The authors conducted a study to investigate the mechanisms of differential regulation of MMPs by E2F1, Sp1 and NF-κB in small cell lung cancer. Overexpression of E2F1 was found in small cell lung cancer, instead of adenocarcinoma or squamous cell carcinoma. They concluded that E2F1 acts as an activator for MMPs by directly binding to the E2F1 sequence or through Sp1 and/or NF-κB.

Generally, the rationale of the study and the design of the experiment are acceptable. I have some suggestions for the authors:

1. The number (70) of small cell lung cancer specimens used in the study is relatively small.
2. In the results of “E2F1 was an independent and adverse prognostic factor for SCLC patients” (P. 10), the authors may provide details of the association between E2F1 lower, moderate, and higher expression and clinicopathological variables. Since 67 of 70 of small cell lung cancer showed E2F1 expression, the details of the significant association between E2F1 and clinical stage should be shown. In multivariate analysis, “E2F1 proved to be an independent and adverse prognosis factor in SCLC” should be revised as “higher E2F1 expression proved to be an independent and adverse prognostic factor in SCLC”.
3. In Figure 3, invasion and migration assay were only performed in E2F1 knockdown cell lines. The authors may use a cell line with low E2F1 expression (eg. A549) to enforce E2F1 expression and repeat invasion and migration assay.
4. In the results of “E2F1 significantly inhibited the expression of MMP-9 and -16 in SCLC” (P. 11), the title should be “E2F1 knockdown significantly inhibited the expression of MMP-9 and -16 in SCLC” according to the results.

In Figure 4B, present the MMP-3, 7, 9, 14, 15, 16 results of western blotting in the same column according to each cell line will make readers more easily to understand.
5. In Figure 6, present 6B in horizontal direction will make readers more easily to understand.
6. In “E2F1 modulated Sp1 and p65 expressions in SCLC cells” (P. 13 and Figure 7), present the IHC results of association between MMP-9, Sp-1, p65 and E2F1 expression will be helpful to demonstrate their relationship in small cell lung cancer specimens.
7. In Figure 7, present 7C in horizontal direction will make readers more easily to understand.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.