Reviewer's report

Title: aB-crystallin is a marker of aggressive biologic behavior in patients with breast cancer but not a prognostic or predictive marker for taxane based therapy: A combined analysis of two randomized studies

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Reviewer: Vincent Cryns

Reviewer's report:

In their manuscript Koletsa and colleagues examined the expression of #B-crystallin in 940 breast cancer cases from two randomized clinical trials and analyzed its correlation with clinicopathological indices and survival. Overall, they confirmed findings from previous studies linking #B-crystallin expression to the triple-negative subtype of breast cancer and basal cytokeratin expression. They also demonstrated an association between #B-crystallin expression and Ki67 immunostaining, p53 expression and BRCA1 mutation. In addition, they showed that strong #B-crystallin expression was associated with poor overall survival in univariate, but not multivariate analyses, and not associated with taxane-response.

Although some of the observations are potentially interesting, the manuscript has several deficiencies in the experimental design. In particular,

1. The expression of #B-crystallin in breast tumors is quite heterogeneous and some tumors scored as negative based on the small TMA tumor specimens may have been positive if larger specimens were analyzed.

2. It would be important to also pool the strong and weak #B-crystallin positive cases and perform analyses comparing all positive versus negative cases.

3. The percentage of cases for #B-crystallin immunostaining in Table 2 adds up to greater than 100%.

In addition, the following issues should be addressed:

1. The a in #B-crystallin should be in symbol font “alpha” throughout.

2. HspB2, but not #B-crystallin, has be shown to inhibit procaspase-8 and -10 activation. This is stated incorrectly in the Introduction.

3. There are numerous grammatical errors in the text that should be corrected.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being
published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

No competing interests to declare