

**Molly Graber**

Junior Division Medicine & Health

*The Effects Of Bovine Colostrum On Breast Cancer*

This experiment tests the effects of bovine colostrum, with and without the lowering of pH by introduction of acid, on the viability of MCF7 and MCF7 ADR human breast cancer cells. Confluent cells in 24 well plates (MCF7, and its drug-resistant counterpart MCF7 ADR) were treated with 10% RPMI media alone, media containing acid, bovine colostrum, and colostrum + acid. The acid dose used was determined by a previous experiment, in order to avoid a false positive due to the toleration of the acid alone. After sitting in an incubator for 96 hours, these cells were harvested and run through a Coulter flow-cytometer, a machine used to measure the amount of live and dead cells within a sample. This data was then analyzed using Flow Jo, a computer program designed to work with flow-cytometer results. It can be concluded that bovine colostrum, with and without the lowering of pH by introduction of acid, has no significant effect on the viability of MCF7 or MCF7 ADR breast cancer cells. This was determined by comparing the percentage of live cells of the control samples, to those of the treated groups. The percentages had little change between treatment groups. The change that did occur was inconsistent. These results may indicate that bovine colostrum, with and without the lowering of pH by introduction of acid, is not an effective treatment for human breast cancer.