

POSTER PRESENTATION

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Ten weeks of branched chain amino acid supplementation improves select performance and immunological variables in trained cyclists

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Background

We examined if supplementing trained cyclists (32 ± 2 yr, 77.8 ± 2.6 kg, and 7.4 ± 1.2 yr training) with 12g/d (6g/d L-Leucine, 2g/d L-Isoleucine and 4g/d L-Valine) of either branched chain amino acids (BCAAs, $n = 9$) or a maltodextrin placebo (PLA, $n = 9$) over a 10-week training season affected select body composition, performance, and/or immune variables.

Methods

Before and after the 10-week study, the following was assessed: a) 4-h fasting blood draws; b) dual X-ray absorptiometry body composition; c) Wingate peak power tests; and d) 4km time-trials.

Results

No group*time interactions existed for total lean mass ($p = 0.27$) or dual-leg lean mass ($p = 0.96$). A significant interaction existed for body mass-normalized relative peak power (19% increase in the BCAA group pre- to post-study, $p = 0.01$), and relative mean power (4% increase in the BCAA group pre- to post-study, $p = 0.01$). 4km time-trial time to completion approached a significant interaction ($p = 0.08$), as the BCAA group improved in this measure by 11% pre- to post-study, though this was not significant ($p = 0.15$). There was a tendency for the BCAA group to present a greater post-study serum BCAA: L-Tryptophan ratio compared to the PLA group ($p = 0.08$). A significant interaction for

neutrophil number existed ($p = 0.04$), as there was a significant 18% increase within the PLA group from the pre- to post-study time point ($p = 0.01$).

Conclusions

Chronic BCAA supplementation improves sprint performance variables in endurance cyclists. Additionally, given that BCAA supplementation blunted the neutrophil response to intense cycling training, BCAAs may benefit immune function during a prolonged cycling season.

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