



Description

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

Product	Catalog No.	Spec.	Storage	Shelf Life*
UltraGRO™-Advanced (Research grade)	HPCFDCRL05	50mL	Store at -20°C	60 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.

Application

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

Important information

- Insoluble particles may form in thawed UltraGRO™-Advanced. Published research has shown that particles will not alter the performance of the product.
- Insoluble particles may form in thawed UltraGRO™-Advanced, it is recommended to 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 the 100% UltraGRO™-Advanced concentrate, as this may reduce 5% UltraGRO™-Advanced cell culture performance.
- Repeated freeze-thaw cycles should be avoided as they will cause an increase in insoluble precipitates and resulting potential decrease in UltraGRO™-Advanced performance.

Safety information

- Follow the handling instructions outlined in the Material Safety Data Sheets (MSDSs). Wear appropriate protective eyewear, clothing, and gloves.
- UltraGRO™-Advanced is a cell culture supplement 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.
- This product is for *in vitro* use only.

Storage and shipping information

UltraGRO™-Advanced is most stable when stored frozen

until needed. The recommended storage temperature is -20°C. Thaw frozen UltraGRO™-Advanced product in 37°C water bath before use. Once UltraGRO™-Advanced 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.

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, Cell culture bags, Spinner flask or Vertical wheel bioreactor

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.

Instructions for use

- 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 3x10³~6x10³ per cm².
- UltraGRO™-Advanced has been fibrinogen-depleted and does not require the addition of heparin in the cell culture media.

Cell Lines

bone marrow mesenchymal stem cells, adipose tissue derived mesenchymal stem cells, umbilical cord derived mesenchymal stem cells, other mesenchymal stem cells