Reviewer’s report

Title: Somatic loss of function mutations in neurofibromin 1 and MYC associated factor X genes identified by exome-wide sequencing in a wild-type GIST case

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Reviewer: Shiva Keshava

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The manuscript titled "Somatic loss of function mutation in neurofibromin 1 and MYC associated factor X genes identified by exome-wide sequencing in a wild-type GIST case" by Martin G Belinsky et al., presents a case study of gastrointestinal stromal tumors (GISTs) which is SDH-intact wild type GIST with inactivating neurofibromatosis type I (NF1) mutation as well as somatic loss of functional mutation in the MYC-associated factor X (MAX) gene. The authors have employed whole exome sequencing for the purpose and confirmed the mutations by Sanger sequencing analysis. The authors suggest that inactivating NF1 mutations outside the context of neurofibromatosis may be the oncogenic mechanism for this rare and sporadic subset of GIST combined with the loss of function of MAX gene. The authors evaluated the status of MAX protein by immunohistochemistry but fail to present the same data for NF1 protein. A simple immunohistochemical analysis of NF1 protein status in the tumors isolated in the case study as well as the other cases (as evaluated for MAX protein), not only strengthen their claim but also will give more insights into possible mechanisms involved in the onset of this category of tumors.

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?
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Yes

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