Author’s response to reviews

Title: Essential oil of pinus koraiensis leaves inhibits cell proliferation and migration via inhibition of p21-activated kinase 1 pathway in HCT116 colorectal cancer cells.

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Reviewer’s Report:

Major Compulsory Revisions

1. Experimentally, the effect of EOPK was shown on colorectal cancer cells, however there is not a control cell line included. It would be useful to show the cytotoxic effect of EOPK on non-tumor cells such as normal colon epithelial cells or maybe fibroblasts.

2. Discussion part needs to be improved. Obtained data must be discussed more throughputly. For example, is there a synergy between PAK-1 siRNA and EOPK and what might be the underlying mechanisms? A figure might be added to Show the interactions of key factors in signaling pathways.

Minor Essential Revisions:

1. Manuscript needs to be carefully revised and corrected in terms of language and grammar.

2. Abstract needs to be written in more coherent manner to reflect the findings of the paper more precisely.

3. In methods, Cell growth assay part needs to written using passive sentences.

Discretionary Revisions

1. Authors may show the degree of apoptosis using simple giemsa stainig or appropriate kits in cancer cells after treatment with EOPK.

2. The authors may demonstrate the cytotoxic effect of EOPK on cancer cells in short term culture (2 days) in addition to long term (5 day) culture.

Reviewer’s Report : 2
Comments:

1. In background section, authors should add some details about the study on genotoxicity and biological activity of EOPK with applied doses and cell lines for the comparison purposes (On the page 6, last paragraph).

2. According to in my opinion all data should be able to repeated. On light of this point authors should be explain content of EOPK and collected time of Pinus koraiensis leaves on the material and methods section (page 7-preparation of EOPK). Because season always effect to content of the essential oils. Changing in the content also effects biological activity of essential oils.

3. The cells used in each experiment should be specified in the material and methods section (siRNA transfection, wound healing, cell growth assay). Why did the authors choose the HCT116 cells specifically for cell cycle assay and proliferation assay?

4. It can be used a positive control which drugs is used to treatment of colorectal cancer for all experiment to improvement of discussion. Or author should report the literature reference to which is referred the capacity of the drug in inhibiting cell proliferation and apoptosis on colorectal cancer.

5. Additionally, a successful anticancer drug should kill or incapacitate cancer cells without causing excessive damage to normal cells. As the main aim of chemotherapy is the destruction of tumour cells without any undue influence on proper cells. It should be applied all of concentrations of EOPK on healthy cells.

6. Recent results which is published papers in should be mentioned and commented in discussion.