

Yuan Qi,

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Title: Performance of cold-preserved rat liver Microorgans as the biological component of a simplified prototype model of bioartificial liver.

Reviewer's code: 00051373.

We are very grateful for all the comments which helped us to improve this manuscript.

Once again, thanks you very much for your attention, sincerely

Dr. Mar á Eugenia Mamprin

Answer and commentaries to Reviewer:

“This is an in vitro study for demonstration of the bio-artificial liver with detoxification. An interesting study for research design and innovation of the device. One comment here, the major course of death by the liver failure is coagulopathy and hepatic jaundice. The readers would like to look the result of the conjugation of the bilirubin and the improvement of the prothrombin time from the bio-artificial liver system at the future.”

Your suggestion is important and we have included in the Discussion section the following paragraph:

As future prospects, these results encourage us to study other important liver functions, as transcription of albumin and clotting factors during reperfusion and several key clinical parameters of acute liver failure, including intracranial pressure, blood clotting function and bilirubin conjugation.

Also, we added 2 new references

Selden C, Spearman CW, Kahn D, Miller M, Figaji A, Erro E, Bundy J, Massie I, Chalmers SA, Arendse H, Gautier A, Sharratt P, Fuller B, Hodgson H. Evaluation

of encapsulated liver cell spheroids in a fluidised-bed bioartificial liver for treatment of ischaemic acute liver failure in pigs in a translational setting. *PLoS One*. 2013;**8**:e82312. [PMID: 24367515 DOI: 10.1371/journal.pone.0082312]

Hochleitner B, Hengster P, Bucher H, Ladurner R, Schneeberger S, Krismer A, Kleinsasser A, Barnas U, Klima G, Margreiter R. Significant survival prolongation in pigs with fulminant hepatic failure treated with a novel microgravity-based bioartificial liver. *Artif Organs*. 2006;**30**:906-14. [PMID: 17181831 DOI: 10.1111/j.1525-1594.2006.00323.x]