differentiation of cells and maintain their multipotency.
3. **Promote differentiation potential:** CeNPs can enhance the differentiation potential of AD-MSC. This is of great significance for tissue engineering and regenerative medicine.
4. **Improve the therapeutic potential of cells:** By protecting AD-MSCs from oxidative stress and inflammatory responses, CeNPs can improve the therapeutic potential of cells and make them perform better in clinical applications.ls.

Components

Compounds	Particle size	Concentration	Volume
CeO_2 nanoparticles (CeNPs)	< 25 nm	10 wt. % in H_2O	1 mL

Instructions for Use

1. Stock solution Preparation.

The compound is offered as nanoparticle suspension in tube. Sonicate the suspension before use to ensure that the particles are evenly dispersed.

Please carry out dissolution and packaging operations on a clean bench.

Spray the supplement tube with 70% ethanol and wipe to remove excess liquid. Remove the caps without touching the interior threads with fingers.

Directly packaging the CeO2 nanoparticle suspension reagents according to the working concentration and amount of culture medium used. Store the stock solution at room temperature.

2. Reference Protocol

Step 1: Prepare Treatment Medium

a. Dilute the stock solutions into culture medium to prepare the desired final concentration. Common final concentrations range is from 10 to 100 μg/mL.

Step 2: Cell culture

b. Seeding cells.

c. The cells were allowed to adhere and grow for at least 4 hours.

d. In the following cultivation period, the original culture medium was replaced with the original culture medium containing the indicated concentrations of Lolina® Human AD-MSC stem-Prom® nano-Supplement.

Note

1. **Concentration optimization:** Determine the optimal concentrations of Lolina® Human AD-MSC stem-Prom® nano-Supplement based on preliminary experiments to obtain the best effect without causing cytotoxicity.
2. **Control group:** Set up appropriate control groups, such as untreated cells and cells treated with culture medium only.
3. **Aseptic operation:** Ensure that all solutions and materials are sterile to prevent contamination.