



## Human Blood Cell (hBLD) Growth Medium

For growth of human Peripheral Blood Mononuclear Cells (PBMCs)

**Catalog Number: ST02006**

**Size: 2 x 25 ml**

Human blood cell is one of the ideal sources for iPS cells reprogramming in both basic research and clinical application. Peripheral Blood Mononuclear Cells (PBMCs) are blood cells with a round shaped nucleus, such as monocytes and lymphocytes, with the lymphocyte population consisting of T cells, B cells and NK cells which can be isolated from whole blood through density gradient centrifugation using Ficoll. Reprogrammed iPS cells from normal or diseased human PBMCs can be used for exploring the mechanism of disease, drug screening and discovery, toxicity test for new drug, as well as cell therapy in future. Optimized PBMCs culture condition is crucial and beneficial for PBMCs studies and its application, including PBMCs reprogramming *in vitro*.

### Product Description

Stemmera™ Human Blood Cell (hBLD) Growth Medium is a ready-to-use and fully chemically defined culture medium for human Peripheral Blood Mononuclear Cells (PBMCs) *in vitro*.

### Product Component

Component	Size	Storage	Cat #
Blood Basal Medium	2 x 25 ml	-20°C	ST02006-BM
Supplement for 25ml of Blood Basal Medium	61µl	-20°C	ST02006-S1

**Mixture** of Blood Basal Medium and Supplement is a ready-to-use medium for culturing human PBMCs *in vitro*.

*Note: 61 µl of supplement is used to mix with 25 ml of Blood Basal Medium to make COMPLETE Human Blood Cell (hBLD) Growth Medium.*

### Storage and Handling

Stemmera™ Human Blood Cell (hBLD) Growth Medium is shipped with dry ice. Store all components at -20°C upon arrival and until expiration dates stated on the product labels. Avoid multiple freeze/thaw cycles. The

complete medium should remain stable for 4-6 weeks at 2-8°C when stored in the dark. Make aliquot of complete medium for daily use, avoid warm up cycles. Protect from light is preferred.

### Product Use

This product is intended for *in vitro* use and research use only. Not intended for human or animal diagnostic or therapeutic uses.

### General Precautions

1. Use aerosol barrier tips. Change tips after each use.
2. Always use fresh, clean gloves and wear lab coats.
3. Material Safety Data Sheet (MSDS) is available online.
4. Clean working space with 70% ethanol or other suitable disinfectant.

### Culture Conditions

**Media:** Stemmera™ Human Blood Cell (hBLD) Growth Medium

**Cell:** human Peripheral Blood Mononuclear Cells (PBMCs)

**Culture type:** Blood cell culture in suspension

**Temperature range:** 37°C

**Incubator atmosphere:** Humidified atmosphere at 5% CO<sub>2</sub> and/or 5% O<sub>2</sub>. Ensure proper gas exchange and minimize exposure

### Protocol

#### Preparation of Complete Human Blood Cell Culture Medium

- Add 61µl of frozen Supplement (Stemmera, Cat # ST02006-S1) in 25 ml of Blood Basal Medium (Stemmera, Cat # ST02006-BM), mix well and filter with 0.22µm filter.
- **Aliquot and pre-warm complete medium** at room temperature for daily use.

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*Note: Complete Human Blood Cell (hBLD) Growth Medium shall remain stable for 4-6 weeks when stored at 2°C to 8°C in the dark within the expiration date of all components.*

### Culture human PBMCs

1. Rapidly thaw one vial of  $1-2 \times 10^6$  of frozen human PBMCs in 37°C water bath.
2. Gently pipet the entire contents of the cryovial into a sterile 15 ml conical tube with Blood Basal Medium (Stemmera, Cat # ST02006-BM).
3. Centrifuge 15 ml conical tube at 1000 rpm for 5 minutes.
4. Aspirate and discard supernatant. Take extreme care not to disturb cell pellet.
5. Resuspend the cells in 1 ml of pre-warmed complete Human Blood Cell Growth Medium (Stemmera, Cat # ST02006).
6. Transfer the cells to 12-well plate and add sufficient complete medium to the wells (1 ml of medium per well of 12-well plate).
7. Incubate the cells in a 37°C, 5% CO<sub>2</sub> incubator overnight.
8. Change 50% of medium the following day and keep culturing the cells by changing 50% of complete medium every other day for 6-8 days, until cells are ready for further studies.

### Quality Control

This product is used to grow human PBMCs *in vitro*. To ensure the quality, the following images represent human PBMCs in suspension.



**Human PBMCs**

### Warranty and Limited Liability

Stemmera™ will not be liable for any damage caused by misuse, improper handling and storage of the product, non-compliance with precautions and procedures, and damages caused by events occurring after the product is released.

### Related Products

Product	Cat #	Size
Alkaline Phosphatase Detection Kit (Ready-to-Use) - Blue	ST01001	50 tests
Alkaline Phosphatase Detection Kit (Ready-to-Use) - Red	ST01002	50 tests
Human Fibroblast (hFIB) Reprogramming Kit	ST01003	5 reactions
Cell Karyotyping Analysis Kit	ST01004	20 reactions
Human Blood Cell (hBLD) Reprogramming Kit	ST01005	5 reactions
Human ESCs/iPSCs Serum-/Feeder-free Medium (hStemSFM)	ST02001	500 ml
Human ESCs/iPSCs Xeno-Free Medium (hStemXFM)	ST02002	500 ml
Human Fibroblast (hFIB) Reprogramming Medium	ST02003	500 ml
Human Blood Cell (hBLD) Reprogramming Medium	ST02004	500 ml
Fibroblast Growth Medium	ST02005	500 ml
Non-Enzymatic Cell Dissociation Solution (1x)	ST03001	100 ml
Serum-Free Cryopreservation Solution for Human ESCs/iPSCs	ST03002	50 ml
0.2% Gelatin	ST03003	100 ml
0.1% Gelatin	ST03004	100 ml
Universal Cryopreservation Solution (1x)	ST03005	50 ml
Blood Cell Cryopreservation Solution (1x)	ST03006	50 ml

### Technical Support

For more product and technical information, please visit our website at [www.stemmera.com](http://www.stemmera.com).

For further assistance, email your inquiries to our Technical Support team at [techsupport@stemmera.com](mailto:techsupport@stemmera.com)

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