In vitro activity of *Gossypium barbadense* L. crude extracts of leaves against fibroblasts and human mammary adenocarcinoma cells.

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**Introduction:** *Gossypium barbadense* L., commonly known as cotton, belongs to Malvaceae family and is popularly used for several purposes such as wound healing. This work’s aim is to test the aqueous, methanolic and hexanic crude extracts of *Gossypium barbadense* leaves activity against fibroblasts (3T3) and human mammary adenocarcinoma cells (MCF7).

**Experimental part:** *Gossypium barbadense* leaves were collected in medicinal garden of Faculdade de Farmácia of Universidade Federal de Juiz de Fora being dried at room temperature and separated in two parts. To obtain the extracts, one of the parts was successively extracted with hexane and methanol until exhaustion and the other was infused with water. Cytotoxic activity against 3T3 and MCF7 cells was tested by MTT method (Mossmam T. J. Immunol. Methods, v. 65, p. 55, 1983) in different extracts concentrations (40 µg/mL, 60 µg/mL, 80 µg/mL and 100 µg/mL) in hexaplicate. DMSO was used as positive control (0,5%). Results were analyzed by ANOVA with Tukey post-hoc test with significance level of p<0,05, and cell viability was calculated.

**Results/Discussion:** The aqueous and methanolic extracts significantly increased cell proliferation (p<0,001) for both strains tested in the most concentrations. The highlights for aqueous extract were 100 µg/mL (47,94%) for 3T3 and 60 µg/mL (80,53%) for MCF7, and for methanolic extract were 60 µg/mL (39,44%) for 3T3 and 80 µg/mL (93,83%) for MCF7. The hexanic extract significantly increased cell proliferation (p<0,001) of 3T3 at 40 µg/mL, and don't significantly interfered at the other concentrations and with MCF7 viability.

**Conclusion:** The extracts shown to be potential for isolation and purification of actives molecules for future tests for wound healing. The hexanric extract is the best candidate, once at the lowest concentration was capable to significantly interfere only with the proliferation of fibroblasts. None of the extracts show anticancer properties.

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**Figure 1.** Percentage of increase in 3T3 cell proliferation after treatment with crude extracts of *Gossypium barbadense*. *** - p<0,001 compared to control (DMSO – 0,5%).

**Figure 2.** Percentage of increase in MCF7 cell proliferation after treatment with crude extracts of *Gossypium barbadense*. ** - p<0,01 and *** - p<0,001 compared to control (DMSO – 0,5%).