Effect rBbKIm inhibitor on MDA-MB-231 human breast cancer cell line

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Introduction and objectives: Breast cancer is the second most common type in the world, is the most common among women, accounting for 22% of new cases each year. Protease inhibitors are capable of regulating apoptosis and the cell cycle. rBbKIm is the recombinant Bauhinia bauhiniooides kalikrein inhibitor that was modified to encompass the RGD/RGE motifs of the native inhibitor BrTI from Bauhinia rufa. rBbKI inhibited the metabolism of prostate cancer cell lines. This work reports the effect rBbKIm on MDA-MB-231 human breast cancer cellular line. Material and methods: MDA-MB-231 cells were treated with rBbKIm. Cell viability, migration and adhesion on collagen type I and IV by was evaluated by MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide), transwell, colorimetric assays, respectively. Results and conclusions: rBbKIm (100 µM), inhibited 50% of cell metabolism in 24h treatment. Cell migration was also inhibited by 55% when compared to the control. rBbKIm did not modify cell adhesion on collagen type I and IV. These results point out for the use of rBbKIm in subsequent studies in breast cancer.

Keyword: breast cancer; inhibitor; rBbKIm
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