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### **The biomechanical effect of tamoxifen treatment on the behavior of breast fibroblasts**

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For decades, breast cancer research has focused mainly on the epithelial cells, and their transformation into malignant tumours. However, increasing evidences highlight the role of the stroma in the development of cancer. Fibroblasts, which are the major cellular component in the stroma have been found to have a paramount influence on cancer progression, and there is a growing body of evidence pointing to their role in tumour progression. Tamoxifen is an anti-estrogen drug that has been used for many years to stop epithelial cancer cell proliferation in estrogen positive breast cancer women. Intriguingly, a recent clinical trial has shown that healthy women at risk of developing breast cancer treated with tamoxifen experienced a significant reduction in their mammography density and the risk of developing breast cancer. A reduction of the mammography density correlates with changes in the rigidity of the stroma. This work unravels the biomechanical effect of Tamoxifen treatment on the behavior of the main stromal cellular components: The fibroblasts.

#### **Biography**

Cortes Lopez obtained his degree from the City College of the City University of New York in February 2011. Since then, he has focused his professional interest on the study of the bi-directional communication of the tumor with the microenvironment. He uses biomechanical tools to explore how cells from the stromal cavity interact with the cancer cells to promote or trigger cancer development. He is a research assistant in the Cellular and Molecular Biomechanics group in the department of bioengineering at Imperial College London.

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