

# TransDiffer<sup>®</sup> Human Mesenchymal Stromal Cell Adipogenic Differentiation

Please read the datasheet carefully prior to use

Cat.No. MM201

Storage: at the proper storage temperature for one year

## Description

*TransDiffer*<sup>®</sup> Human Mesenchymal Stromal Cell Adipogenic Differentiation Medium is a serum-containing complete medium. It is suitable for differentiating Human Mesenchymal Stem Cells (MSCs) into adipocytes. This product has strong universality and is suitable for MSCs from different sources (human pluripotent stem cells, umbilical cord, bone marrow, adipose) cultured in a variety of culture systems (serum-containing and serum-free). This product has good stability, the prepared complete medium can be stored stably for 1 month at 2-8°C.

## Kit Contents

Component	MM201-01	Storage
<i>TransDiffer</i> <sup>®</sup> Human Mesenchymal Stromal Cell Adipogenic Differentiation Basal Medium	180 ml	2-8°C
<i>TransDiffer</i> <sup>®</sup> Human Mesenchymal Stromal Cell Adipogenic Differentiation Supplement	20 ml	At -20°C in the dark, avoid repeated freeze-thawing

## Procedures

### Materials required but not included

Product Name	Catalog
PBS (1×)	TransGen, Cat. FG701-01
TrypLE <sup>™</sup> Express Enzyme (1×), no phenol red	Thermo Fisher, Cat. 12604054
<i>TransStem</i> <sup>®</sup> Serum-Free, Xeno-Free Human Mesenchymal Stromal Cell Medium	TransGen, Cat. MM101-01
<i>TransDetect</i> <sup>®</sup> Oil Red O Staining Kit	TransGen, Cat. MM202

### 1. Preparation of Adipogenic Differentiation of MSCs complete medium

Fully thaw 20 ml *TransDiffer*<sup>®</sup> Human Mesenchymal Stromal Cell Adipogenic Differentiation Supplement. After equilibrating to room temperature, add them to 180 ml *TransDiffer*<sup>®</sup> Human Mesenchymal Stromal Cell Adipogenic Differentiation Basal Medium. Mix well.

### 2. Differentiation process

- (1) Digest well-grown MSCs into single cells with TrypLE<sup>™</sup> Express Enzyme, seed the cells into Petri dishes at a density of  $1 \times 10^4$  cell/cm<sup>2</sup>, and cultured with *TransStem*<sup>®</sup> Serum-Free, Xeno-Free Human Mesenchymal Stromal Cell Medium (Cat. No. MM101-01), and change the medium once a day.
- (2) When the confluence of MSCs reached 100%, aspirate and discard the medium, and add adipogenic differentiation complete medium (1 ml/12-well plate) (equilibrated to room temperature) to initiate differentiation.
- (3) Change adipogenic differentiation complete medium (equilibrated to room temperature) every 2-3 days
- (4) During 9-35 days of differentiation, observe the formation of lipid droplets under the microscope, and make MSCs adipogenic differentiation identification.



Notes: For MSCs from different sources, the time course of adipogenic differentiation using TransDiffer® Human Mesenchymal Stromal Cell Adipogenic Differentiation Medium is different, as shown in the following table:

Source	Differentiation Time (days)
Human Pluripotent Stem Cells	21+
Bone Marrow	7-14
Adipose	7-14
Umbilical Cord	21-35

(5) Adipogenic differentiation identification

*TransDetect*® Oil Red O Staining Kit (TransGen, Cat. MM202) is recommended for adipogenic differentiation identification.

Notes

- The cell state of MSCs used for differentiation is an important factor affecting the efficiency of adipogenic differentiation. Please use MSCs with good growth conditions for adipogenic differentiation.
- *TransDiffer*® Human Mesenchymal Stromal Cell Adipogenic Differentiation Supplement cannot be subject to repeated freeze-thawing. Thoroughly thaw and equilibrate to room temperature before use. The prepared complete medium can be stored stably for 1 month at 2-8°C. Please divide it into a single-use amount and store it at -20°C before use. Avoid repeated freeze-thawing.

**For research use only, not for clinical diagnosis.**

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