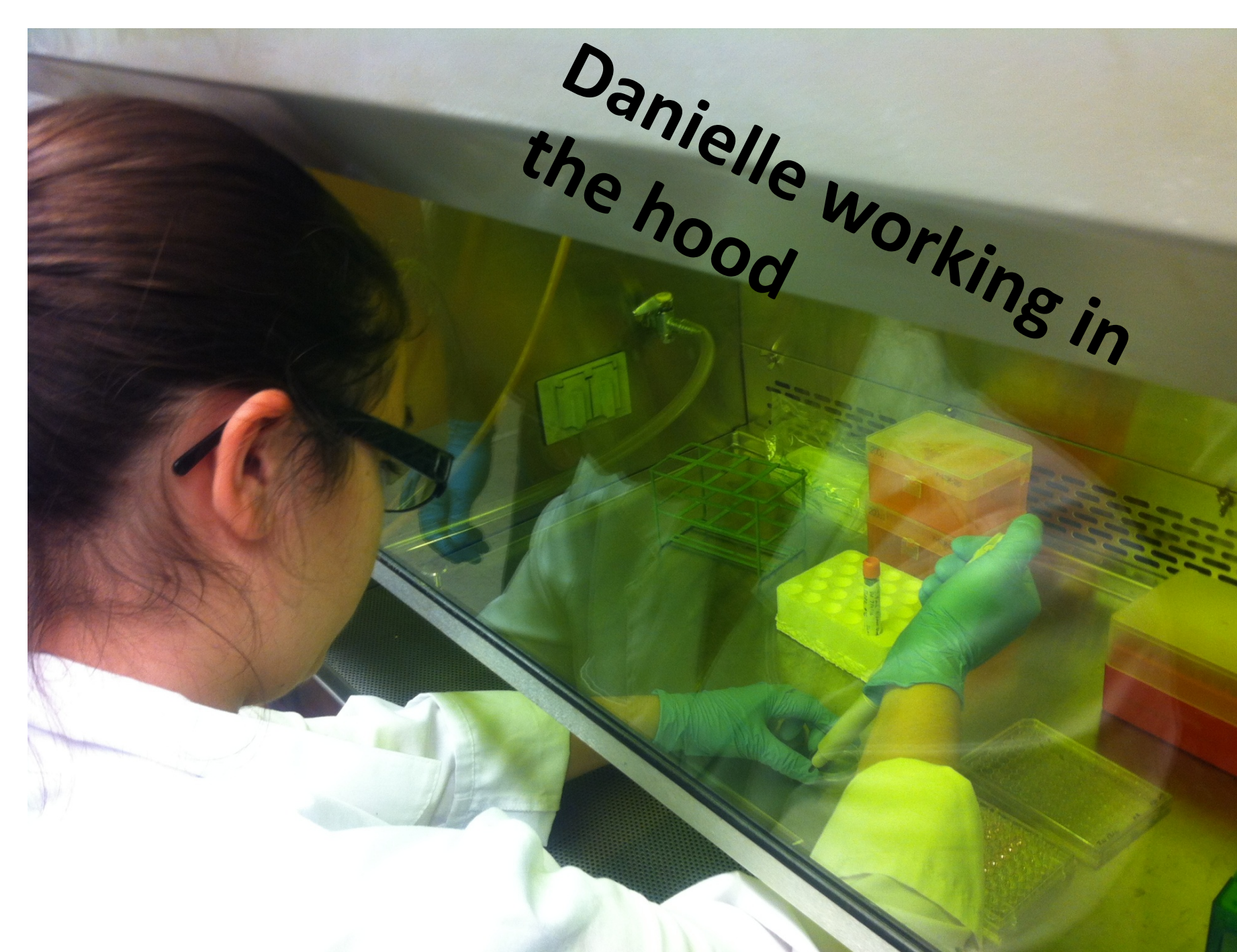
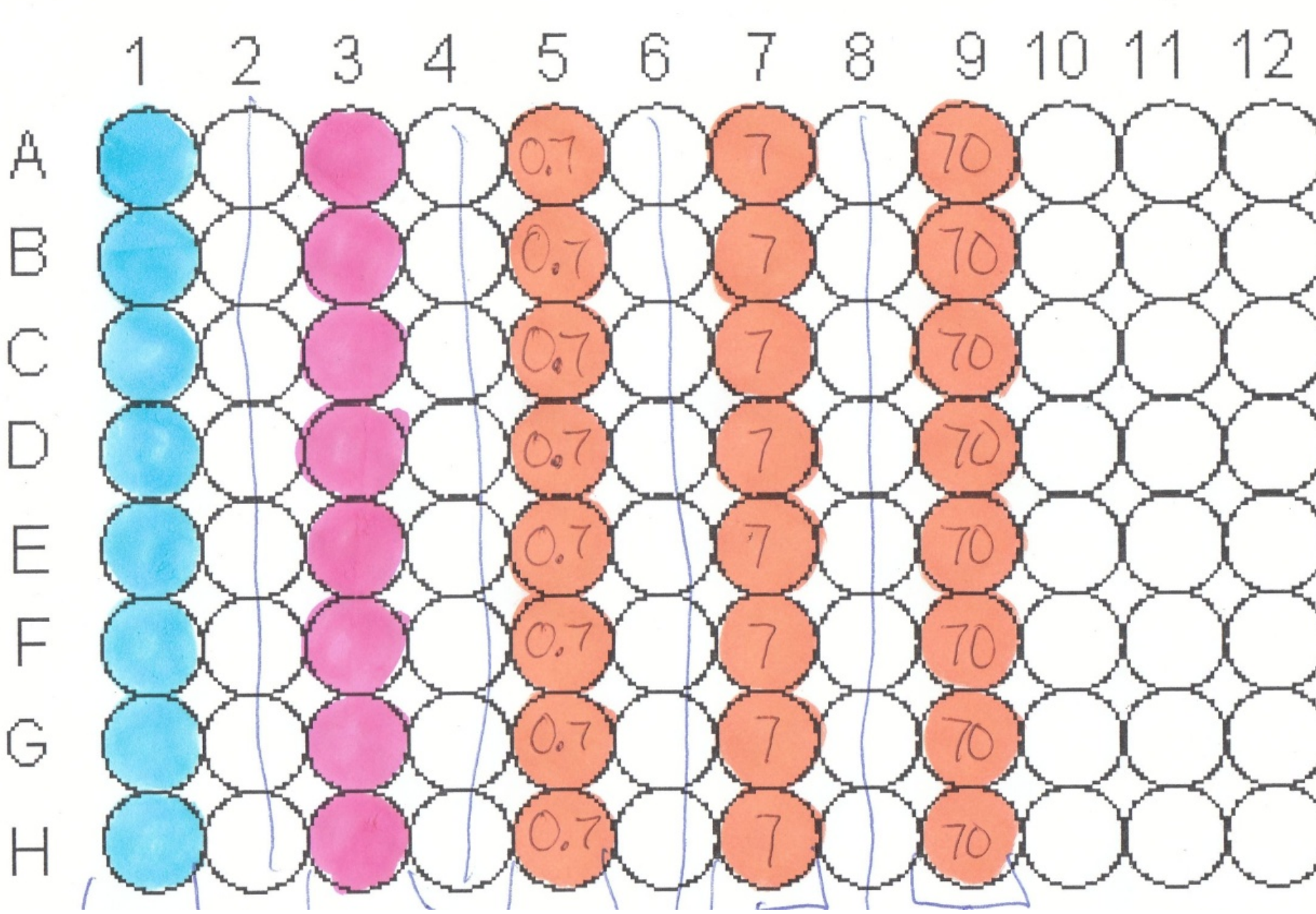
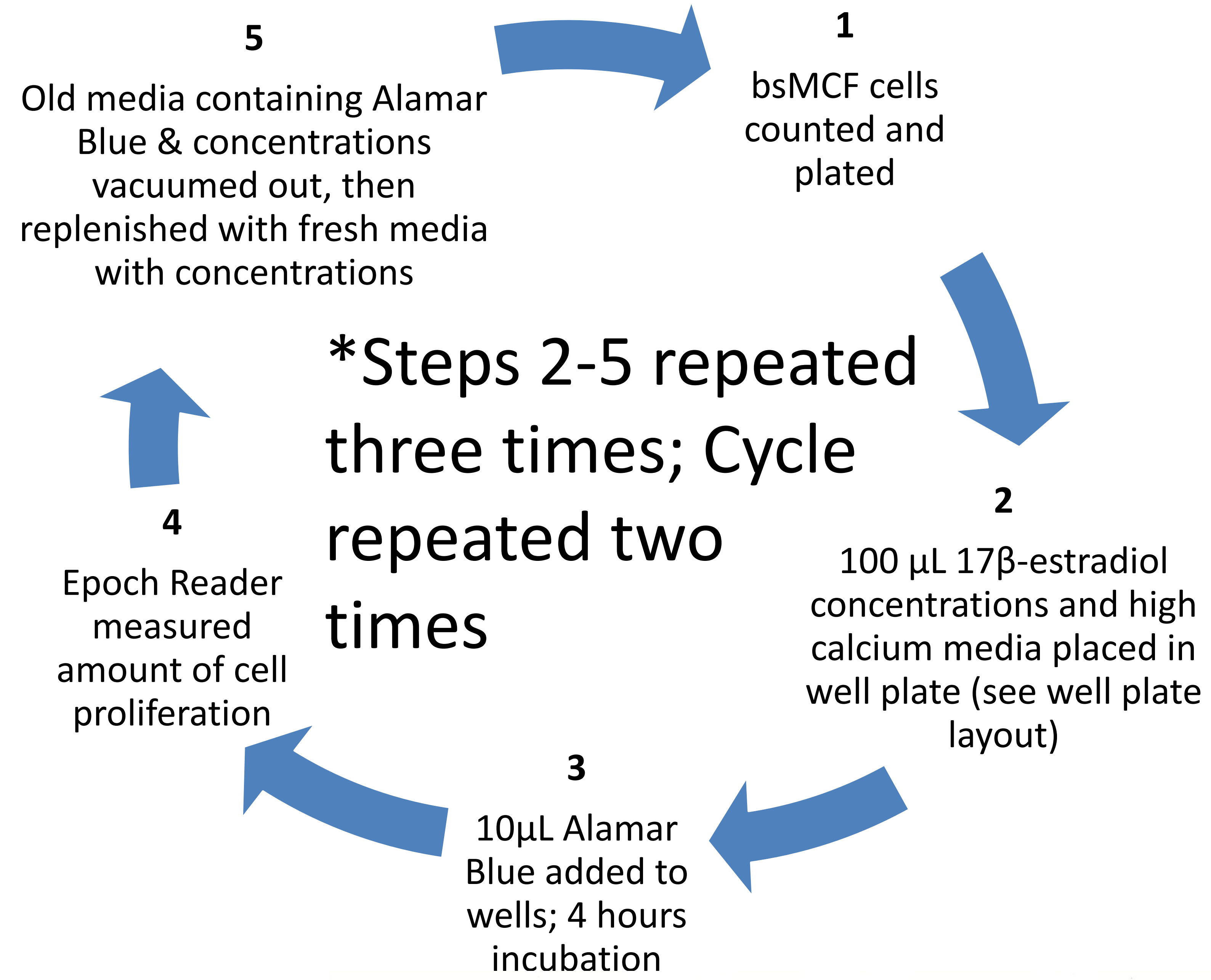


Danielle Ferstler, Maria Barton, Yubo Zhai, David Armiss, Jose Russo

Breast Cancer Research Laboratory, Fox Chase Cancer Center, Philadelphia, PA, 19111

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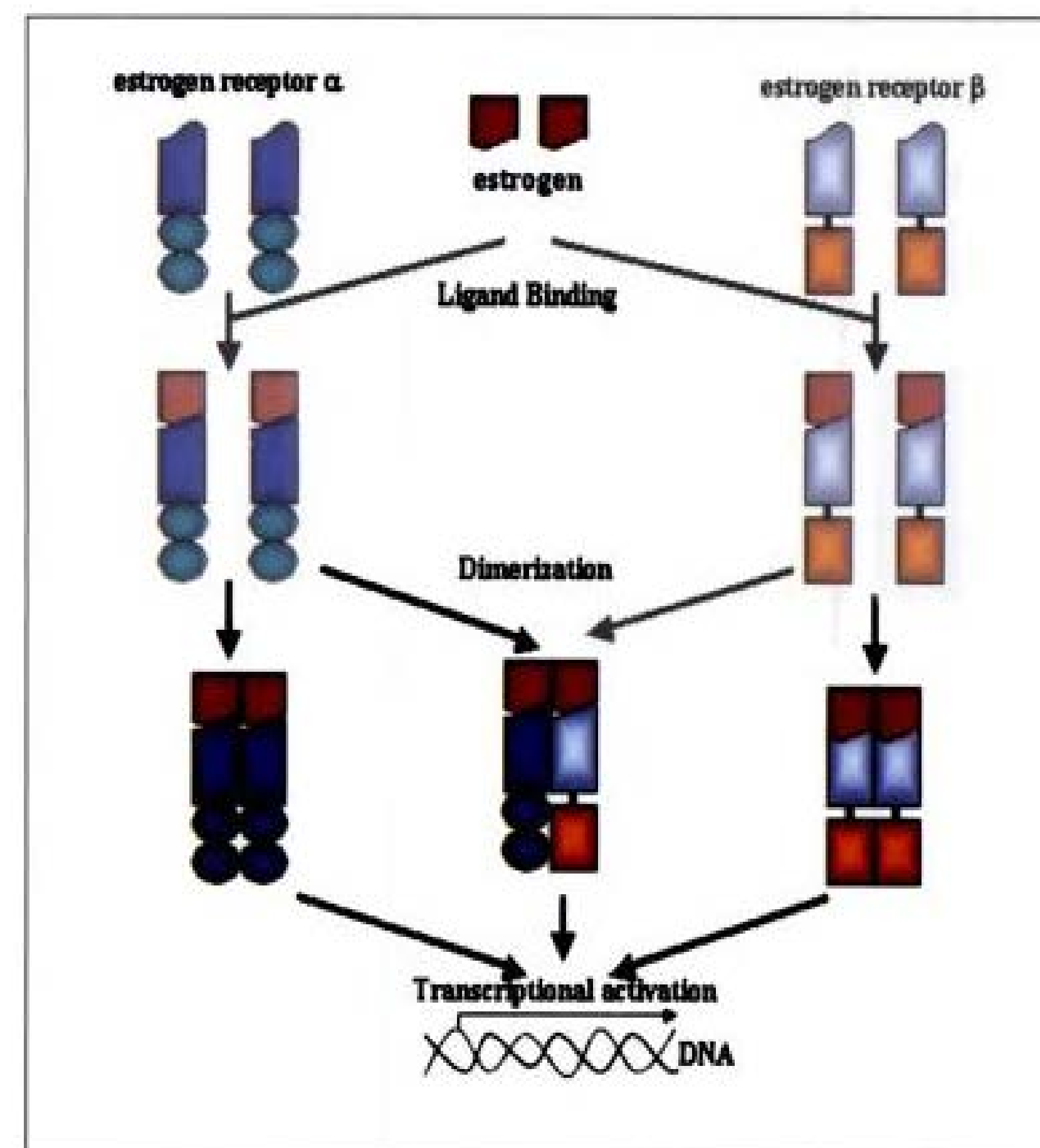
PROCEDURE



Background

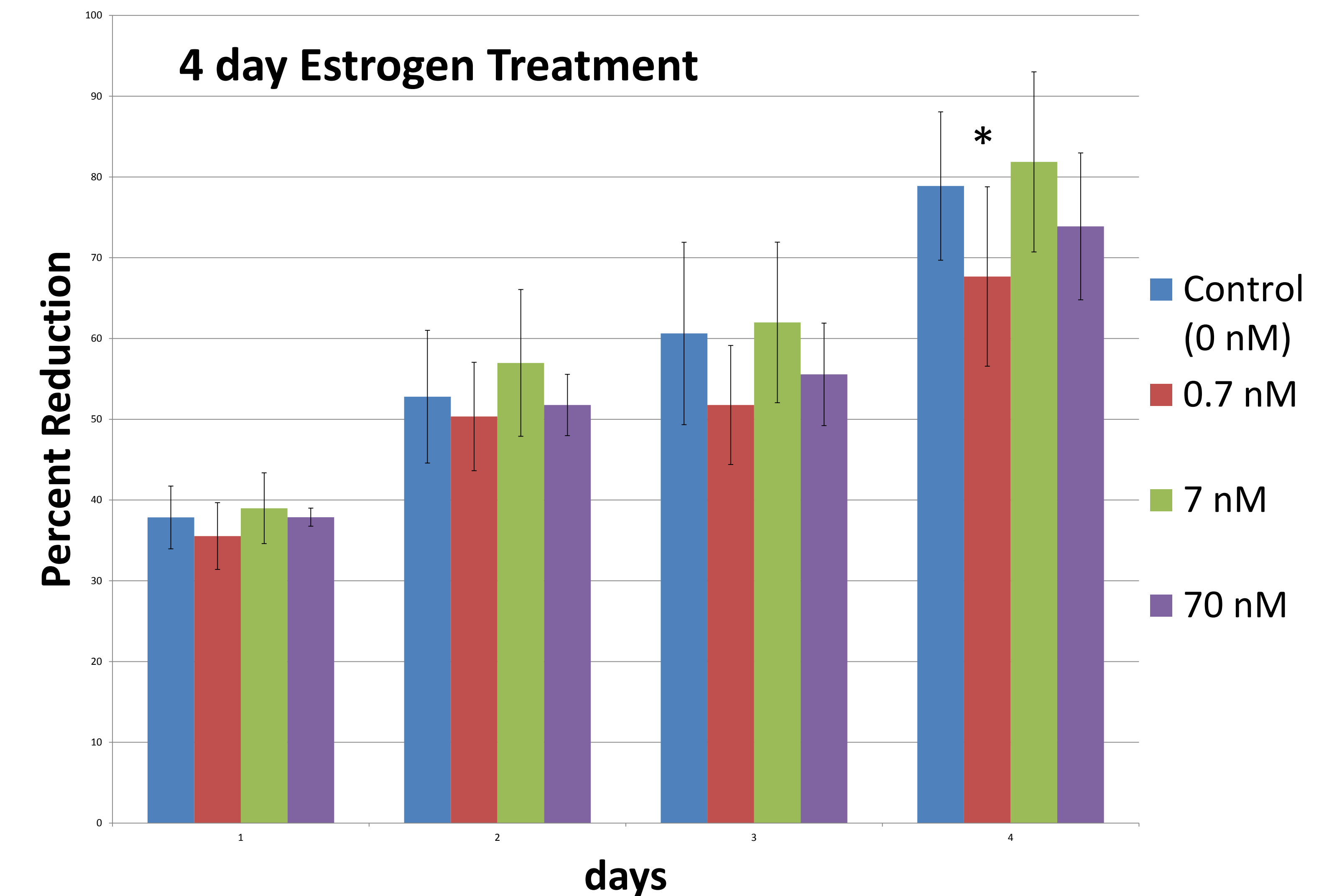
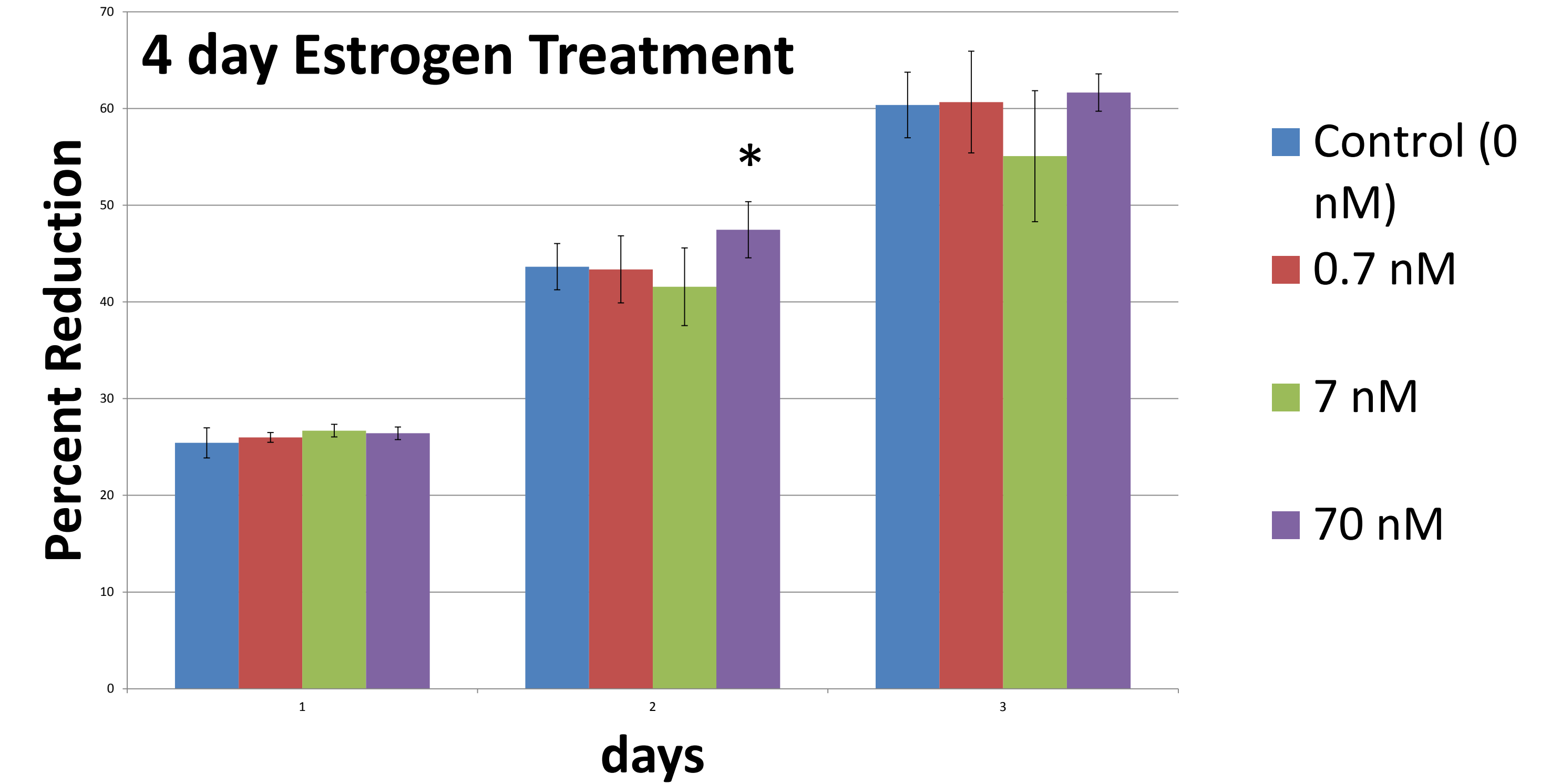
In 2012, Danielle was selected by the Huntington Breast Cancer Action Coalition, Inc, to conduct research at the Breast Cancer Research Laboratory of the Fox Chase Cancer Center. Over the course of a month, she investigated the causes of breast cancer and the effect of endogenous estrogens on human breast cancer cells. She experimented with the most potent estrogen in the body from puberty to menopause, 17 β -estradiol, to test how, if at all, the endogenous estrogen would effect the proliferation of bsMCF cells.

Although the causes of breast cancer in women are not well established, multiple experimental studies have demonstrated that environmental endocrine disruptors and endogenous estrogenic hormones cause cancer in animals and induce transformation of human breast epithelial cells (HBECs) in vitro. Work performed at the Breast Cancer Research Laboratory under the direction of Dr. J. Russo has demonstrated that MCF-10F, a normal HBEC, became transformed after treatment with 17 β -estradiol, progressively acquiring invasive and tumorigenic properties (bsMCF is the MCF-10F with invasive properties). Estrogen affects hormone-sensitive organs such as the breast through intracellular estrogen receptors (ER α). When attached, the estrogen and ER translocate into cell nuclei and initiate gene transcription. If regulation of the cell cycle is affected, uncontrolled proliferation occurs and this can lead to a tumor.



Molecular Basis of Breast Cancer. Jose Russo, Irma Russo. 2004.

RESULTS



CONCLUSION

This poster represents my one-month experience at the BCRL. My results indicate that the concentrations and treatment periods did not cause a statistically significant effect on bsMCF cell proliferation. Technical errors such as removal of cells while changing media may have affected the results.