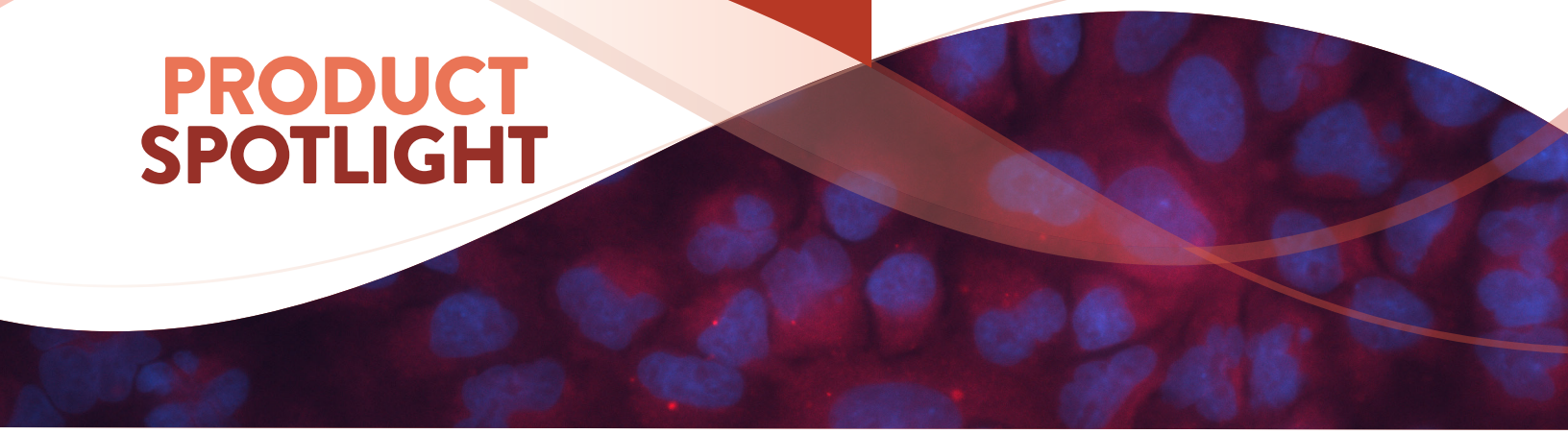
ATCC

PRODUCT SPOTLIGHT



EXOSOMES

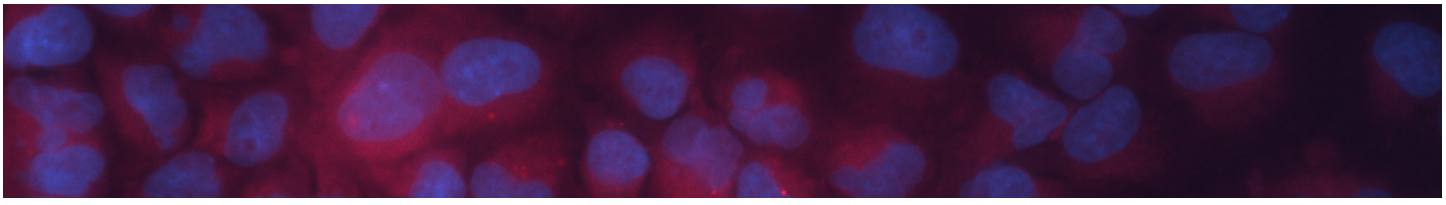
At ATCC we understand that imprecise molecular standards confound efforts to create diagnostic tests for disease-related biomarkers. That's why we are dedicated to providing scientists with novel tools such as exosomes. Exosomes are cell-derived extracellular vesicles that are submicron in size and released through fusion of the multivesicular body with the plasma membrane. Because of their ability to harbor and deliver biological cargo such as nucleic acids to recipient cells, exosomes are currently being examined as next-generation agents for diagnostics and therapeutics.

ATCC offers exosomes isolated from various well-characterized cancer cell lines and mesenchymal stem cells. Features and benefits include:

- Ideal reference standards in cancer research & liquid biopsy development
- Novel isolation method to ensure purity
- Consistent size range of 50 – 200 nm; verified by Nanoparticle Tracking Analysis
- Exosomal protein markers confirmed
- Functional performance data available

Table 1: Well-characterized Exosomes

ATCC® No.	Parental Cell Designation	Parental ATCC® No.	Cancer Type
CCL-185-EXM™	A549	CCL-185™	Carcinoma; Lung
CCL-247-EXM™	HCT-116	CCL-247™	Carcinoma; Colorectal
CRL-1435-EXM™	PC-3	CRL-1435™	Adenocarcinoma; Prostate
CRL-1740-EXM™	LnCap	CRL-1740™	Carcinoma; Prostate
SCRC-4000-EXM™	hTERT-immortalized adipose-derived mesenchymal stem cell (MSC)	SCRC-4000™	N/A



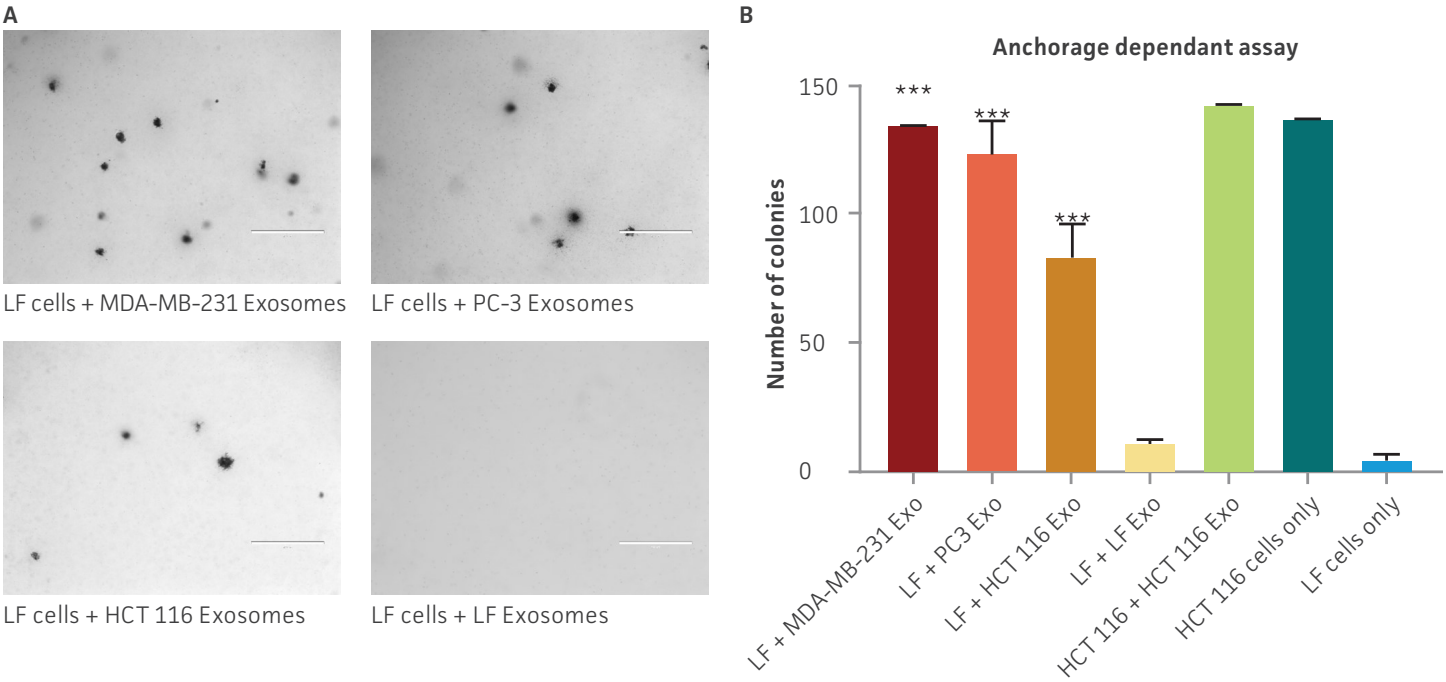


Figure 1: Exosomes induce soft-agar growth in human primary cells. Human Primary Lung Fibroblasts (ATCC® PCS-201-013™) were treated with 100 µg/mL protein equivalent concentration of exosomes from MDA-MB-231, PC-3, HCT116 and lung fibroblast (LF) cells. Cells were harvested and utilized for soft agar assay. Scale bars = 400 µm. (A) shows crystal-violet stained colonies. (B) shows the total number of colonies for each treatment. A paired t-test was performed to analyze the increase in soft agar colony formation capabilities of exosomes from cancer line compared to exosomes from lung fibroblast on lung fibroblast cells. MDA-MB-231 and PC-3 showed ***p <0.0006 while HCT116 showed *** p <0.0003 compared to LF exosome p <0.010.

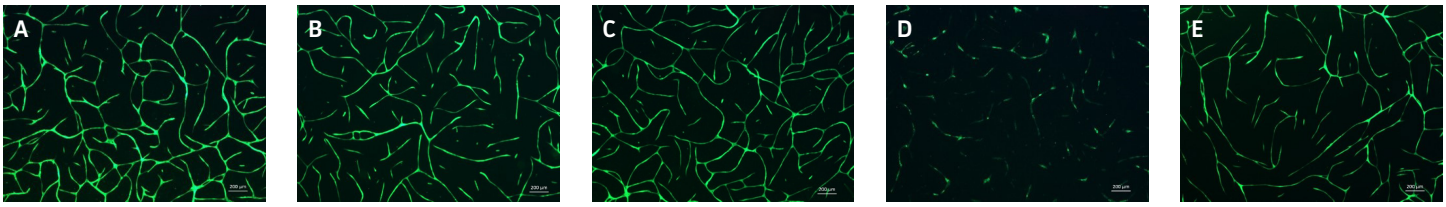


Figure 2: Exosomes stimulate tubular formation in an in vitro angiogenesis assay. Representative photos acquired using a fluorescent microscope and tubular formation was captured after 7 days in culture using the Angio-Ready™ Angiogenesis Assay System for (A) MSC exosome-treated cells, (B) iPSC exosome-treated cells, and (C) A549 exosome-treated cells. Cells were treated with 100 µg/mL protein equivalent concentration of exosomes for all the different types of exosomes. (D) Untreated cells received no exosomes and (E) positive control cells were supplemented with 5 ng/ml VEGF to promote angiogenesis.

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