

# PLTGold<sup>®</sup> Human Platelet Lysate

Stem Cell Supplement

Cat. # SCM152

FOR RESEARCH USE ONLY.  
NOT FOR USE IN DIAGNOSTIC PROCEDURES.  
NOT FOR HUMAN OR ANIMAL CONSUMPTION.

pack size: 500 mL

Store at -80°C



Data Sheet

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## Description

PLTGold<sup>®</sup> Human Platelet Lysate is a Xeno-Free/Animal-Free cell culture supplement that is a superior alternative to fetal bovine serum (FBS) for use in human mesenchymal stem cell cultures. PLTGold is an unfractionated product derived from human platelets that **does not require the addition of heparin**. It remains clot-free with performance equivalent to the original PLTMax<sup>®</sup> platelet lysate. Optimal growth of MSCs can be achieved with 5% PLTGold. PLTGold been used to effectively to grow mesenchymal stem cells derived from other species including mouse, rabbit and porcine.

PLTGold Human Platelet Lysate is for research use only (RUO) and not intended for human or animal diagnostic or therapeutic use.

## Source

PLTGold Human Platelet Lysate is derived from normal human donor platelets collected at U.S. blood centers. Multiple donors units are pooled in large batch sizes and manufactured to produce a consistent product.

## Quality Control

All human derived materials are obtained from government inspected facilities and are of US origin. Each donor unit was approved for human use and has been tested for infectious diseases including HIV-1, HIV-2, HIV-NAT, HCV, HBsAg, and RPR for Syphilis.

### Lot Acceptance Criteria:

- Sterility Testing: Negative for growth
- pH: 6.8-7.8
- Total protein: 4.0-6.5 g/dl
- Osmolality: 250-330 mOsm/kg
- Endotoxin USP <85>: <10 EU/mL
- Mycoplasma: Not detected
- Cell Growth: Pass

## Storage and Handling

Store at -80°C upon receipt. Thaw at room temperature or in a water bath. After thawing, aliquot and store at -20°C or colder. Long term storage at -80°C is recommended.

**IMPORTANT NOTE:** *This product contains human derived materials and must be treated as potentially infectious. Universal precautions for biological samples should be used in handling and disposal.*

## Instructions for Use

1. Cell seeding should be performed following the general guidelines for the specific cell type. For Mesenchymal Stem Cells (MSCs), cells are typically plated at approximately  $2 \times 10^3$  –  $5 \times 10^3$  cells per  $\text{cm}^2$ .
2. For MSCs, PLTGold can be used at 5% vol/vol in a typical cell culture medium such as DMEM (Sigma D5671) or  $\alpha$ -MEM (Sigma M8042). If the basic media doesn't contain Glutamine, a source of L-Glutamine (Sigma G7513) will need to be added to the media at a final concentration of 2mM. For other types of cells, the concentration of PLTGold will need to be titrated according to the application (a titration from 2% vol/vol to 10% vol/vol is recommended to establish the percentage of PLTGold needed for the cell type to use).
3. Do not allow primary MSC confluence to exceed 70-80%.

## References

Crespo-Diaz R, Behfar A, Butler GW, et al. Platelet lysate consisting of a natural repair proteome supports human mesenchymal stem cell proliferation and chromosomal stability. *Cell Transplant.* 2011;20(6):797-811.

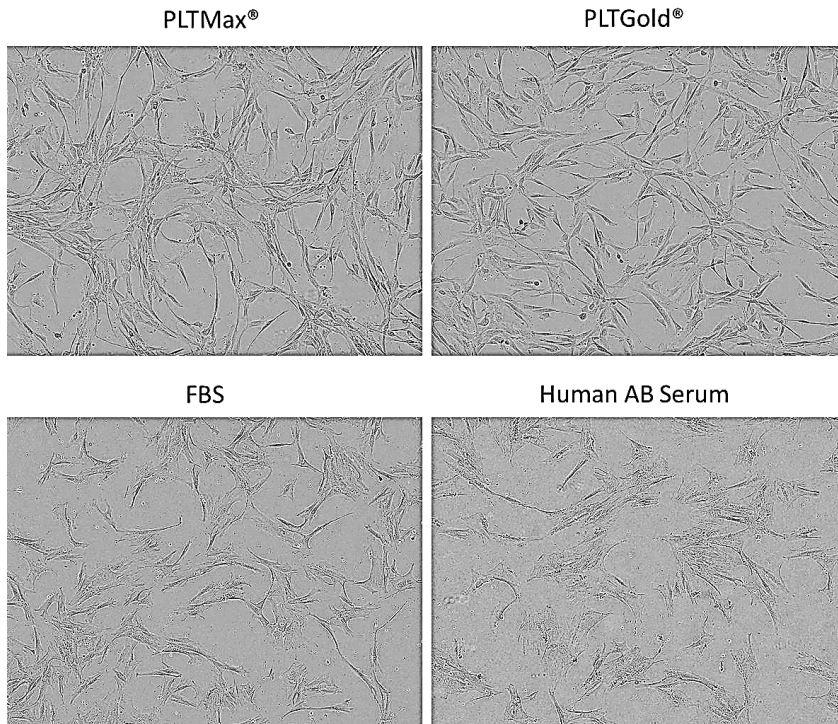
Burnouf T, Strunk D, Koh MB, et al. Human platelet lysate: Replacing fetal bovine serum as a gold standard for human cell propagation? *Biomaterials.* 2016 Jan;76:371-87.

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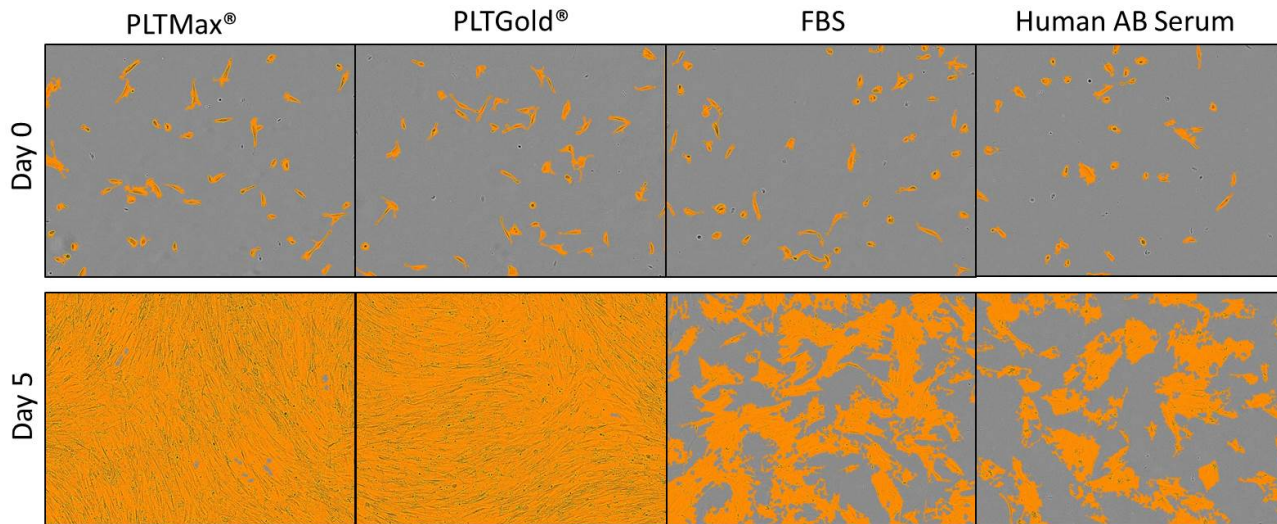
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**Results**



**Figure 1.** Morphology of human mesenchymal stem cells grown in PLTGold is identical to PLTMax, FBS and Human AB Serum after multiple passages.



**Figure 2.** Representative images of adipose-derived MSCs at day 0 and day 5 of real time monitoring analysis. Cells are false color masked by monitoring instrument software to measure growth. PLTGold and PLTMax produce increased cell proliferation vs. FBS and Human AB Serum.

■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

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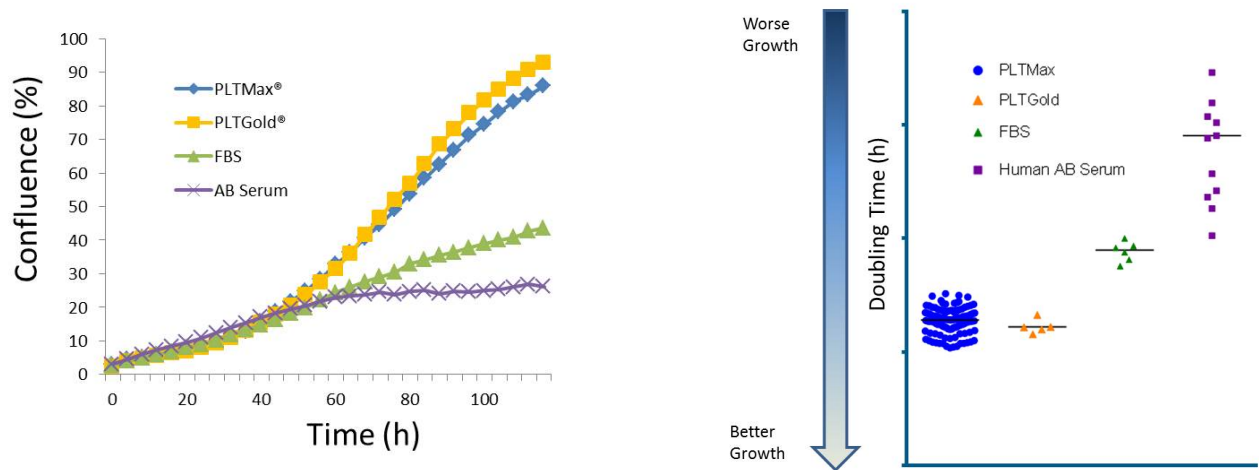
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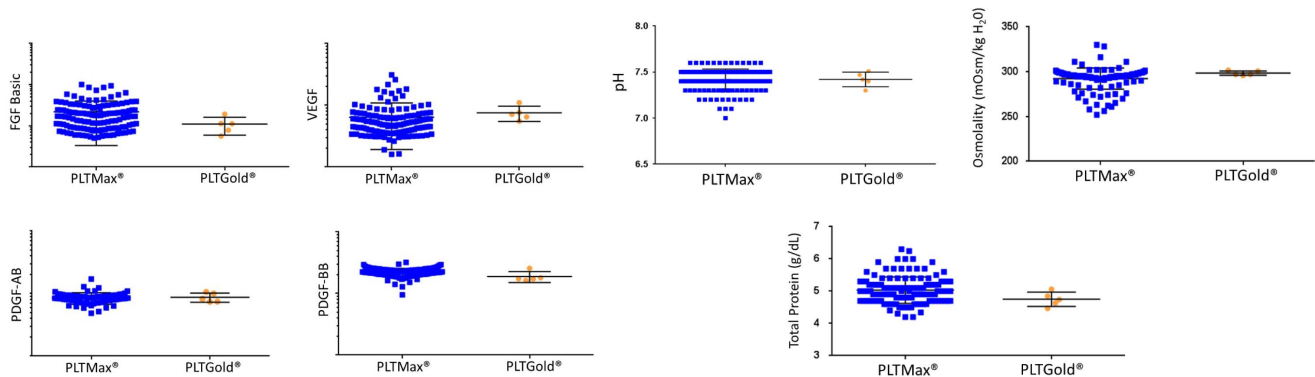
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**Figure 3.** Analysis of cell growth using automated cell culture imaging. A) Comparison between cell kinetics of adipose-derived MSC cultured in media supplemented with either PLTMax, PLTGold, FBS or Human AB Serum. The growth is plotted according to the time in culture and the increase in cell density as measured by confluence. B) Doubling times obtained for cells cultured in media supplemented with different lots of PLTMax, PLTGold, FBS or Human AB Serum.



**Figure 4.** Biochemical and physical profiling of both PLTGold and PLTMax shows similar results over multiple lots of material.