

## **Evaluation of protein nutritional value of commercially available protein bars.**

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### **Abstract.**

The evaluation of protein bars encompasses a multifaceted analysis considering factors like digestibility, protein type, and quality. This study provides insights into the nutritional content and bioaccessibility of protein bars sourced from various origins, including plant-based, animal-based, and their combinations. Through market research and formulation examination, this study elucidates industry trends and preferred formulations, revealing prevalent ingredient combinations such as soy and whey or whey and milk. Four protein bars, each with distinct protein sources, were selected for comprehensive analysis: Abso Crispy, BiotechUSA Zero Bar, BiotechUSA Protein Bar, and DM Sportness. Findings from in vitro protein digestion simulations using the OPA method indicate variations in protein digestibility among the bars, potentially influenced by factors like fats, carbohydrates, and antinutritive compounds. Moreover, the Digestible Indispensable Amino Acid Score (DIAAS) values shed light on the nutritional quality of protein sources, revealing discrepancies in essential amino acid ratios and limiting amino acids compared to previous research. Despite some inconsistencies, this study aids consumers in making informed decisions regarding protein bars by enhancing understanding of their nutritional composition and industry trends. Overall, this methodology contributes to improved comprehension and decision-making in the realm of protein bars and nutrition.