Miltenyi Biotec

StemMACS™ Cerebral Organoid Cultivation Medium XF
human

Order no. 130-139-359

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1. Description

This product is for research use only.

Components	**500 mL StemMACS Cerebral OrganoidDiff Basal Medium 1 XF, human** **6.6 mL StemMACS Cerebral OrganoidDiff Cultivation Supplement XF (50×), human**
Specifications	Complete medium: Osmolality: 300–380 mOsmol/kg pH: 7.1–7.5
Capacity	For cultivation of 96 PSC-derived cerebral organoids in 2 × 10 cm dishes for 30 days.
Storage	Upon arrival, store StemMACS Cerebral OrganoidDiff Basal Medium 1 XF, human protected from light at +2 to +8 °C. Store StemMACS Cerebral OrganoidDiff Cultivation Supplement XF (50×), human protected from light at –20 °C. The expiration date is indicated on the label. Avoid repeated freeze-thaw cycles. Kit components should not be substituted or mixed with those from other kits or lots.

1.1 Background information

Pluripotent stem cell–derived cerebral organoids are one of the most frequently used organoid systems. They are mainly used for studying developmental pathways, modeling developmental diseases, and drug testing. StemMACS Cerebral Organoid Cultivation Medium XF, human is a complete and xeno-free cell culture medium for the consistent and reliable cultivation of cerebral organoids derived from human pluripotent stem cells.

After 30 days of differentiation using the StemMACS Cerebral OrganoidDiff Kit XF, human (# 130-136-490), 96 PSC-derived cerebral organoids cultured in 2 × 10 cm dishes can be maintained in culture in StemMACS Cerebral Organoid Cultivation Medium XF, human for additional 30 days.

1.2 Applications

- Maintenance of cerebral organoids derived from human PSC lines

2. Protocol

2.1 Preparation of complete medium

▲ Before StemMACS Cerebral Organoid Cultivation Medium XF, human can be used in cell culture, the complete medium needs to be prepared by mixing the two kit components.

1. Thaw supplement at +2 to +8 °C overnight. Mix supplement properly. Thawed material must be used immediately. Avoid repeated freeze-thaw cycles.
   ▲ **Note:** If white precipitate occurs, pipette up and down the sample to dissolve it.
   ▲ **Note:** If not all supplement is used, aliquot and store at –20 °C.
2. Mix 161.7 mL StemMACS Cerebral OrganoidDiff Basal Medium 1 XF, human with 3.3 mL StemMACS Cerebral OrganoidDiff Cultivation Supplement XF (50×), human. The medium is ready-to-use now.
   ▲ **Note:** (Optional) Antibiotic solutions might be added to prevent contamination, e.g. 100 U/mL penicillin and 100 µg/mL streptomycin.
3. Use the complete medium within 2 weeks when stored at +2 to +8 °C.

2.2 Cell culture

1. Equilibrate complete StemMACS Cerebral Organoid Cultivation Medium XF, human at room temperature (+20 to +25 °C) protected from light prior to use.
2. Replace StemMACS Cerebral Organoid Cultivation Medium XF, human with fresh medium every 2–3 days (10 mL per 10 cm dish).

Refer to **www.miltenyibiotec.com** for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

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