

Description

UltraGRO™—Advanced cell culture supplement is a non-xenogeneic, animal serum-free, media supplement for replacing FBS (fetal bovine serum) to support cell expansion from research through clinical trials to commercial use. UltraGRO™—Advanced contains abundant growth factors and cytokines necessary for research or industrial cell growth and proliferation of multiple cell types (e.g. MSCs).



Product	Catalog No.	Spec.	Storage	Shelf Life*
UltraGRO™—Advanced (Research grade)	HPCFDCRL05	50mL	Store at –20°C	24 months
	HPCFDCRL10	100mL		
	HPCFDCRL50	500mL		
UltraGRO™—Advanced (GMP grade)	HPCFDCGL05	50mL		
	HPCFDCGL10	100mL		
	HPCFDCGL50	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™—Advanced 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.
- Human origin materials are non-reactive (donor level) for anti-HIV 1 & 2, anti-HCV and HBsAg. Handle in accordance with established bio-safety practices.

MSC culture conditions

Media:

Complete medium is comprised of a basal media (e.g. α-MEM or other supportive media) and UltraGRO™—Advanced

Culture type: Adhesion

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% CO₂. Ensure that proper gas exchange is achieved in culture vessels.

Precipitation in Cell Culture

- Insoluble particles may form in thawed UltraGRO™—Advanced, 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™—Advanced is diluted in the basal medium, will not affect UltraGRO™—Advanced supplemented cell culture performance. However, 0.22 μm filtering is NOT recommended for 100% concentrate UltraGRO™—Advanced, as this may reduce 5% UltraGRO™—Advanced 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™—Advanced performance.

Protocol

- UltraGRO™—Advanced shows optimal growth of MSC at 5% (v/v) in typical cell culture media, i.e. α-MEM, which contains 2mM L-Glutamine as final concentrate.
- We recommend seeding MSCs at approximately 3×10³ ~ 6×10³ per cm².
- For UltraGRO™—Advanced has been fibrinogen-depleted and does not require the addition of heparin in the cell culture media.

Storage

UltraGRO™—Advanced product is most stable when stored frozen until needed. The recommended storage temperature is -20°C or -80°C. Thaw frozen

UltraGRO™—Advanced product in 37°C water bath before use. Once UltraGRO™—Advanced 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

- 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.

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

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