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# In vivo evaluation of *Spirulina platensis* for nutrient bioavailability in mice

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## Abstract

*Spirulina*, a photosynthetic blue-green alga (cyanobacterium), has drawn attention as a viable food supplement due to its suitable nutrient content. Despite its suitable nutrient composition, the bioavailability of nutrients present in *Spirulina* is not well reported. In this study, the bioavailability of nutrients present in locally cultivated *Spirulina platensis* was evaluated by using in vivo method. A total of 54 mice, 5-8 weeks age were used. The mice were randomly divided into three groups. Group 1 (n = 18) served as a control and received a basal diet. Group 2 (n = 20) served as a test and received *Spirulina* blended with a basal diet. Group 3 (n = 16) serves as a standard and received a basal diet supplemented with nutritional supplements. The study revealed that test diet had apparent absorption of protein 67%, calcium 50.6%, iron 43.8%, zinc 42%, and vitamin A 56.5%, which was higher ( $p < 0.01$ ) than control diet but similar ( $p > 0.05$ ) with standard diet. Given the higher bioavailability of nutritional supplements mixed into the standard diet, the resemblance in nutrient absorption between test and standard diets illustrated that *Spirulina* mixed into the test diet also has higher nutrient absorption.

## Keywords:

Nutrient absorption; Mice; *Spirulina platensis*.