

Contents

1. Description
 - 1.1 Background information
 - 1.2 Applications
2. Protocol
 - 2.1 Preparation of complete medium

1. Description

This product is for research use only.

Components 500 mL StemMACS PSC-Brew Basal Medium XF, human

10 mL StemMACS PSC-Brew Supplement XF (50×), human

Specifications Osmolality: 290–370 mOsmol/kg
pH: 7.2–7.6

Quality control Functionality assay: Maintenance of hPSCs, morphology, and surface phenotype (TRA-1-60⁺, SSEA-4⁺) over one passage. Low endotoxin level by Limulus Amoebocyte Lysate (LAL) assay. Tested negative for mycoplasma.

Storage Store StemMACS PSC-Brew Basal Medium XF, human protected from light at +2 to +8 °C. Do not freeze. Upon arrival, store StemMACS PSC-Brew Supplement XF (50×), human at –20 °C.

Aliquots of the supplemented complete medium can be stored at –20 °C for up to 2 months. Avoid repeated freeze-thaw cycles. Once thawed, aliquots should be kept at +2 to +8 °C and be used within 2 weeks. The expiration dates are indicated on the vial labels.

1.1 Background information

StemMACS PSC-Brew XF, human is a new generation cell culture medium for highly efficient maintenance and expansion of human pluripotent stem cells (hPSC). It has a xeno-free and serum-free formulation that ensures a reduced variability and standardized performance. The carefully balanced composition and the presence of stable FGF-2 ensure constant exposure levels and provide flexibility with feeding schedules.

StemMACS PSC-Brew XF is compatible with both defined and undefined cell attachment matrices, e.g., MACSmatrix Laminin 511 or Corning® Matrigel®. This allows the maintenance of a highly consistent pluripotent phenotype even in low density cultures. hPSCs grown in StemMACS PSC-Brew XF show a typical morphology, expression of pluripotency-associated markers and retain the ability to differentiate into cell types that derive from the three embryonic germ layers. Moreover, the maintenance of a stable karyotype in long-term cultivation is supported.

StemMACS PSC-Brew XF allows rapid culture re-initiation of hPSC cultures after cryopreservation and enables cluster passaging without the addition of any inhibitor.

StemMACS PSC-Brew XF is fully compatible with StemMACS PSC-Support XF and, when combined, can be used in challenging applications that would normally stress the cells, such as gene editing approaches or after reprogramming.

1.2 Applications

- Highly efficient maintenance and expansion of hPSCs under xeno- and feeder-free conditions.

2. Protocol

▲ Further protocols are available at <https://www.miltenyibiotec.com/applications/pluripotent-stem-cells.html>.

2.1 Preparation of complete medium

▲ Before StemMACS PSC-Brew XF can be used in cell culture, the two kit components need to be mixed according to the following protocol.

▲ Recommended feeding volumes for every day feeding are 2 mL/well of a 6-well plate. It is recommended to split the cells at a confluency of 80–90%.

1. Thaw StemMACS PSC-Brew Supplement XF (50×) at +2 to +8 °C prior to use.
2. Add 10 mL StemMACS PSC-Brew Supplement XF (50×) to 500 mL StemMACS PSC-Brew Basal Medium XF. Mix well. The medium is ready-to-use now. Use the complete medium within 2 weeks when stored at +2 to +8 °C.
3. For longer storage, prepare aliquots and store at –20 °C for up to 2 months. Thaw aliquots of complete medium overnight at +2 to +8 °C. Once thawed, keep aliquots at +2 to +8 °C and use within 2 weeks.

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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