Technical Bulletin
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Adhesion of HepG2 cells on CollOvine™-coated Plates

Collagen is a major component of the extracellular matrix (ECM), which is essential for the process of cell adhesion, especially for cancer cells. A cell adhesion assay is often used to evaluate the metastatic ability of cancer cells.

Methods

CollOvine was first diluted to 0.1 mg/mL in Hank's Balanced Salt Solution (HBSS). A 96-well plate was incubated with 100 µL/well of the 0.1 mg/mL collagen solution at 37°C for 1.5 hours. The collagen solutions were then removed, and the wells were rinsed with buffer. Each well was seeded with 1.5 x 10^4 HepG2 cells (ATCC HB-8065, a human liver cancer cell line), and incubated at 37°C for 1 hour. Unattached cells were aspirated, the wells were rinsed with buffer, and replaced with 100 µL/well of cell media (Eagle's Minimum Essential Media). The amount of adherent cells were quantified by a fluorescent cell viability reagent (AlamarBlue, ThermoFisher), following the manufacturers protocol.

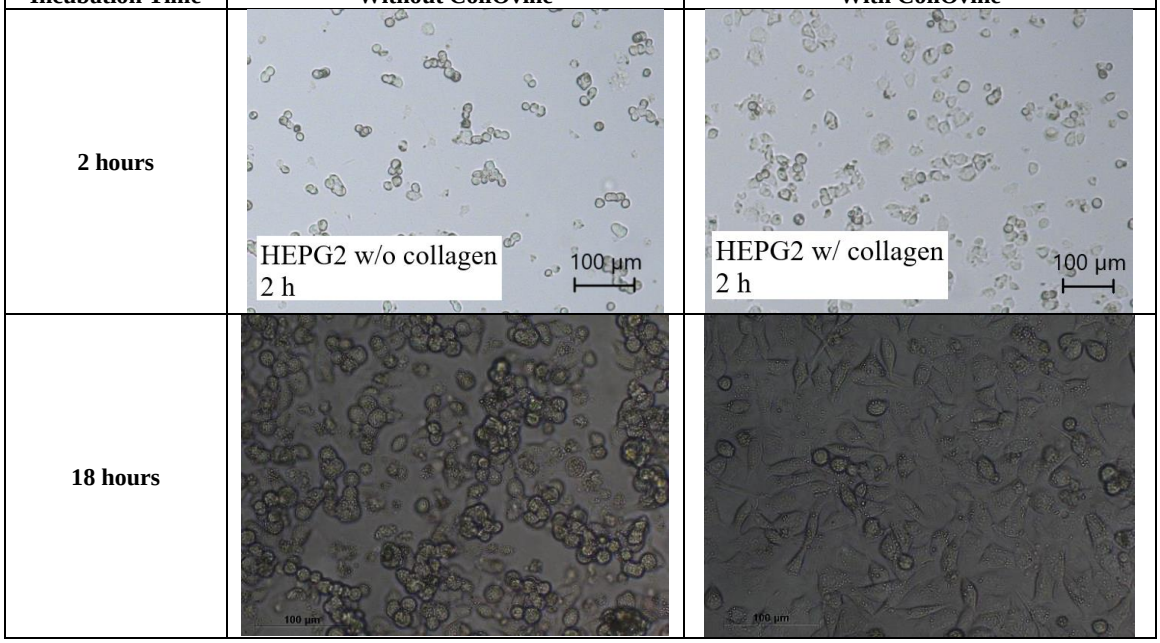

Figure 1. HepG2 cells seeded on wells with or without CollOvine.

Results

Figure 1 shows a comparison of the HepG2 cells cultured with and without collagen after 2 hours. When cultured with collagen, the HepG2 cells can better adhere to the substrate and begin to proliferate. When cultured without collagen, the cells loosely adhere to the substrate and there was less proliferation. The results in **Table 1** correlates with the qualitative results in **Figure 1**, which shows that there are more viable cells in the wells treated with CollOvine compared to uncoated wells.

Table 1. Normalized relative AlamarBlue fluorescence of HepG2 cells seeded on wells with or without CollOvine. The standard deviation was determined across eight replicates.

Wells Coated with CollOvine (%)	Uncoated wells (%)
95.1 ± 8.2	42.5 ± 12.5