



Mid Atlantic Regional Chapter of the American College of Sports Medicine

Annual Scientific Meeting, November 4th- 5th, 2017
Conference Proceedings

International Journal of Exercise Science, Issue 9, Volume 6



Is the Sport Supplement Deer Velvet Antler Effective for Injury Repair?

Timothy Winschel, McKenzie Burge, Irene M. Wolf. Saint Francis University, Loretto, PA

Supplements such as insulin-like growth factor 1 (IGF-1) and deer velvet antler (DVA) have been used by many athletes to improve performance and increase recovery time from an injury. Many supplement brands claim that DVA can increase cell growth and repair, however there is little research backing these claims. **PURPOSE:** The goal of this project is measure cellular proliferation of mouse fibroblasts when treated with DVA. **METHODS:** The effects of DVA on cell proliferation were tested using MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) and wound healing assays. Cells were treated with 50ng/ml IGF-1 for a positive control, 1.25 μ l/ml DVA, and 5.0 μ l/ml DVA, or left untreated. All cells were grown in Dulbecco Modified Eagle Medium absent of serum. Following 12 hours of treatment, an MTT assay was performed. Wound healing assays were used to strengthen proliferation results. 3T3 cells were grown on collagen treated 6-well plates and scratched after 24 hours of growth. Cells were then treated with the same doses as the MTT assay. Measurements of the scratches were taken at 24 and 48 hour using an Olympus inverted microscope and Infinity Analyze software. **RESULTS:** Our results thus far demonstrated that DVA at a concentration of 1.25 μ L/mL, and IGF-1 at a concentration of 50 ng/mL causes a significant increase in cellular proliferation, $p=0.039$ and $p=0.035$ respectively. DVA at a higher concentration failed to show a significant increase in cell number. **CONCLUSIONS:** A low dose of deer velvet antler can increase cell proliferation equal to the growth exhibited by insulin-like growth factor 1.