

## INORGANIC ELEMENTS DETERMINED IN BLOOD OF ELITE RUNNERS USING NAA

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In the last decade there was a growing interest in the athlete's health with a focus on continuous biochemical evaluation (in serum and urine) and controlled diet. Nowadays is recognized that intensity and duration of the physical training can provoke metabolic alterations in blood, mainly in the content of some ions. Recently elements of clinical relevance (such as, Ca, Cl, Mg, K and Na) in blood of amateur and elite runners (long distance runners) were analyzed and a comparison with subjects of same gender and age but not involved with physical activities revealed significant differences among them, mainly between control and elite groups. In this study we intend to continue this analysis, to complement the blood investigation, performing measurement to determine Fe, I, Rb and Zn using NAA. Ten athletes (6 male and 4 female), age 18 to 36 years, participated of this study. The blood collection was performed at LABEX (SP, Brazil) and the samples were irradiated in the nuclear reactor (IEA-R1, 3-4.5MW, pool type) at IPEN/São Paulo - Brazil. These data can be considered for the preparation of balanced diet, to evaluate the performance of endurance athletes during the period of competition preparation and also to propose new protocols for clinical evaluation

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