

## Description

UltraGRO™–PURE cell culture supplement is a fibrinogen depleted, xeno–free media supplement for replacing FBS (fetal bovine serum) to support cell expansion from research through clinical trials to commercial use. UltraGRO™–PURE contains abundant growth factors and cytokines necessary for research or industrial cell growth and proliferation of multiple cell types, including MSCs.



Product	Catalog No.	Spec.	Storage	Shelf Life*
UltraGRO™–PURE (Research grade)	HPCHXCRL05	50mL	Store at –20°C or –80°C	12 months
	HPCHXCRL10	100mL		
	HPCHXCRL50	500mL		

\*Shelf life duration is determined from Date of Manufacture, continuously stored frozen in original bottle.

## Intended use

For human *ex vivo* tissue and cell culture processing applications.

## Important information

Insoluble particles may form in thawed UltraGRO™–PURE cell culture supplement. Published research has shown that particles will not alter the performance of the product.

## Safety information

- Follow the handling instructions outlined in the Material Safety Data Sheets (MSDSs). Wear appropriate protective eyewear, clothing, and gloves.
- UltraGRO™–PURE, is a cell culture supplement derived from human single donor platelets collected from healthy donors at FDA-licensed centers. Each donor has been tested using FDA-licensed tests and found nonreactive for HBsAg, Hepatitis B core antibody (anti-HBc), HIV antibody (anti-HIV-1/2), Hepatitis C antibody (anti-HCV), HTLV-1/2 antibody (anti-HTLV-1/2), Trypanosoma cruzi antibody (anti-T. cruzi), HIV-1, HCV, HBV, WNV nucleic acid testing and Syphilis microhemagglutination test. Handle in accordance with established bio-safety practices.

## MSC culture conditions

### Media:

Complete medium is comprised of a basal media (e.g.  $\alpha$ -MEM or other supportive media) and UltraGRO™–PURE. UltraGRO™–PURE shows optimal potency to support MSCs growth at 5% (v/v). Additional Heparin is **NOT** required for UltraGRO™–PURE.

**Culture type:** Adhesion

**Seeding density:** We recommend seeding MSCs at approximately  $3 \times 10^3 \sim 6 \times 10^3$  per  $\text{cm}^2$ .

**Culture vessels:** Cell culture plates, T-flasks, G-Rex flasks or cell culture bags

**Temperature range:** 36°C to 38°C

**Incubator atmosphere:** Humidified atmosphere of 4–6%  $\text{CO}_2$ . Ensure that proper gas exchange is achieved in culture vessels.

## Precipitation in Cell Culture

- Insoluble particles may form in thawed UltraGRO™–PURE, it is recommended to remove particles by centrifuge at 3,400 xg for 3~5 minutes.
- Filtering the completed medium (e.g. 5%), after UltraGRO™–PURE is diluted in the basal medium, will not affect UltraGRO™–PURE supplemented cell culture performance. However, 0.22  $\mu\text{m}$  filtering is **NOT** recommended for 100% concentrate UltraGRO™–PURE, as this may reduce 5% UltraGRO™–PURE cell culture performance.
- Repeated freeze-thaw cycles should be avoided as they may cause an increase in insoluble particles and resulting potential decrease in UltraGRO™–PURE performance.

## Storage

UltraGRO™–PURE product is most stable when stored frozen until needed. The recommended storage temperature is –20°C or –80°C. Thaw frozen UltraGRO™–PURE product in a 37°C water bath before use. Once UltraGRO™–PURE product is thawed, it is recommended to fully use for completed medium preparation (e.g. 5%) the same day, or to divide it into single-use aliquots and store unused aliquots at –20°C or –80°C.

## Cell Lines

Bone marrow mesenchymal stem cells

Adipose tissue derived mesenchymal stem cells

Umbilical cord derived mesenchymal stem cells

Other mesenchymal stem cells

## References

- Amanda Miukami, Marlo Soares de Abreu Neto, Francisco Morelra, Ana Fernandes-Platzgummer, Yi-Feng Huang, William Milligan, Joaquim M.S. Cabral, Claudia L. da Silva, Dimas T. Covas, Kamilla Swiech. A fully-closed and automated hollow fiber bioreactor for clinical-grade manufacturing of human mesenchymal stem/stromal cells. *Stem Cell Rev.* 2018; 14(1):141-143.
- Copland IB, Garcia MA, Waller EK, Roback JD, Galipeau J. The effect of platelet lysate fibrinogen on the functionality of MSCs in immunotherapy. *Biomaterials.* 2013;34(32) : 7840-50.
- **US FDA IND14825**, Autologous Bone Marrow Derived Mesenchymal Stromal Cells for Crohn's Disease.
- **US FDA IND16191**, Autologous Mesenchymal stem cells for GvHD.
- **US FDA IND14924**, Percutaneous Image Guided Delivery of Autologous Bone Marrow Derived Mesenchymal Stem Cells for the Treatment of Symptomatic Degenerated Intervertebral Disc Disease.
- **US FDA IND15970**, Autologous MSCs islet autograft via portal vein infusion to reduce onset of diabetes and improve glycemic control in patients with chronic pancreatitis.

## For Technical and Ordering information, contact:

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For additional technical information such as Safety Data Sheets (SDS), Certificates of Analysis, visit [www.atcbiomed.com](http://www.atcbiomed.com). For further assistance, email [sales@atcbiomed.com](mailto:sales@atcbiomed.com)

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