Reviewer's report

Title: Therapeutic potential of placental mesenchymal stem cells after transplantation through portal vein into Chinese miniature pigs with acute liver failure

Version: 2 Date: 20 February 2012

Reviewer: Tamara Vanhaecke

Reviewer's report:

Major revisions:

- in order to further characterize the hPMSC-obtained hepatocyte-like cells, the authors have, as requested by both reviewers, additionally investigated LDL uptake, glycogen storage, urea synthesis and CYP3A4 activity. However, the measured values are compared versus HepG2 cells, which are hepatoma cells and thus not normal primary human hepatocytes at all. The levels for e.g. CYP3A4 activity they find for the hPMSC-obtained hepatocyte-like cells are even significantly lower than the HepG2 values, which exhibit several magnitudes lower activity compared to normal primary human hepatocytes. Therefore, the only good reference that should be used here are primary human hepatocytes and thus values of the latter for all extra activity measurements performed should be included so that the reader does not get the false impression that 'fully functional' hepatocytes were obtained out of the hPMSC! Also in the discussion section this huge difference in activity level should be discussed.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests