Author's response to reviews

Title: Tubulin binding cofactor C (TBCC) suppresses tumor growth and enhances chemosensitivity in human breast cancer cells

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Author's response to reviews: see over
Dear Editor,

On behalf of my co-authors, I am enclosing here a manuscript entitled: “Tubulin binding cofactor C (TBCC) suppresses tumor growth and enhances chemosensitivity in human breast cancer cells” by Rouba Hage Sleiman, Stéphanie Herveau, Eva-Laure Matera, Jean-Fabien Laurier and Charles Dumontet for possible publication in BMC Cancer.

This work has not been published, and has not been submitted for publication elsewhere.

All co-authors of this manuscript have contributed significantly to this work and are in agreement with the content of the manuscript. All authors read and approved the final manuscript. We declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of this research report.

Microtubules are crucial structures for living cells as they are involved in many biological functions including cell motility, cell division, intracellular transport and cellular architecture. They are used nowadays as major therapeutic targets in patients with breast cancer. Tubulin binding cofactor C (TBCC) is crucial for the proper folding of α and β tubulins into heterodimers that form microtubules. This is the first study reporting an extensive investigation of the impact of tubulin binding cofactor C (TBCC) overexpression on the phenotype of breast cancer cells and their response to antimicrotubule agents. In our cell models, we observed that the alteration of tubulin pools and microtubule dynamics has profound consequences on cell cycle and tumor growth as well as on sensitivity to tubulin binding agents both in vivo and in vitro. In this study we showed that by modifying TBCC in breast cancer cells, we were able to sensitize them to paclitaxel and vinorelbine. This study
was also applied *in vivo* and showed similar phenotypes. The results underline the impact of fine tuned regulation of microtubule dynamics on tumor aggressivity and chemosensitivity. This study can be considered as part of many other studies that must be done in order to modulate microtubule dynamics to overcome resistance to antimicrotubule agents in patients with breast cancer.

I remain at your disposal should you require any further information and would like to appreciate your consideration.

Sincerely yours,

Rouba Hage Sleiman