

# Review of: "[Mini Review] Cytobiological Alterations Induced by Celecoxib as an Anticancer Agent for Breast and Metastatic Breast Cancer"

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Potential competing interests: No potential competing interests to declare.

I think that this review is very useful to understand the mechanisms involved in the progression of breast cancer and the inhibitory effects of celecoxib on them, which make it a possible therapeutic drug for this illness. I have some suggestions to improve the manuscript:

- I recommend you to revise the breast cancer molecular classification. You state three subtypes: hormone receptor-positive, HER2-positive and triple-negative breast cancer. However, the most accepted classification, including that one mentioned in the review cited by you, is: Luminal A, Luminal B, HER2-enriched and triple-negative. Both luminal subtypes are hormone receptor-positive, but luminal B may also be HER2-positive, so it is not correct to divide them in the groups "hormone receptor-positive" and "HER2-positive". Then, there is the HER2-**enriched** subtype, characterized by an **overexpression** of HER2 receptor and the lack the expression of hormone receptors.
- Figure 1, 2 and 3 are very useful to understand the described processes, but I think that they should be cited and explained in the body of the text, apart from a small description in the legend, in place of be explained just in the legend.
- In Figure 2 it is written "EMT-STATE" and "MET-STATE" as they were the states of the mesenchymal-like CSC and the epithelial-like CSC respectively. However, EMT and MET are not **states**, but they are **transitions**. EMT is the cells' transition from the epithelial state to the mesenchymal state. And MET is the opposite process, the cells' transition from the mesenchymal state to the epithelial state.
- I suggest to make modifications in the titles to make the reading clearer. First, when you start talking about celecoxib, there should be a title introducing it. So I think that the 3<sup>rd</sup> main title should not be just Mechanism of Action, but It should mentioned celecoxib. Second, in the section titled **Metastasis Inhibition via MMP Regulation**, in the second and third paragraph you talk about the need to consider the possible adverse effects of celecoxib and about the clinical trials and observational studies conducted to evaluate its effectiveness in cancer treatment; it is not consistent with the title. You might put another title before taking about this issue.