Reviewer's report

Title: Biomarkers can predict potential clinical responders to DIMS0150 a Toll-Like Receptor 9 agonist in ulcerative colitis patients

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Reviewer: mojgan mohammadi

Reviewer's report:

The authors of the study have analyzed potential clinical responders to DIMS0150 in UC patients. The study is well designed, written and performed. In over all the study provides interesting information with regard to possible role of TLR-9 agonist namely DIMS0150 in steroid refractory UC patients.

Overall, this manuscript needs some revisions:

• Methods of abstract don’t present any explanation about methods’ section of manuscript.

• I recommend the authors to minimize the introduction because it is too long.

• In Blood collection and PBMC isolation and stimulation section of manuscript, Authors have mentioned that "cell stimulated for 48hrs with 4 DIMS0150 (25µM or 100µM) in the presence or absence of Dexamethasone (10^-6, 10^-8, 10^-10 M)". There is not any explanation about why researchers have specifically chosen Dexamethasone from various other glucocorticosteroid? Additionally, there is not any explanation about why they employed Dexamethasone in the specific concentration such as 10^-6, 10^-8, 10^-10 M in the cell culture assay?

• There are not any details about method of data analysis for SYBRGreen qPCR. For example did authors employ 2-##CT method for studying of mRNA expression? The authors should explain about that.

• In a good design qPCR study, a panel of candidate house-keeping genes should be chosen and tested by real-time RT-PCR to make sure about absence of fluctuation in the gene expression before employing them as a reference gene. Authors must declare their data regarding to constant expression of #-actin in stimulated and non-stimulated PBMCs, otherwise they are not eligible to use this gene for normalization in their gene expression assay.

• Recent studies implicated that TLR9 (#1237T/C) polymorphism has influence in the development of IBD. I think authors should consider the importance of steroid refractory UC patients' genotype for TLR9 (#1237T/C) polymorphism to make sure about their interpretations before any further clinical trials.

• Additionally, I found MDR-1 gene in table 3 of the manuscript, as List of steroid response genes screened in biomarker assay. As far as I know, there are many reports about association of MDR-1 gene polymorphisms with UC in different
ethnic groups. If it is possible, I recommend the authors to determine steroid refractory UC patients' genotype for C3435T MDR-1 polymorphism to make sure about influence of genetic variations in response to DIMS0150.