Reviewer’s report

Title: A new molecular breast cancer subclass defined from a large scale real-time quantitative RT-PCR study

Version: 1 Date: 1 December 2006

Reviewer: Alessandro Weisz

Reviewer’s report:

General
This study reports an attempt to define molecular signatures, which may represent, and thus help identify, breast tumor subtypes characterized by distinct clinical behavior. To this end the A.s selected 47 genes on the basis of pre-defined parameters, including in particular their potential implication in sensitivity of breast cancer to ovarian hormones, and performed qPCR analysis of their expression profile in 199 primary breast tumor and 6 normal breast tissue samples. Unsupervised hierarchical clustering of the resulting data allowed definition of 13 sub-groups of tumors, each characterized by distinct expression profiles of the selected gene set. Subsequent Chi2 statistical analysis led them to identification of genes differentially expressed in one or another of these sub-groups, representing indicative molecular signatures for each of them. The study addresses an important issue for clinical management of breast cancer, it is well conceived and it provides useful new information, worth disseminating.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
The criteria for selection of the gene set analyzed are not stated in sufficient detail, in particular concerning the parameters that guided in their selection and the relative bibliographic background. More important, how these findings provide a significant improvement with respect to what already described should be more clearly addressed and commented.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
None

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Discretionary Revisions (which the author can choose to ignore)
None

What next?: Accept after minor essential revisions

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

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests