Abstract

Robustness of 2D and 3D Culture Systems

Hepatocytes were cultured on 2D and 3D as previously described. Following the initial 3-day incubation period of cell viability and CYP activity, some compounds were replaced with fresh media through the entire culturing period. Assays were performed regularly to track any potential changes in CYP activity or cell viability.

From the results in Figure 4 it can be seen that CYP activity for 2D cultured cells containing 800 nM camptothecin decreases beginning by the third day of monitoring and continues to decrease until the end of the 10-day monitoring period. This is in contrast to 3D cultured hepatocytes, which sustained constant CYP activity levels through the entire monitoring period. Figure 5 demonstrates that cell viability is lower during the 14-day monitoring period for the 2D cultured cells. These findings demonstrate that the RAFT system is more robust over extended culturing periods and that cell viability and viability are more consistent within the culture system.

Materials and Methods

Kinetics of Early Cytotoxicity Markers

Hepatocytes cultured on 2D and 3D were monitored over a 10 day period for signs of cytotoxicity. Following the initial 3-day incubation period of cell viability and CYP activity, some compounds were replaced with fresh media through the entire culturing period. Assays were performed regularly to track any potential changes in CYP activity or cell viability.

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