

## Foetal Bovine Serum (FBS) Replacement

### Product Description

**FOETAL BOVINE SERUM (FBS) REPLACEMENT** is 100% animal component free and is the ideal replacement for FBS, offering a cost effective alternative to serum-based cell culture supplements. FBS REPLACEMENT is manufactured from platelet units obtained from healthy human blood donors.

Cell expansion in standardized and animal-free conditions represents a major challenge for the production of cell therapy products. To date, many clinical-grade culture laboratories still use FBS, as a cell culture supplement. Replacing bovine serum with human supplements allow for expansion and potential clinical-grade production of human cells by eliminating xenogeneic risk and transmission of bovine prion. **FBS REPLACEMENT** contains abundant growth factors and cytokines derived from human platelets which stimulate cellular proliferation and maintain phenotype and differentiation potential of stem cells.

### Applications

**FBS REPLACEMENT** supports the *in vitro* propagation and maintenance of various human cell types, including Mesenchymal Stromal Cell+ s, Dermal Fibroblasts, Epidermal Keratinocytes and Endothelial Colony Forming Cells.

#### Preparation of complete cell culture medium:

1. Thaw **FBS REPLACEMENT** overnight at 4°C or for 1 hour in a 37°C water bath.
2. Prepare complete cell culture medium by adding **FBS REPLACEMENT** to basal medium (i.e. Dulbecco's Modified Eagles Medium-Low Glucose; DMEM-LG) with 2 mM L-glutamine and 100 U/mL Penicillin/streptomycin as final concentration.
3. **FBS REPLACEMENT** shows optimal growth of human cells at 10% (v/v). However, for higher cell proliferation rates, it is recommended to use 12.5% - 15% (v/v) of **FBS REPLACEMENT**.
4. To avoid coagulation of the complete cell culture medium, Heparin should be added at a final concentration of 2 U/mL PL Supplement – Porcine Heparin (code: PLA-001M) or 0.024 mg/mL PL Supplement-XF 'xeno-free heparin' (Code: PLA-XF-001M)

Note: Complete cell culture medium can be stored at 4°C and is stable for approximately four weeks.

### Product Information

Product Code	Product Description	Pack Size
HPL-001A	FBS Replacement – Research Grade	500 mL
HPL-001B	FBS Replacement – Research Grade	100 mL
HPL-001E	FBS Replacement – Research Grade	10 mL

## Storage

FBS REPLACEMENT is stable when stored frozen at -20°C (or at -80°C for longer-term storage). Upon thawing, it is recommended to aliquot and re-freeze samples of unused FBS REPLACEMENT at -20°C. Repeated freeze-thaw cycles of FBS REPLACEMENT should be avoided as this can cause the formation of precipitates.

For use, pre-warm an aliquot of the complete cell culture medium and keep the remaining medium refrigerated at 4 to 8°C.

*Note: The presence of a white sediment upon defrosting the product is a normal phenomenon. This is because this product is based on human platelet lysate that is treated with heparin during processing. Sedimentation can occur due to the activation of coagulation factors which causes the formation of clots. Since the product is kept frozen, the activity of the heparins may be influenced during freezing, and therefore we recommend the addition on heparin (1 to 2 U/mL) prior to use.*

## Sterility

FBS REPLACEMENT is aseptically processed. Microbial cultures tested negative.

## Source material

FBS REPLACEMENT is manufactured from platelet units obtained from healthy blood donors who have been tested and found negative for HBsAg, HIV I/II antibody, CMV, HCV-, HBC-Antibody, HIV-, HCV-, HBV-, HAV-, PVB19-NAT, Treponema pallidum and Syphilis.

*Note: Despite all testing, proper safety precautions for potentially infectious agents must be taken and material considered as potentially infectious. All blood products should be handled in accordance with currently acceptable biosafety practices and guidelines for the prevention of blood borne viral infections.*

**This product is for *in vitro* experimental and research use only and the product is not intended for human or animal diagnostic, or therapeutic uses.**

## Support

Life Science Production is a division of Life Science Group Ltd.  
Life Science Production is [ISIA Traceability Certified](#)  
Life Science Group Ltd is an ISO 9001:2015 Certified company

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