

EXPRESSION OF PROTEIN HSP-70 IN HUMAN LYMPHOCYTES INDUCED BY NITRATE AND LEAD ACETATE.

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ABSTRACT

The effects of lead are involved almost the entire cellular environment, inorganic lead compounds as well as some non-essential metals for cell homeostasis may alter directly or indirectly the immune system due to its sensitive response to the presence of these and therefore exert immunosuppressive action. This response to the presence of the exhibition serves as a biomarker of contaminant through the expression of heat shock proteins (Hsp) and Hsp-70. **Objective:** The purpose of this study was to determine the amount of heat shock protein Hsp-70 expressed in human lymphocytes of de blood of healthy people, at be subject to concentration of acetate and nitrate of lead smaller to 10 µg/dl. **Materials and Methods:** The tissue was obtained through venous puncture of healthy volunteers. The lymphocytes were isolated by Ficoll-Paque gradient, experimental lots were subject to stress with a concentration of acetate and lead nitrate by 2.5, 5.0, 7.5, 10 µg/dl during 3 hours at 37 °C, like positive control to the expression of Hsp 70 protein was used two samples, a with concentration of 100 µg/dl under the same conditions and other positive control by heat at 42 °C during 3 hours, after of stress period the lymphocytes leave them in recovery with culture medium during 3 hours at 37 °C without the stressor agent. The cell protein extract were separated by SDS-PAGE, detected by immunoblotting and the quantification were done by densitometry. **Results:** The protein Hsp-70 was expressed in each different concentration of acetate and nitrate lead. **Conclusions:** It was found that the concentration used of acetate and nitrate of lead are biomarker of cellular stress to the lymphocytes expressing by increase in the expression of heat shock protein Hsp-70. **References:**Bozhkov A, Padalko V, DlubovskayaV and Menzianova N. Resistance to Heavy Metal Toxicity in Organisms under Chronic Exposure. Indian Journal of Experimental Biology2010;48:679-696.