Reviewer's report

**Title:** Therapy with un-engineered naive rat umbilical cord matrix stem cells markedly inhibits growth of murine lung adenocarcinoma

**Version:** 1  **Date:** 7 November 2009

**Reviewer:** FengMing Luo

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Maurya, et al. investigated the efficacy of an anti-cancer effect of rat umbilical cord matrix stem cells (UCMSCs) on lung cancer. They found that UCMSCs can inhibit the growth of LLC in vivo and in vitro. The results is interesting. However, several question should be considered in this study.

**Major Compulsory Revisions**

1. How did the lung be prepared and how did the weight of the lung be measured? As showed in figure 7, there are so many red blood cells in the lung and this will affect the weight of the lung.
2. Does the LLC have effect on the growth of UCMSCs? If that is the case, the results of direct co-culture should not be explained by the effect of UCMSC on LLC.
3. Why were UCMSCs mixed with unlabeled UCMSCs so that 20% of the UCMSCs were labeled with SP-Dil? Is it possible to use UCMSCs all with SP-Dil labeled?

**Minor Essential Revisions**

1. As showed in the last figure, a little bit UCSMCs can be detected within lung cancer. In vitro results showed the ration of cancer cells to UCSMC less than 1:10 has no effect on the growth of LLC. The author should explain this in discussion.
2. TUNEL and other methods should be applied to detect the apoptosis in vitro or in vivo in this study.

**Discretionary Revisions**

No.

**Level of interest:** An article of importance in its field

**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'