Reviewer’s report

Title: Loss of the NKX3.1 tumorsuppressor promotes the TMPRSS2-ERG fusion gene expression in prostate cancer

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Reviewer: Partha Banerjee

Reviewer’s report:

The major goal of the manuscript entitled “Loss of the NKX3.1 tumorsuppressor promotes the TMPRSS2-ERG fusion gene expression in prostate cancer” by Thangapazham et al., is to demonstrate that there is a conserved regulatory element present for NKX3.1 at the TMPRSS2 promoter. Binding of NKX3.1 to this site represses the TMPRSS2-ERG fusion gene expression. This study shows for the first time and links a frequently observed loss of NKX3.1 with the activation of ERG protooncogene as a potential mechanism of prostate carcinogenesis. The manuscript is very well written with strong data supporting authors hypothesis.

Minor comments:

1. There are 10 figures and 6 figure legends. Figures are not appropriately marked. The authors should mark figures as described in the result section.

2. Authors should provide details of how statistical analyses were done, including numbers of experiments and with method was used. ‘*’ to show the significance level in the figures.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

No