



## Product Specification

<b>Product name</b>	Lolina® Human UC-MSC StemKeep® all-around supplement kit, Xeno Free
<b>Cat.No.</b>	NaC20120301
<b>Storage and shipping</b>	<p><b>NaC20120301-A, B, E, F:</b> Store at -20 °C. Once added to medium, store at 4°C, do not refreeze after thawing. Dry ice transportation. Since the kit contains light-sensitive ingredients, please store it away from light.</p> <p><b>NaC20120301-C, D:</b> 2-8 °C. Ice-bag transportation</p>

## Product Description

Lolina® Human UC-MSC StemKeep® all-around supplement kit is a sterile products which contains growth factors, hormones, or proteins. It can comprehensively maintain the stemness of stem cells and enhance their proliferation capacity.

The kit is usually for adherent culture of UC-MSC in vitro. It has the following benefit:

- Enhance cell attachment and expansion ability:** NaC20120301 can promote cell attachment and expansion on the culture matrix and enhance the interaction between cells and the matrix.
- Improve cell survival and proliferation rate:** Adding NaC20120301 can significantly improve the survival and proliferation rate of MSCs, especially under low serum or serum-free culture conditions.
- Support cell differentiation potential:** NaC20120301 can not only maintain the proliferation of MSCs, but also support their multidirectional differentiation potential.
- Provide an alternative to serum-free culture:** NaC20120301, as a serum-free culture additive, can provide a safer and more controllable cell culture environment and reduce the dependence on FBS.
- In the later stage of the experiment, the stemness of cells is maintained by regulating gene expression and regulating the cell cycle, allowing the cells to enter the next experimental stage in a state of high potential.

## Components

Treat group	Comp. No.	Compounds	Size	Format
<b>Part I</b>	NaC20120301-A	r-Human serum albumi (HSA)	62.5mg	Lyophilized
	NaC20120301-B	r-Human Fibronectin Protein	2.5mg	Lyophilized
	NaC20120301-C	SafeGluta®	2.17g	Powder
	NaC20120301-D	Anti-Oxi® vita	53.2mg	Powder

<b>Part II</b>	NaC20120301-E	Retinoic Acid	15µg	Powder
	NaC20120301-F	Sodium Butyrate	550 µg	Powder

## Instructions for Use

### 1. Stock solution Preparation.

One kit is for 50ml cell culture medium.

The compounds are offered as powder in tubes. Please centrifuge before opening the cap to ensure the accuracy of the dosage.

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

Spray the medium bottle and supplement tube with 70% ethanol and wipe to remove excess liquid. In a sterile field, remove the caps without touching the interior threads with fingers.

Their stock solutions are prepared as follows:

- Reconstitute **NaC20120301-A and C and D** in base culture medium. The recommend volume is 10 mL. Aliquot into appropriate volumes of storage solution. When stored at 2-8 °C, -20°C, the stock solution is stable for 24 month.
- Reconstitute **NaC20120301-B** in sterile 0.9% NaCl solution. The recommend volume is 500 µL. Aliquot into appropriate volumes of storage solution. When stored at -20°C, the stock solution is stable for 6 month. When stored at 4 °C, the stock solution is stable for 1 week.
- Dilute **NaC20120301-E** in DMSO/ethanol. The recommend volume is 50 µL. Aliquot into appropriate volumes of storage solution. When stored at -20°C, the stock solution is stable for 24 month. When stored at 4 °C, the stock solution is stable for 1 week. Avoid the light.
- Reconstitute **NaC20120301-F** in sterile water. The recommend volume is 100 µL. Aliquot into appropriate volumes of storage solution. When stored at -20°C, the stock solution is stable for 24 month. When stored at 4 °C, the stock solution is stable for 1 week.

### 2. Reference Protocol

#### Treatments Part I

##### Step 1: pre-Complete Culture medium part I Preparation

- Thaw stock solutions of **Part I group**.
- Dilute the stock solutions into regular culture medium without L-Glutamine to get pre-complete culture medium.

##### Step 2: Cell culture

- Rapidly thaw frozen UC-MSC vials in a 37°C water bath.
- Transfer cells to a sterile conical tube with pre-warmed medium.
- Centrifuge at 300g for 5 minutes to pellet cells.
- Resuspend the cell pellet in pre-complete culture medium plate into culture dishes/flasks.
- Change the medium every 2-3 days allowing them to reach 70-80% confluence.

#### Treatments Part II

##### Step 3: Complete Culture medium part II Preparation

- h. Thaw stock solutions of **Part II group**.
- i. Dilute the stock solutions into **pre-Complete Culture medium part I** to get complete culture medium.

**Step 4: Continue Cell culture**

- j. Replace the culture medium with the complete one.
- k. Incubate the UC-MSCs with the treatment medium for 24 hours under standard culture conditions (37 °C, 5% CO<sub>2</sub>).

## Note

**Cell Density:** Avoid over-confluence to maintain MSC multipotency.

**Medium Preparation:** Always prepare fresh medium, even though SafeGluta® enhances stability.

**Contamination Control:** Use aseptic techniques to prevent contamination.