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## **Establishment of Iron concentrations in whole blood of different mice strains using portable XRF spectrometer**

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Iron has an important role in blood as an indicator of a great number of anomalies. For instance, anemia (due to iron-deficiency) in Brazil is a public health problem in all ages and socioeconomic levels (affects ~ 40% of the population). Since the end of the 90s the Brazilian Health Department made mandatory the fortification of corn and wheat flour with iron because it is a common ingredient with a widespread consumption by the population. Nowadays, Brazil's pharmaceutical companies are testing several iron compounds to reduce risk factors for anemia as well as reducing the costs of new drugs. One of the early testing of a new drug is made in animal model for checking its toxicity (mainly in blood). Considering the low cost and simplicity related to the legal implications, these tests are performed in rodents. In this study, X-Ray Fluorescence technique (EDXRF) was applied to determine Fe concentrations in whole blood samples of different mouse strains. These measurements were performed using a Portable X-ray Spectrometer (Amptek®) with Ag X-ray tube and a Si Drift detector (25 mm<sup>2</sup> x 500 µm/0.5 mil). The results were correlated with human whole blood estimation for checking the similarities.