Cryopreserved Rat Hepatocytes Culture

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Primary cultured hepatocytes are considered an invaluable tool for the study of drug metabolism, toxicity and enzyme induction. Unlike immortal transformed hepatic cell lines, freshly isolated hepatocytes are able to retain liver specific functions, such as the detoxification of blood, and the synthesis of transport protein such as lipoprotein, albumin and transferrin[1]. Historically, primary hepatocytes have exhibited a limited replicating life span with loss of their functions.

Cryopreservation, if successful, would greatly increase the utility of primary cultured hepatocytes from human and the model animals such as rat and pig[2].

The hepatocytes isolated from a rat were cryopreserved with various concentrations of the cryopretectants: DMSO, glycerol and FBS. The cryopreserved hepatocytes retained metabolic activity similar to fresh hepatocytes. This result shows the strong possibility of lont-term hepatocyte cryopreservation maintaining their functions.

References

1. T.B. Darr and A. Hubel (1997), Freezing characteristics of isolated pig and human hepatocytes, *Cell Transplantation* **6**(2), 173-183.
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