

# Instructions for SuperCulture™ GF20 MSC Xeno-Free SFM

## Product Description

SuperCulture™ GF20 MSC Xeno-Free SFM is a medium for Human Mesenchymal Stem Cells (hMSCs), which contains no serum or animal origin compositions. It can be used for primary culture and subsequent amplification and passage culture of mesenchymal stem cells from the tissues such as human bone marrow, umbilical cord and fat, and maintain their trilineage differentiation potential into mesoderm. This product has superior proliferation promoting ability and short doubling time, which can save precious primary cells and experiment time for you.

## Product Information

Name	Type	Specification	Compositions	Quantity	Volume
SuperCulture™ GF20 MSC Xeno-Free SFM	Type A	500 mL /kit	M200 Serum-Free Medium (Type A)	1 bottle	490 mL
			F20 MSC Supplement	1 bottle	10 mL
	Type B	500 mL /kit	M200 Serum-Free Medium (Type B)	1 bottle	490 mL
			F20 MSC Supplement	1 bottle	10 mL

\* Type A represents "with phenol red", and Type B represents "no phenol red".

## Product Parameters

Name	SuperCulture™ GF20 MSC Xeno-Free SFM
Classification	Serum-free
Sodium Glutamate	Containing glutamine
Antibiotics	Antibiotics-free
HEPES Buffer	HEPES-free
Sodium Bicarbonate Buffer	Containing sodium bicarbonate
Endotoxin Level	< 0.24 EU/mL

## Storage Conditions and Period of Validity:

This kit is composed of two compositions, each with different storage requirements. These compositions are not sold separately:

- The M200 Serum-Free Medium will keep for 1 year if stored away from light at 2°C to 8°C;

- The F20 MSC Supplement will keep for 1 year if stored away from light at -80°C to -20°C;
- The mixture of the two will keep for 2 weeks if stored at 2°C to 8°C.

## Product Features

- The product adopts the serum-free medium, which greatly reduces the variation between batches;
- The product contains no exogenous animal protein composition, which greatly reduces the risk of contamination by mycoplasma and the like;
- The product is suitable for hMSCs primary separation and subsequent amplification and passage culture of human mesenchymal stem cells from a variety of tissues such as umbilical cord, bone marrow and fat, and the cultured cells can be used for production or scientific research;
- The product has high amplification efficiency, which saves the culture time;
- The product can maintain the trilineage differentiation capacity of hMSCs;
- A culture plate does not need to be wrapped in the culture process.

## How to Use

### Medium Preparation:

1. It is recommended to thaw the F20 MSC Supplement at room temperature (15°C to 25°C) or thaw it overnight in a refrigerator (2°C to 8°C). If necessary, the Supplement can be subpackaged in sterile conditions and stored at -80°C to -20°C.

2. Thaw 10 mL of F20 MSC Supplement completely in sterile conditions, and add it into 490 mL of M200 Serum-Free Medium to prepare a complete medium with a total volume of 500 mL.

*Tips: If necessary, the user can prepare a required dosage in proportion, or add antibiotics by oneself, for example, add penicillin/streptomycin into the complete medium at a dilution ratio of 1:100.*

### Cell Culture:

1. Count the Human Mesenchymal Stem Cells (hMSCs) harvested from resuscitation or passage;

2. Add the medium to a desired cell concentration and inoculate the cells into a culture bottle (the generally recommended cell inoculation density is  $0.4-0.8 \times 10^4$  cells/cm<sup>2</sup>) for culture.

3. Culture Conditions: 5%CO<sub>2</sub>, and 37°C;

4. Change the medium every 2-3 days according to the cell growth, and the cells can be digested when they are 80%-90% confluent;

5. Cell Dissociation Method: Pour out the medium in the culture bottle, and clean the cells stuck to the wall twice with PBS or normal saline; it is recommended to spread 0.05% trypsin or a trypsin substitute (e.g., Biosci™ Trypsin Solution) over the bottom of the culture bottle; incubate the cells in an incubator at 37°C for 1-3 min, add the complete medium with a dosage of more than 5 times of that of the trypsin to terminate digestion, transfer the cell suspension into a centrifugal tube, and conduct centrifugation at 300×g for 5 min. The precipitate is the required cells.

6. Count the cells, and harvest them directly, or further inoculate and culture them as required.

## Notes

- If the Supplement in this product cannot be used up at one time, it can be subpackaged and stored in a freezing mode, but it shall not be frozen and thawed repeatedly, and shall be used within the validity of the product. After the complete medium is prepared by mixing, it is recommended to be stored away from light at 2°C to 8°C and used up within two weeks, and attention shall be paid to operate in sterile conditions.
- As the product has high amplification efficiency, the recommended cell inoculation density is  $0.4-0.8 \times 10^4$  cells/cm<sup>2</sup>, and the user may determine the cell inoculation density as required and according to the actual situation.
- Compared with a medium containing serum, this product contains no serum, so the trypsin digestion terminating effect is poor, and excessive trypsin residue will cause damage to cells. Therefore, it is recommended to use 0.05% trypsin or a trypsin substitute for digestion when this product is used for cell culture and passage, thus to reduce the damage to cells.
- The cell culture effect of this product may vary depending on cell sources, storage conditions, sample quality and operator experience.
- Research use only.

## Related Products:

Catalog Number	Name	Specification
6062011	DPBS	500 mL/bottle
6063111	Trypsin Solution	100 mL/bottle

6032011	Serum-Free Cell Freezing Medium (2×)	100 mL/bottle
6114541	Human Mesenchymal Stem Cell Osteogenic Differentiation Medium	200mL/kit
6114531	Human Mesenchymal Stem Cell Adipogenic Differentiation Medium	200mL/kit
6114551	Human Mesenchymal Stem Cell Chondrogenic Differentiation Medium	200mL/kit
4060611	Alizarin Red S Staining Kit	100mL/kit
4060711	Oil Red O Staining Kit	100mL/kit
4060811	Alcian Blue Solution	100 mL/bottle