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Human Defensins as a New Biomarker in Athletes' Immune system

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Acute or strenuous exercise is sometimes related to upper respiratory tract infections in athletes. Practicing intense and regular exercise can lead to incorrect activation of the immune system, causing athletes to be excluded from training programs and competitions. Defensins are small antimicrobial peptides that are part of the innate immune system and dynamically involved in several biological activities. In this study, we highlight the role of human defensins in competitive basketball athletes. In particular, we consider the behavior of alpha- and beta-defensins together with white blood cells in a cohort of players. Moreover, we focus our attention on cortisol, a physiological indicator of stress, and testosterone, both of which are human hormones involved in muscle metabolism. The free-testosterone/cortisol ratio is considered to be an indicator of overtraining among athletes. This results provides an up-to-date information of the role of human defensins as self-defense molecules during a continuous stressor such as long-term exercise, and it recognizes them as potential markers of infection.

Biography

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