

Abstract

Cold adaptation and her effects has been known for many decates. Positive or negative impact depends especially on its length and strength. The lower temperature can very often cause the stress for organism. On the other hand in expereriment with long-term adapatation were found positive consequences on cardiovascular system. We found the lack of studies devoted to the energy metabolism and apoptosis in heart tissue during long-term cold adaptation. In this work we used a model with milder conditions of the adaptation ($10^{\circ}\text{C}\pm 1$), so there wouldn't be damage of the experimental animals. We compared the results betwen control, cold and regressive group of rats. In this expereriment we used methods of electrophoresis and Western blot. The target of the work was found if we can find any differences betwen chosen HIF targeted genes. The next goal was to detect the differences betwen chosen pro-apoptotic and anti-apoptotic markers.

Keywords: cold adaptation, heart, energetic metabolism, HIF, apoptosis