

# Exosome-Depleted UltraGRO™-PURE GI

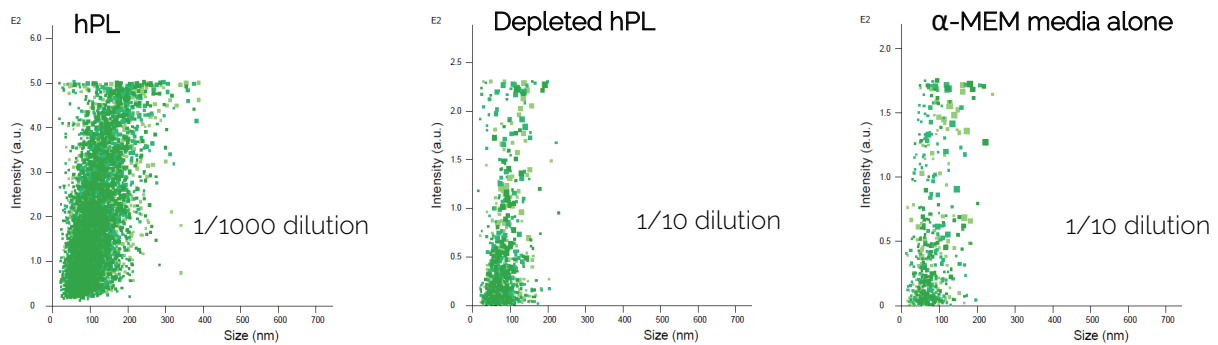
For Therapeutic Cell-derived EV production

NEW

AventaCell BioMedical Corp. has developed an exosome depletion process to remove human platelet lysate (hPL)-derived exosomes. Exosome-Depleted UltraGRO™-PURE GI (ED UG-P GI) is able to support human MSC cell viability to secrete abundant extracellular vesicles (EVs) without compromising phenotype over the culture period. Moreover, gamma irradiation processing of the product is used as a pathogen reduction treatment (PRT) for viral inactivation, to comply with regulatory guidance for clinical research and development.

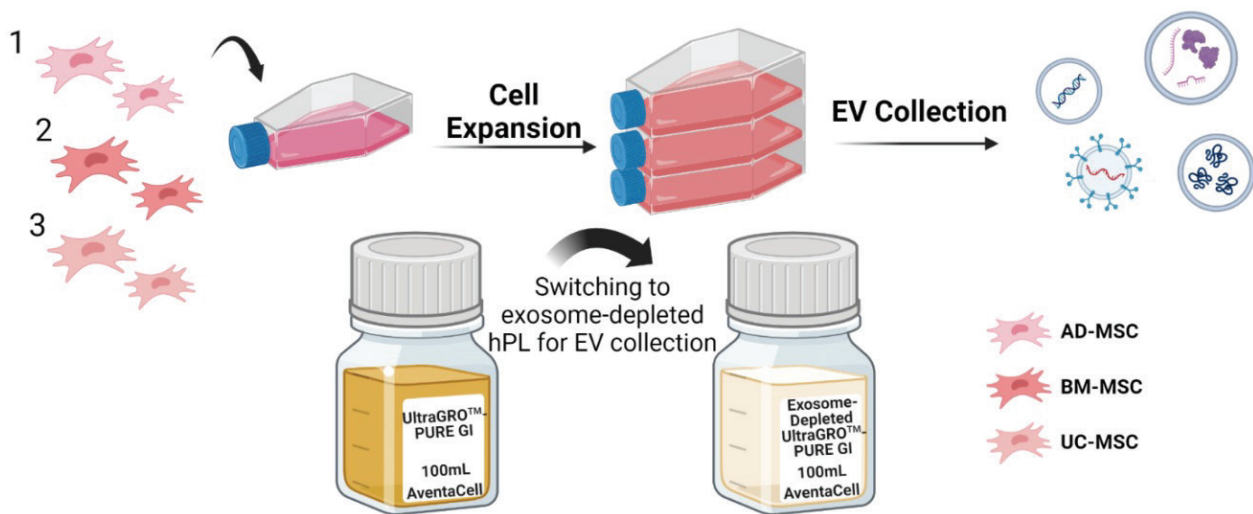
## BENEFITS OF EXOSOME-DEPLETED ULTRAGRO™-PURE GI

- Xeno-free with >95% nanoparticle removal from the hPL supplement
- Minimal hPL nanoparticle contamination
- MSCs cultured with the depleted supplement remain highly viable with stable phenotype markers throughout the culture period
- Exosome-Depleted UltraGRO™-PURE GI to produce hMSC-derived EVs
- Gamma irradiation processing is accepted by regulatory agencies as a validate

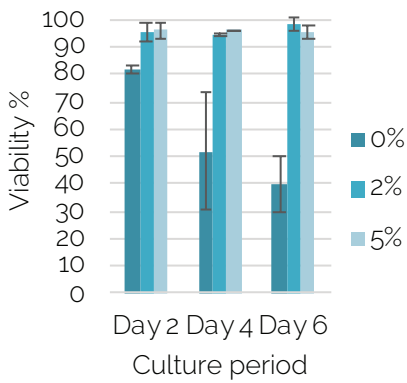


Nanoparticles were analyzed by NTA. Nanoparticle size distribution in hPL product before and after the depletion process compared to  $\alpha$ -MEM basal media alone. Results showed a significant particle removal of the particle signal after the depletion process. Moreover, the outstanding and consistent particle removal from each batch was performed in the study, resulting an average of 99% of depletion rate (n = 5).

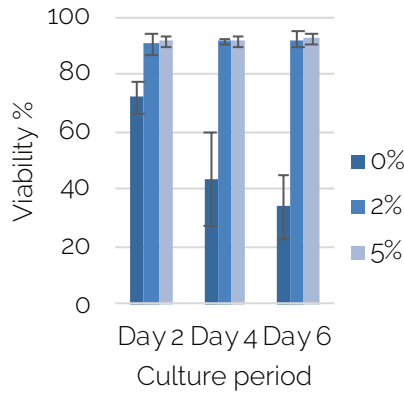
NTA results (n = 5)	Non-depleted hPL	Depleted hPL	Depletion rate
Particle count/mL	$2.73 \times 10^{11} \pm 6.48 \times 10^{10}$	$3.52 \times 10^9 \pm 3.16 \times 10^9$	99.07%



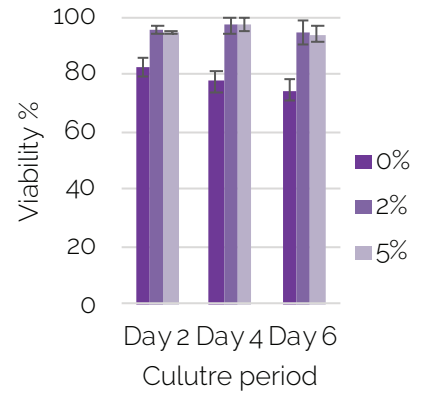
### AD-MSC cell viability



### BM-MSC cell viability

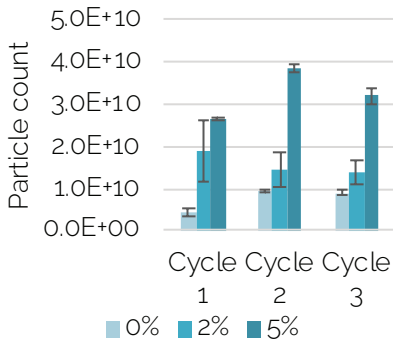


### UC-MSC cell viability

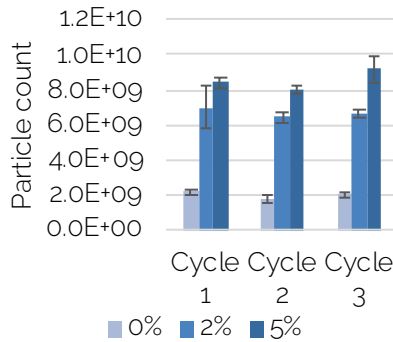


Cell viability of AD-, BM-, and UC-MSCs were monitored during the culture period. Target MSCs cultured in the presence of ED UG-P GI showed >90% viable with continuous growth compared to  $\alpha$ -MEM basal alone which presented a significant drop on day 2.

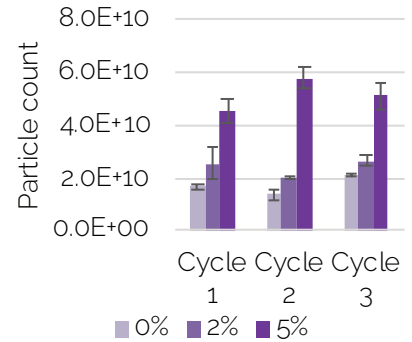
### A Secreted AD-MSC EVs per cycle



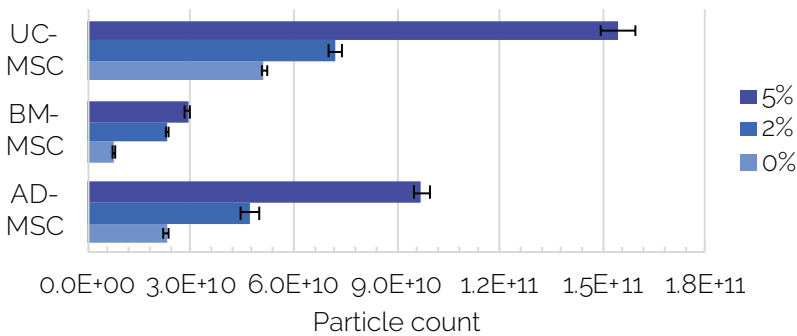
### Secreted BM-MSC-EVs per cycle



### Secreted UC-MSC-EVs per cycle



### B Total EV yield over 6 days per flask



Secreted MSC-derived EVs were collected from each production cycle and were analyzed by NTA. (A) EV secretion profile in each production cycle, (B) total MSC-derived EV yield per T75 flask in 6 days

Product Number	Product	Bottle Size (mL)
HPCHEFRLL05	Exosome-Depleted UltraGRO™-PURE GI	50
HPCHEFRLL50		500

