# DEVELOPING OF METHOD TO MEASURING OF THE $NA^+K^+$ATPASE ACTIVITY IN GUINEA PIG LIVER UNDER *IN SITU* PERFUSION

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We had shown that leptospiral glicolipoproteic endotoxin (GLP) is a potent and specific $Na^+K^+$ATPase inhibitor *in vitro*. We had proposed that, after organ colonization (mainly liver), lysis of leptospira consequent to the host immune response would release GLP, leading to the inhibition of $Na^+K^+$ATPase, thus, the characteristic liver malfunctions seen in this disease. In this communication, we propose a technique for the measurement of the activity of $Na^+K^+$ATPase in liver through hepatocyte incorporation of $Rb^+$ during *in situ* liver perfusion. Guinea pigs under anesthesia were submitted to laparotomy. The portal vein were cannulated and livers were perfused with a modified Hank's solution, by addiction of RbCl, in presence or not of ouabain. Finishing the perfusion, Hank's solution was substituted by cold saline containing or not $Ba^{2+}$. Liver were then removed, weighted and mineralized with nitric acid. $Rb^+$ was determined by atomic absorption spectrometry. Results show the kinetics of $Rb^+$ incorporation, the $Ba^{2+}$ inhibits the $Na^+K^+$ATPase activity *in vitro* and can't be used in Hank's solution. Cold saline containing $Ba^{2+}$ decrease $Rb^+$ incorporation by liver cells. When Hank's solution had ouabain, the $Na^+K^+$ATPase activity decrease 77.3% as occur *in vitro*. This is appropriated technique for the study of the activity of $Na^+K^+$ATPase *in situ*.

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