



While it's long been known that colostrum is essential for newborn health, research has shown that bovine (cow) colostrum can also play an important role in supporting the health of people of all ages. The nutrient profile of bovine colostrum is comprised of many of the same functional and bioactive components found in human colostrum. Some of the key classes of bioactive components include immune factors, growth and repair factors, immune modulators, oligosaccharides, and antibodies. This nourishing superfood has been the subject of significant scientific research and has been shown to support sports performance/active lifestyles through numerous clinical studies conducted among different types of athletes. Below, we highlight a study that demonstrates how bovine colostrum can help support muscle strength and recovery.



A low-dose 6-week bovine colostrum supplementation maintains performance and attenuates inflammatory indices following a Loughborough Intermittent Shuttle Test in soccer players | *Kotsis et al, 2018*

In this double-blind, placebo-controlled, randomized study conducted with healthy male elite-level soccer players aged 19-23 years, the researchers compared 3.2 g/day of whey protein (as a placebo) to a 3.2 g/day of bovine colostrum.

Over the 6-week study period, amongst study participants, there was a reduction in exercise-induced muscle damage as well as performance improvement in soccer players following the Loughborough Intermittent Shuttle Test (LIST) during the competitive season period. Athletes who consumed bovine colostrum exhibited less of a reduction in squat jump height, countermovement height and less elevation of blood levels of markers related to muscle damage compared to whey protein placebo group. This study provides evidence that suggests bovine colostrum can improve physical performance and reduce measures associated with muscle damage.

SUMMARY OF OUTCOMES*

Comparison of bovine colostrum to placebo (whey protein)

Bovine colostrum group exhibited less of a reduction in squat jump height and countermovement height

Bovine colostrum group showed less elevation of blood level markers related to muscles damage (CRP, IL-6)

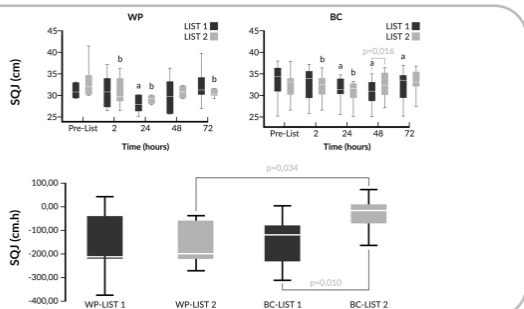
No statistical differences were observed between the two groups on creatine kinase (non-significant trend), perceived muscle soreness, VO2max, hematologic markers

Population Characteristics

- Males aged 19 year to 23 years
- 22 total subjects
- Healthy, elite-level soccer players from Greek National League

Treatment Protocol & Details

- Double-blind, placebo controlled, randomized trial
- Treatment group: 3.2 g/day bovine colostrum; 4 capsules 2x/day 30 minutes before meals
- Placebo group: 3.2 g/day whey protein; 4 capsules 2x/day 30 minutes before meals
- Participants underwent baseline performance test, followed by a 90 min controlled aerobic challenge, followed by performance test before and after supplementation for 6 weeks
- Pre and post 6-week supplementation assessment using Loughborough Intermittent Shuttle Test (LIST). Monitored 2, 24, 48, 72 h post-LIST.



Kotsis Y, et al. European Journal of Nutrition. 2018 Apr 1; 57 (3):1181-1195

PANTHERYX

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Although PanTherx has used diligent care to ensure that the information provided herein is accurate and up to date, it makes no representation or warranty of the accuracy, reliability, or completeness of the information. This document contains scientific and technical information regarding bovine colostrum. Any explicit and/or implied claims included within this document may not necessarily be appropriate for marketing purposes. The recipient shall be solely responsible for any interpretation or use of the material contained herein. Please consult with your independent legal, science, and regulatory professionals accordingly. Country or region-specific information should also be considered when labeling or advertising to final consumers. In no event shall PanTherx be liable for any damages arising from the recipient's reliance upon, or use of, these materials. The content of this document is subject to change without further notice. Please contact your local PanTherx representative for more details. All trademarks listed in this document are either registered trademarks, trademarks or licensed trademarks of PanTherx group of companies in the USA and/or other countries, unless explicitly stated otherwise. References are provided upon request.