

Poster presentation

## The effect of Russian Tarragon (*artemisia dracunculus* L.) on the plasma creatine concentration with creatine monohydrate administration

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### Background

It has previously been shown that the plasma concentration of creatine following supplementation is influenced by extracellular concentrations of insulin and glucose, the form in which creatine is administered, and also the creatine concentration in the muscle cells. The common practice of raising insulin levels to increase initial uptake into muscle, by means of high amounts of glucose and/or protein, involves a high caloric load which is not always desired by athletes. A standardized extract of Russian Tarragon (*Artemisia dracunculus* L.), which can be administered safely as an oral supplement, has been shown to have antihyperglycemic activity. This study examined whether the plasma concentration curve following administration of creatine monohydrate was affected by the co-administration of Russian Tarragon extract.

### Methods

Eleven healthy male subjects (20.4 +/- 1.5 yrs, 180.0 +/- 7.2 cm) participated in the study. Each subject was assigned to ingest a single dose of 60 mg/kg bwt creatine monohydrate (Creapure™, AlzChem, Trostberg, Germany), preceded 15 minutes earlier by ingestion of 2 x 500 mg capsules of a standardized extract of *Artemisia dracunculus* L. (Finzelberg, Andernach, Germany) or placebo. Plasma creatine concentrations, determined over two

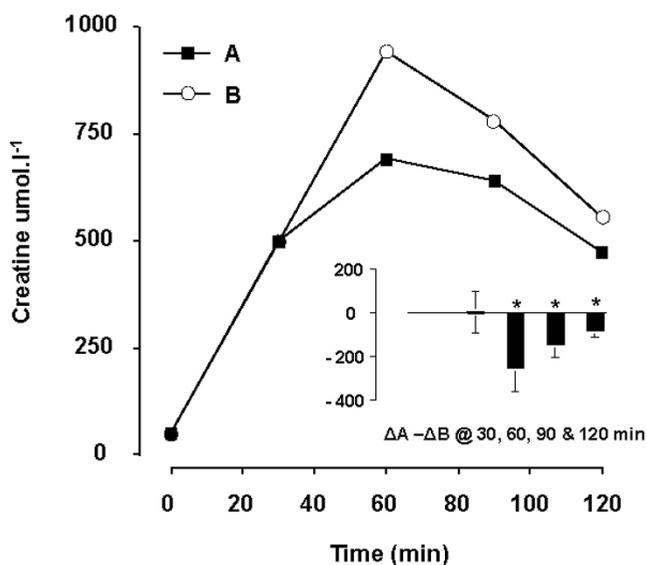
hours following ingestion, were analyzed by repeated measures ANOVA.

### Results

Russian tarragon administration resulted in a significant reduction of plasma creatine levels at 60, 90 and 120 min, in comparison to placebo (Figure 1), as well as a significant reduction in the area under the plasma concentration curve (AUC). The effect of Russian Tarragon is seen as comparable with that of glucose and protein.

### Conclusion

It was concluded that Russian Tarragon influences plasma creatine levels during the ingestion of creatine monohydrate. Further research is needed to evaluate the effects of Russian Tarragon on creatine uptake and retention in muscle.



**Figure 1**  
**Plasma creatine concentrations.** Mean (SD) plasma creatine concentration (micromo/L) following administration of 60 mg/kg bwt creatine monohydrate, preceded 15 minutes earlier by ingestion of 2 × 500 mg capsules of a standardized extract of Russian Tarragon (**A**) or placebo (**B**). The inset shows the mean differences (± SD) between treatments in the change from baseline at each time point.

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