Reviewer’s report

Title: Chromosome 9p copy number gains involving PD-L1 are associated with a specific proliferation and immune-modulating gene expression program active across major cancer types

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Reviewer: Lynette Marie Sholl

Reviewer’s report:

This is a succinct manuscript describing the gene expression changes associated with 9p gain across human tumors, using data derived from publicly available TCGA databases. The text is well written and the references are generally appropriate.

Two comments:

The minimum or common size of the amplicon containing PD-L1 should be described. It is unusual to find pure PD-L1 amplification- for instance even in Hodgkins the PD-L1 amplification is almost always accompanied by PD-L2 amplification (Roemer et al JCO 2016). A schematic showing the regions of gain (or loss) in the cases included in the analysis would we informative for the reader.

While reference 4 suggests that identification of PD-L1 gain can be used to select patients for immunotherapy, the phrasing in the discussion along these lines is overstated. The reference provides a single case report with multiple confounding variables including high mutation rate and a variety of other significant genomic aberrations. the PD-L1 status may contribute to the efficacy of pembro in this patient, but an n=1 does not support the contention that amplification should be used to select patients for therapy.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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Please indicate the quality of language in the manuscript:

Acceptable

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