Reviewer's report

Title: The role of prostaglandin E2 (PGE2) in toll-like receptor 4 (TLR4)-mediated colitis-associated neoplasia

Version: 1 Date: 26 February 2010

Reviewer: Naofumi Mukaida

Reviewer's report:

Major comment
There are numerous reports, which indicate the indispensable roles of COX-2-mediated prostaglandin E2 in colon carcinogenesis. The authors demonstrated that COX-2 is present downstream TLR-4. Thus, the data in the present paper seems to be confirmatory. The authors also tried to elucidate the molecular mechanisms underlying prostaglandin E2-induced acceleration of colon carcinogenesis. Low dose of prostaglandin increased the amount of amphiregulin and phosphorylated EGF receptor without enhancing cell proliferation. Thus, it is unlikely that amphiregulin and EGF receptor system can be involved in prostaglandin E2-induced acceleration of colon carcinogenesis. Thus, the authors are encouraged to provide mechanistic insights on the effects of prostaglandin E2.

Specific comments
#1. Table 1. Tumor incidence in WT mice was calculated as 92.3 %, although the authors used only 7 WT mice. The calculation seems to be wrong. The range of percentage of mucosal surface with tumor is 1-40 and 1-5, in WT and PBS-treated TLR4 KO mice, respectively. However, the incidence of these two groups is not 100 %. Thus, the lower range of these two groups should be 0.
#2. Figure 3 B and C. The authors should describe the dose of prostaglandin E2 used in these experiments. In Fig. 3C, 15-d-PGJ2 levels should be compared with untreated group.
#3. Figure 6A. The used dose of prostaglandin E2 should be described.

Level of interest: An article of limited interest

Quality of written English: Acceptable

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