

of Zn, Fe, Cr and Co, present in the solution, before and after the treatment, were determined by the instrumental neutron activation analysis (INAA) technique. For this determination the samples were irradiated for 8 hours at the IEA-R1 reactor at IPEN. The concentrations were determined by comparing the peak area of the samples and that of the reference materials irradiated together with the samples.

DIFFERENCES IN IRON CONCENTRATIONS IN WHOLE BLOOD OF ANIMALS MODEL USING NAA

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L.F.F.L. Silva^a, C.B. Zamboni, V. Bahovski, S. Metairon and I.M.M.A. Medeiros

^a laisdefatima.ferreiralopes@gmail.com

Nuclear and Energy Research Institute, São Paulo, Brazil

In this study Neutron Activation Analysis technique (NAA) was applied to determine Fe concentrations in whole blood samples of several animals model: mice (*Mus musculus*), Golden Hamsters (*Mesocricetus auratus*), Wistar rats, Albinic Rabbits of New Zealand, Golden Retriever dogs and Crioula breed horses. In the health area these animals model are used for several investigations, mainly those that involve testing of new medicines, vaccines, antibiotics, anesthetics, antidepressants, organs transplantation as well as medical diagnostic studies. While small-sized animals model (mice, hamsters, rats and rabbits) are very convenient to perform medical investigation due to the low cost, easy handling and medico-legal implications, medium and large sized animals, (mainly Golden Retrievers dogs) are selected for medical diagnostic studies because of their physiological similarities with the humans. Particularly, in this study, horses (Crioula breed) were also investigated because they are frequently used for antivenom production in Brazil. An important aspect to be considered during these medical investigations is the needs to check for similarities between the animal's blood and the human's blood. Besides, considering that Fe plays important functions in blood (acts as indicator of a great number of anomalies) consulting these data is possible to select the convenient animal model for experiments which the similarities with the humans are an important condition. The NAA measurements were performed in the nuclear reactor IEA-R1 (3.5-4.5MW, pool type) at IPEN/CNEN-SP (Brazil). Fe concentrations results in the blood of these animals were compared with human blood estimative and some significant differences were identified.
