Author's response to reviews

Title: Kinesin Eg5 inhibition by 3,4-dihydropyrimidin-2(1H)-one (or thione) derivatives impairs multiple tumorigenic properties inducing breast cancer cells to apoptosis

Authors:

Bruna C Guido (brunacguido@gmail.com)
Luciana M Ramos (lucianamramos@hotmail.com)
Diego O Nolasco (nolasco@mit.edu)
Catharine C Nobrega (catharine_carrara@hotmail.com)
Bárbara YG Andrade (barbarayasm@gmail.com)
Aline Pic-Taylor (alinepic@unb.br)
Brenno AD Neto (brenno.ipi@gmail.com)
Jose R Correa (correa@unb.br)

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Author's response to reviews: see over
Dear Dr. Dafne Solera

Executive Editor of BMC Cancer,

Please, find attached the manuscript “Kinesin Eg5 inhibition by 3,4-dihydropyrimidin-2(1H)-one (or thione) derivatives impairs multiple tumorigenic properties inducing breast cancer cells to apoptosis”, which we would like the editors to consider for publication in BMC Cancer.

The information in the submitted manuscript is original, and has neither been published nor submitted for publication elsewhere. All the authors are aware of the submission and agree to be listed as co-authors.

The manuscript is a research article and describes, for the first time, the biological validation of new synthetized DHPM derivatives against mammary adenocarcinoma cell lines. These compounds were effective against cancerous cells and showed very low toxicity towards normal cells. Our study aimed the identification and validation of molecular structures capable of impairing mitosis, to induce cell death, to change the cancer stem cell profile and, finally, to avoid neovascularization. Additionally, the manuscript sheds light on the mechanism of action of DHPM derivatives against Kinesin Eg5 at the molecular level, which is fundamental for the development of more efficient antitumor agents.

Due to the importance and impact of such findings, we believe this manuscript is of a broad audience interest and fits the requirements to be published in BMC Cancer.

Since these compounds were synthesized at the facilities of our university by a co-author, the manuscript has no similar references in the literature, which increases its significance to the academic community that aims the development of new cancer treatments.

Within the field of cellular and molecular biology, our approach of combining in vitro experiments and in silico assays leads the analysis to a trustable baseline, aggregating complementary technics in an effort to provide different levels of knowledge over the interactions between the studied molecules.

Best regards,
Bruna Cândido Guido; Luciana M. Ramos; Diego Oliveira Nolasco; Catarine Carrara Nobrega; Bárbara Yasmin Garcia Andrade; Aline Pic-Taylor; Brenno Amaro DaSilveira Neto; José Raimundo Corrêa.

José Raimundo Corrêa (corresponding author)

Phone: (+55) 61 31073122

Fax: (+55) 61 31073122

E-mail: correau@unb.br