

Definition of stability of total hexosaminidases and beta-galactosidase over time on filter paper dry blood spots in different conditions of temperature.

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Introduction: The lysosomal diseases have been highlighted by recent advances in the field of laboratory diagnosis, through the analysis of filter paper dry blood spots (DBS) and the possibility of treatment that is being gradually introduced to several of these pathological conditions. **Objective:** To determine the best condition of storage for total hexosaminidases and beta-galactosidase over a period of 6 months in various conditions of temperature in DBS. **Methods:** We used 15 samples of DBS from normal individuals divided into 4 groups. Each group was placed in a separate environment: -20°C, 8°C, 25°C and 37°C. For the determination of enzyme activity were used specific substrates 4-metilumbeliferil and the assays being conducted in duplicates at the time of incubation, after 3, 10, 17 and 180 days. **Results:** For the total hexosaminidases there was no significant difference between the results over time in environments -20°C and 8°C, similar to beta-galactosidase at -20°C, 8°C and 25°C. The beta-galactosidase activity showed stable at -20°C, 8°C and 25°C and a significant lost of activity in the temperature of 37°C. Already the total hexosaminidases remained stable at -20°C and 8°C with significant increase in activity at 25°C and 37°C. The results were compared by ANOVA. **Conclusion:** With these results we can conclude that the best conditions of storage, for studied enzymes in DBS are in refrigerator or freezer, with stability in the activities over at least 6 months.

Key words: filter paper dry blood spots, lysosomal enzymes, stability.

Supported by: FIPE-HCPA and CNPq .