ABSTRACT

TITLE:	The Effect of Insulin and Estrogen on IRS-1 Phosphorylation in Undifferentiated Muscle Cells.
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PRESENTED AT:	7th Annual Natural & Behavioral Sciences Undergraduate Research Symposium Program, Fort Lewis College, 2012

ABSTRACT: Due to close interactions in intracellular signaling, breast cancer and glucose regulation by insulin are linked. In our research we focused on the effects of insulin and estrogen on IRS-1 phosphorylation in L6 myoblasts. Because downstream signaling interactions may be additive, our hypothesis was that there would be an increase in serine 307 phosphorylation in the IRS-1 when undifferentiated cells were treated with both insulin and estrogen. Our research included a series of methods: 1) cell culture, 2) cell treatments of ethanol (control), insulin, estrogen or insulin and estrogen, 3) Immunoprecipitation, 4) PAGE gel, 5) Western blot, and 6) Band analysis. Our results indicated that when Ser307 phosphorylation was normalized to the total IRS-1 in each group, there were no significant differences between the control and treatment groups, or among any of the treatment groups. The larger implications of our results are that when estrogen and insulin are combined in treatment, there is no effect on Ser307 phosphorylation.