

# SENACTIV®

## Unleashing ACTIV Performance

Senactiv® helps everyone from professional athletes to your everyday fitness enthusiasts exercise longer and harder. This is how you get active and stay active.



### Going the Extra Mile in Human Performance

Introducing Senactiv®, the first senolytic compound on the market scientifically demonstrated to activate phagocytic macrophage through senescent cell clearance in human muscle tissue after aerobic exercise.\*

Senactiv® is a US-patented plant-based compound composed of two highly purified and fractionated extracts from *Panax notoginseng* and *Rosa roxburghii* produced by a NuLiv Science pharmaceutical-grade extraction and processing technology.

Recommended Dosage: 50mg



GRAS-AFFIRMED



INGREDIENT

INFORMED INGREDIENT  
CERTIFIED



100%  
PLANT-BASED



NON-GMO



PATENTED

### Discover the Innovation of Sports Nutrition

Senactiv® impacts muscle endurance through muscle energy and regeneration when supplemented before exercising.

#### MUSCLE REGENERATION

Remove old unfit cells and replenish them with new healthy muscle cells, demonstrated in a human study\*



#### ACTIVE LIFESTYLE

Be more. Do more. Senactiv® gives athletes the competitive advantage



#### MUSCLE ENERGY

Exercise muscles longer and harder with a 47% boost in citrate synthase activity, demonstrated in a human study\*



#### RECOVERY

Get back into workouts more effectively with a 35% reduction in IL-6, an inflammation biomarker, demonstrated in a human study\*



#### PATENTS

US Patent No. 10,806,764

## The Path to Competitive Advantage is Here

Senactiv® is clinically validated in 9 published research papers exploring 4 human clinicals and 3 *in-vivo* studies.

- [PLOS One](#)
- [Journal of Ginseng Research](#)
- [Journal of Ginseng Research](#)
- [Journal of the International Society of Sports Nutrition](#)
- [Evidence-based Complementary and Alternative Medicine](#)
- [Journal of Functional Foods](#)
- [Journal of Science in Sport and Exercise](#)
- [Aging](#)
- [Aging](#)

### Clinical Performance

Senactiv® is proven to elevate human performance with stellar results.

Request study references at [www.nulivscience.com/ingredients/senactiv](http://www.nulivscience.com/ingredients/senactiv)

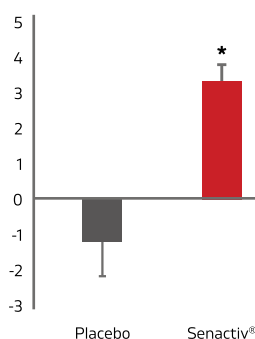
\*These statements may not comply with your country's laws and regulations or with Reg. EC n. 1924/2006 and have not been evaluated by the Food and Drug Administration. The products are not intended to diagnose, treat, cure, or prevent any disease. Marketers of finished products containing this ingredient are responsible for ensuring compliance with the applicable legal framework.

#### Legend

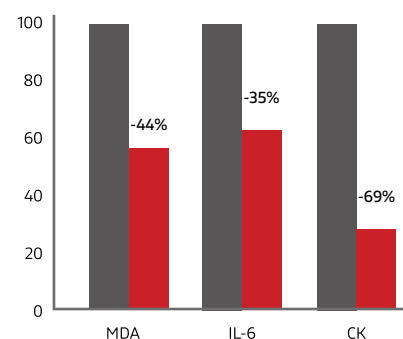
- Placebo
- Placebo
- Senactiv®
- Senactiv®

**Better recovery**, indicated by speeding up muscle fatigue recovery in human participants by boosting glycogen recovery rate of exercised muscle tissues by 373% at the end of 3rd hour and a reduction in muscle tissue inflammation after 4 days.

**Glycogen Accumulation Rate (mmol/kg/h)**

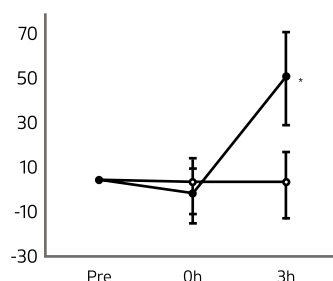


**Percentage on Day 4 After Exercise (%)**



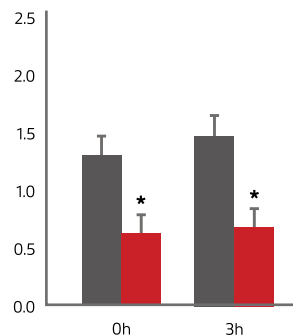
**More energy**, indicated by increasing citrate synthase in muscle tissue of human participants by 47% after a 60 minute exercise at 70%  $\text{VO}_2\text{max}$ .

**Citrate Synthase Activity (% change)**



**Senolytic activation**, indicated by decreasing SA-β-Gal by 63% in muscle tissue. In addition, marked increases in p16<sup>INK4a</sup> protein expression of endothelial progenitor cells in skeletal muscle.

**SA-β-GAL (%)**



**P16<sup>INK4a</sup> (fold)**

