Reviewer's report

**Title:** Epigenetic mechanisms involved in differential MDR1 mRNA expression between gastric and colon cancer cell lines and rationales for clinical chemotherapy

**Version:** 2  **Date:** 28 March 2008

**Reviewer:** Masakazu Yashiro

**Reviewer's report:**

Major Compulsory Revisions
The authors have not answered our points sufficiently. This paper is not recommended for publication in this form.

Major Comments:
Authors’ reply is insufficient for request. Authors show few additional data. While the revised manuscript is improved, its conclusions are speculative and not supported by the experiments shown.

Minor Comments:

1. Determined quantity of PgP protein in cancer cells and its correlation with expression mRNA of MDR1 might be required, because results of isotopic PCR are different from real-time RT-PCR.
2. Examination of methylation status by bisulfite treatment is necessary. Direct sequencing of promoter region with or without bisulfite treatment might be useful to examine the methylation status at in gastric and colon cancer cell lines.
3. In inhibition assay using 5-AC and TSA, functional effect of them should be clarified for example, in chemo-sensitivity assay or Pgp protein expression assay.
4. If authors insist on rationale of clinical chemotherapy described in title and as they also described in discussion, they should examine effect of other drugs commonly used for gastric and colon cancer such as 5-FU, irinotecan, and oxaliplatin.