Tribo™ Chondrogenic Differentiation Medium (Catalog# TBS8062)

Serum-free medium for the direct differentiation of MSCs into chondrocytes

DESCRIPTION

Tribo™ Chondrogenic Differentiation Medium (TBS8062) is Serum-free and specifically formulated for the in vitro differentiation of mesenchymal stem and progenitor cells (MSCs) into chondrogenic lineage cells, including chondrocytes. This medium is suitable for the differentiation of bone marrow-, adipose tissue- and synovium-derived MSCs previously culture-expanded in serum containing medium or serum- free medium.

PACKAGE SIZE AND STORAGE

Product	Cat. No.	Size	Storage	Shelf Life
Chondrogenic Basal Medium	TBS8062A	95 ml	2-8°C	12 months
Chondrogenic Supplement Mix*	TBS8062B	5 ml	-20°C	12 months

* Avoid freeze and thaw

APPLICATIONS

Suitable for the differentiation of bone marrow-, adipose tissue- and synovium-derived MSCs previously culture-expanded in serum containing medium or serum- free medium.

KEY FEATURES

- Complete, Serum-free.
- All required growth factors and supplements included in the medium.
- Reliable differentiation to mature chondrocytes
- Does not contain antibiotics.

COMPLETE MEDIUM PREPARATION

1. Thaw Chondrogenic Supplement Mix (TBS8062B) at room temperature or at 2 - 8°C overnight.

NOTE: Once thawed, use immediately or prepare aliquots and store at -20°C.

2. Dilute the supplement mix 1:20 in the Chondrogenic Basal Medium (TBS8062A). Mix thoroughly.

NOTE: Ensure the tube is polypropylene; Do not use polystyrene or any other type of tube.

3. The complete medium is stable for 2 weeks at 2-8°C.

Note: This medium does not contain antibiotics. If desired, add antibiotics and use medium within 2 weeks.

** Do not use if a visible precipitate is observed in the medium.*

** Always use proper aseptic technique and work in a laminar flow hood.*

This product is for in vitro research use only and is not intended for use in humans or animals.

DIRECTIONS FOR USE

3D PELLET CULTURE SYSTEM FOR CHONDROGENIC DIFFERENTIATION OF MSCs

The following example is for preparing 4 pellets. If preparing other amounts, adjust accordingly.

1. Centrifuge harvested cells at 500 x g for 5 min.
2. Resuspend 2 x 10^6 MSCs in 2 mL of complete chondrogenic differentiation medium.
3. Add 0.5 mL of the cell suspension to each of 4 x 15 mL polypropylene tubes. Cap tightly and centrifuge at 300 x g for 5 minutes at room temperature.
4. Very gently loosen the cap of each tube and place in a rack. Incubate at 37°C and 5% CO_2 for up to 3 weeks.
5. On day 3, gently add 0.5 mL of complete Medium to each tube. Incubate tubes in the rack at 37°C and 5% CO_2 for 3 days.
6. Change medium every 3 days, carefully aspirate the medium without disturbing the pellet, and replace with 0.5 mL of complete Medium. Incubate tubes at 37°C and 5% CO_2 .

NOTE: After each medium change, gently flick each tube to ensure the pellet is not completely attached to the tube.

NOTE: The pellets may significantly increase in size throughout the incubation period.

7. On day 21, the chondrogenic pellets have reached full differentiation and can be used for downstream applications, or for quantitative and qualitative characterization analysis. Histological sections of the pellet can be generated by fixing the pellets in 10% formalin at room temperature for 30 minutes, following subsequent standard paraffin embedding methods and staining 6 µm sections with Alcian Blue and Nuclear Fast Red.

Notes: Do not use less than 0.5 mL of complete medium per pellet culture. It is recommended to change medium on a 3-day cycle. However, if the medium begins to turn yellow, switch to a 2-day cycle

RELATED PRODUCTS

DMEM-high Glucose (TBS8061-500ML)
Tribo™ MSC Medium(TBS8021)
Tribo™ MSC Prime Medium (TBS8022-01)
Tribo™ Cardiomyocyte Differentiation Kit (TBS8023)
Tribo™ Human iPS Growth Medium (TBS8023)
0.1% Gelatin Solution (TBS8004)

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