

Aggregation Characteristics of Porcine Hepatocytes and Hepatic Stellate cells in Suspension Co-culture

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Abstract

There are many investigations concerning improvement of hepatocyte function and survival that cultured in vitro. These attempts include use of cytokines, growth factors and other medium supplements. However, one of the most promising techniques in retaining of hepatocyte functions and viability is co-culturing with nonparenchymal liver cells such as sinusoidal endothelial cells, bile duct epithelial cells and hepatic stellate cells. Hepatic stellate cells (HSCs) are nonparenchymal cells with stellate morphology present in the perisinusoidal space of Disse and contain vitamin A-rich lipid droplets.¹⁾ When hepatocytes co-cultured with HSCs, hepatocytes expressed improved liver-specific functions like albumin secretion.²⁾ In this study, primary pig hepatocytes were suspension co-cultured with pig HSCs to investigate aggregation characteristics between the two cell types. Spheroid formation efficiency of hepatocytes and HSCs was measured and functional activities of the co-spheroids were compared with those of pure hepatocyte spheroids.

References

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