Reviewer's report

Title: Analysis of cell cycle-related proteins in gastric intramucosal differentiated-type cancers based on mucin phenotypes: a new concept of molecular carcinogenesis for early differentiated-type gastric cancers

Version: 1 Date: 30 November 2009

Reviewer: Shuho Semba

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The analysis of cell cycle-related proteins in gastric intramucosal differentiated-type cancers based on mucin phenotypes: a new concept of molecular carcinogenesis for early differentiated-type gastric cancers (Sugai et al.) In this study, the authors investigated expression patterns of cell cycle-related proteins in the early phase of differentiated-type gastric cancers removed by ESD. The concept of this study seems good and the results are well arranged. However, the reviewer recommends to re-prepare the manuscript along with the points below.

1. The authors subclassified the gastric cancers analyzed according to the expression patterns of the mucins. However, the Cdx2 status should be included into the decision of these mucin phenotypes because Cdx2 plays an important role for intestinal differentiation of gastric epithelia. For example, tumors showing Cdx2+/CD10+/MUC2+ will be regarded as the intestinal-type gastric cancers and tumors showing Cdx2-/MUC5AC+/MUC6+ will be included into the gastric-type gastric cancers.

2. The figures need major modification. Prepare these figures in higher resolution (figure 1 and 3) with the scale bars. And, in figure 2, the results are difficult to understand. The results of up- and down-regulation of p27 protein are overlapped? Figure 4 should be re-arranged for better understanding.

3. The descriptions in the results section are long and pointless. The percentages of the immunohistochemistry are shown in figure 2.

4. The authors did not mention about the genetic background of these early gastric cancers. Hasuo et al. examined the status of microsatellite instability to assess the risk of recurrence of gastric cancer after initial ESD (Br J Cancer 96: 89-94, 2007). The authors need to discuss about this point.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the
statistics.

Declaration of competing interests:

I declare that I have no competing interests.