

Human Mesenchymal Stem Cells (hMSCs) Serum-Free Medium for cell proliferation

## Xyltech™ Growth MSC

### 1. Product features

This product is a culture medium suitable for the growth of human mesenchymal stem cells (hMSCs). When used in combination with Xyltech™ MSC-01 Xeno-Free or Xyltech™ MSC-02 Animal-Free, hMSCs proliferation can be controlled as needed. The basal medium “Xyltech™ Growth MSC Medium” should be used with the additive “Xyltech™ Growth MSC Supplement XF” or “Xyltech™ Growth MSC Supplement AF”. In addition, there is no need to pre-coat culture vessels.

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Product Name	CAT. # (BBARL/NIPRO)	Volume	Note
Xyltech™ Growth MSC Medium	10411/87-331	500 mL	Basal medium (*Animal-Free)
Xyltech™ Growth MSC Supplement XF	10412/87-332	10 mL	**Xeno-Free supplement
Xyltech™ Growth MSC Supplement AF	10413/87-333	10 mL	*Animal-Free supplement

\*Animal-Free: It contains no ingredients derived from animals.

\*\*Xeno-Free: It contains human-derived components and is free from any other animal-derived ingredients.

### 2. Precautions for use

Xyltech™ Growth MSC does not contain substances that neutralize trypsin activity. When subculturing cells with trypsin, it is strongly recommended that the trypsin activity be sufficiently neutralized with a trypsin inhibitor. Dilution washing alone does not completely remove trypsin activity and the remaining protease activity will reduce subsequent cell growth.

This product is a research reagent. It cannot be used for human or animal treatment or diagnostic purposes.

### 3. Storage

Store Xyltech™ Growth MSC Medium in a cool, dark place (2-8°C). Store Xyltech™ Growth MSC Supplement XF and Xyltech™ Growth MSC Supplement AF in a freezer (-20°C).

### 4. Thawing and preparation

Quickly thaw a frozen supplement in a **37°C water bath**, being careful not to submerge the entire bottle. Watch the supplement closely; when the whole contents melt, please take it out immediately from the water bath. Once thawed, the supplement should be stored at 2-8°C and added to the basal medium within 2 weeks. After the supplement is added to the basal medium, use it immediately.

It is recommended to prepare the required volume of the medium just before use. For small volume preparation, add 1/50 volume of Xyltech™ Growth MSC Supplement XF or Xyltech™ Growth MSC Supplement AF to Xyltech™ Growth MSC Medium. Additionally, do not freeze the medium after adding the supplement to avoid deterioration of some active ingredients.

Fine particles may be observed but there is no influence on quality.

## 5. Example of cell culture protocol for normal human adipose-derived stem cells (ADSCs) culture using Xyltech™ Growth MSC

### 5-1. Cells and reagents

- Normal human ADSCs (100 mm-dish)
- Xyltech™ Growth MSC Medium (BBARL CAT. #10411)
- Xyltech™ Growth MSC Supplement XF (BBARL CAT. #10412)  
or Xyltech™ Growth MSC Supplement AF (BBARL CAT. #10413)
- r-TE (Recombinant Trypsin/EDTA Solution) (NIPRO CAT. #87-974)
- s-TI (Synthetic Trypsin Inhibitor Solution) (NIPRO CAT. #87-975)
- D-PBS (-)

### 5-2. Cell culture of normal human ADSCs

1. Before using Xyltech™ Growth MSC, add the entire amount of Xyltech™ Growth MSC Supplement XF or Xyltech™ Growth MSC Supplement AF (thawed before use) to Xyltech™ Growth MSC Medium and mix well.
2. Warm the Xyltech™ Growth MSC, D-PBS (-), r-TE, and s-TI in a 37°C water bath.
3. Remove the culture supernatant of selected normal human ADSCs that have reached approximately 80% confluence (sub confluence).
4. Rinse the cell layer with 5 mL of D-PBS (-).
5. Add 0.5 mL of r-TE and incubate at 37°C for approximately 2 minutes.
6. Add 0.5 mL of s-TI, mix well, gently pipette up and down several times, collect cells from the dish, and centrifuge at 1,000 rpm, for 5 minutes.
7. Aspirate the supernatant and add the appropriate amount of Xyltech™ Growth MSC to resuspend the cells and seed into a new tissue culture dish.
8. The cells will become confluent within 2-4 days when cultured in Xyltech™ Growth MSC. Start subculture and/or experiments with the cells.
9. For experiments requiring a reduced growth rate, the cells can be cultured for 3 days in Xyltech™ MSC-01 Xeno-Free or Xyltech™ MSC-02 Animal-Free growth suppressive medium (refer to protocol for suppressive growth control using Xyltech™ MSC-01 Xeno-Free, BBARL CAT. #10401 or Xyltech™ MSC-02 Animal-Free, BBARL CAT. #10402).

\*The protocol is based on experimental results. It may be necessary to adjust seeding density, and passage timing according to the cells. This protocol is intended for research purposes only.

## 6. For Inquiries about products

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