Testing the Effects of Anti-DLL4 Monoclonal Antibody in Conjunction With Tamoxifen Hormone Therapy Treated Ovarian Cancer

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Hormone therapy is commonly used to treat hormone-related cancers and there has been previous research which suggests that monoclonal antibodies (mAbs) have had a positive therapeutic effect on ovarian cancer, but further investigations need to be conducted to establish a more defined treatment. This experiment will test the effects of Anti-DLL4 mAb that has shown a positive therapeutic effect on ovarian cancer that is currently receiving tamoxifen hormone therapy to see what effect the mAbs will have on the inhibition of tamoxifen-treated ovarian cancer. The researcher's hypotheses are, first, if Anti-DLL4 mAb is introduced to tamoxifen-treated ovarian cancer cells, then it will inhibit growth in ovarian cancer cells, and, second, if 5uL, 8uL, and 10uL of Anti-DLL4 mAb are introduced to tamoxifen-treated ovarian cancer cells, then the sample of cells with 8uL of Anti-DLL4 mAb will inhibit the most growth in the cells because it is most closely follows the recommended dosage of Anti-DLL4 mAb. The researcher cultured and subcultured the cells into five separate flasks and applied treatments accordingly for use in each of the different experimental groups: control, 7uL tamoxifen control, 5uL mAb + 7uL tamoxifen, 8uL mAb + 7uL tamoxifen, and 10uL mAb + 7uL tamoxifen. The researcher utilized a hemocytometer in order to obtain quantitative data through cell counts; the cell counts were taken directly after the treatments were applied, after 24 hours, and after 48 hours. The most cell growth inhibition was seen in the 8uL mAb + 7uL tamoxifen treatment group, proving the researcher's hypothesis was correct and establishing that this can be used as a therapeutic treatment for patients with ovarian cancer.

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