Reviewer's report

**Title:** Co-culture of primary human tumor hepatocytes from patients with hepatocellular carcinoma with autologous peripheral blood mononuclear cells: Study of their in vitro immunological interactions.

**Version:** 1 **Date:** 14 August 2012

**Reviewer:** Svenja Sydor

**Reviewer's report:**

The manuscript of Doumba et al. deals with the establishment of a functional cell culture system of primary human tumorous hepatocytes and non-tumorous hepatocytes from patients suffering from HCC (hepatocellular carcinoma). Immune response plays a crucial role within the development and progression of HCC and many studies suggest that HCC-patients show up a defective or ineffective immune response thus promoting HCC progression. In the first experiments the authors evaluated metabolic functionality by e.g. albumin expression and the purity of the isolated cells by cell sorting analyses. To analyze cell-to-cell interactions and to evaluate the role of immune response mechanisms within different HCC derived cells the authors designed different co-culture systems including tumorous and non-tumorous hepatocytes as well as peripheral blood mononuclear cells (PBMCs).

In this study resected liver tissues as well as blood samples from 11 patients were used to obtain different hepatocytes and PBMCs. Co-culture experiments could show effective immune response against HCC-derived cells but this response was lower in tumorous cells compared to non-tumorous hepatocytes.

This work shows a clear and well organized structure with adequate and well established experiments and methods. Although the results did not always show up statistical significance the differences between the individual groups exhibited obvious tendencies. This might be due to the small study group of only 11 patients. In this case additional cell preparations from further patients could improve this work.

**Minor comment:**

The shown graphs do not depict standard deviation (SD) as described in methods passage. The authors should check this issue and complete their graphical illustration with this information.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.