Reviewer's report

**Title:** Variable NF-kappa B pathway responses in colon cancer cells treated with chemotherapeutic drugs

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**Reviewer:** Mehdi Shakibaeei

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Title: “Variable NF-kB pathway responses in colon cancer cells treated with chemotherapeutic drugs”

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Summary:

Colon cancer cells respond variable to chemotherapy or radiation therapy and active NF-kB is thought to be the main mediator for tumor resistance. The aim of the presented study was to investigate which anti-cancer drugs activate NF-kB in colon cancer cells SW480, HCT116 wild type and HCT116 p53-/-.. Evaluation was performed with Luciferase assay on NF-kB reporter cells, Cytokine assays and RT-PCR for cytokines and Cytokines receptors. Results demonstrate variable response to different therapeutics in different cell types.

Comments:

A very brief study on the activation of NF-kB in different colon cancer cells by various chemotherapeutic drugs. Overall the study lacks mechanistic insights on NF-kB signalling pathway activation through the different chemotherapeutics used. For example important questions such as which receptors and signalling molecules are involved and which are the key regulators should be addressed in detail. Further, it appears the manuscript is very superficial and in this lacks novelty and requires substantial additional attention regarding the experimental setup.

1: Figure 2 and 3: Different response of NF-kB to different drug stimuli and in different cell types it not a novel finding and is described several times in the literature.

2: Figure 4: Why was only CPT influence on NF-kB nuclear translocation evaluated? All cell lines and all drugs used in the study should have been investigated.

3: Figure 5 and 6: Why are only results for CPT treatment shown here? Results for all evaluated drugs should be shown.

4: Figure 7: Cells NCL-60 and SW620 are mentioned now for the first time. Why are they now evaluated? Please add to Materials and Methods and give good reasons for performing these experiments now with different cells then the ones
used in the preceding experiments.

5: The Discussion is full of unasked questions which could very nicely have been evaluated for this paper to elucidate the mechanistics of the NF-κB signalling pathway in response to various chemotherapeutics in different colon cancer cells.

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.

Declaration of competing interests:

No, I have not competing interest.