Author's response to reviews

Title: Altered PPP2R2A and Cyclin D1 expression defines a subgroup of aggressive luminal-like breast cancer

Authors:

Francisco Beca (francisco_debeca@dfci.harvard.edu)
Miguel Pereira (miguelmspereira@gmail.com)
Jorge F Cameselle-Teijeiro (videoprimaria@mundo-r.com)
Diana Martins (dmartins@ibmc.up.pt)
Fernando Schmitt (fschmitt@ipatimup.pt)

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Dear Editor,

We would like to submit our paper entitled “Altered PPP2R2A and Cyclin D1 expression defines a subgroup of aggressive luminal-like breast cancer” by Beca F et al. to BMC Cancer.

PPP2R2A has been forwarded as a tumor suppressor gene. However its role in breast cancer is largely unexplored. Recently in a study by Curtis,C. et al (Nature;2012) PPP2R2A deletions were linked to a subgroup of luminal breast carcinoma (BC) that exhibited poor survival. In the same paper, this subgroup of BC (Integrative Cluster 2) was also linked to an amplicon involving CCND1.

In this paper, using TCGA data, we confirmed the association of copy number alterations in PPP2R2A (deletions) with worse survival and correlated with PPP2R2A mRNA expression data. Next, we investigated and show in a total of 807 BC patients from two independent cohorts (discovery cohort n=349 and validation cohort n=458) that altered PPP2R2A expression by IHC is associated with worse clinical outcomes. Furthermore we show that the phenotype is PPP2R2A (B55#/low)/Cyclin D1high is independently associated with DFS in luminal-like BC and thus provide one of the first indications for the clinical relevance of this phenotype in human BC.

Finally, we would like to state that this is an original study that has been only partially presented at the United States and Canadian Academy of Pathology 103rd Annual Meeting, and as you are probably aware has been suggested to be transferred from Breast Cancer Research to BMC Cancer.

We sincerely believe this study will be of great interest to your readers.

Thank you very much for your attention.
Looking forward to hearing from you,

Sincerely yours

Fernando Schmitt, MD, PhD, FIAC.

Department of Pathology and Medicine, Laboratorie National de Sante, Luxembourg

Address: Laboratorie National de Sante. 1, rue Louis Reche, L-3555, Dudelange, Luxembourg

Email: fschmitt@ipatimup.pt