EFFECT OF Cu^{2+} and Zn^{2+} IN THAPSIGARGIN-SENSITIVE Ca^{2+}-ATPASE ACTIVITY OF *PACHYMERUS NUCLEORUM* LARVAE (FABRICIUS) (COLEOPTERA: CHRYSOMELIDAE: BRUCHINAE)

Duarte, V. L., Dias, D. S., Coelho, M. V. Instituto de Genética e Bioquímica, Universidade Federal de Uberlândia, Uberlândia-MG, Brasil.

Pachymerus nucleorum Fabricius 1792 is a babaçu (*Orbignya* sp.) coconut predator specie that belongs to the Bruchinae subfamily. The objective of this work was test the effect of tapsigargin, copper and zinc ions in Ca^{2+}-ATPase isolated from *P. nucleorum* larvae. *P. nucleorum* larvae was homogeneized in 50 mM Imidazol buffer containing proteases inhibitors. The homogenate was centrifugated and the precipitated obtained was washed with 0.2% Triton X-100 and, after, with 50 mM pirophosphate. The resultant precipitate presents high Ca^{2+}-ATPase activity. Incubation with 140 mM thapsigargin added in the beginning of the reaction inhibited about 80% of the Ca^{2+}-ATPase activity. Pre-incubation with thapsigargin 140 µM inhibited the Ca^{2+}-ATPase activity in about 95%. Pre-incubation with ATP or calcium prevented the inhibition of Ca^{2+}-ATPase activity in 40% and 32%, respectively. Inhibition was completely prevented with pre-incubation with both ATP and calcium. More than 90% of the Ca^{2+}-ATPase activity was inhibited by 0.5 mM $CuCl_2$ or 0.25 mM $ZnCl_2$. In presence of EDTA, but not in absence, the inhibition by zinc was reverted with the increase of calcium concentration. The inhibition by copper was not reverted in any described condition. These results showed that zinc or copper inhibit the thapsigargin-sensitive *P. nucleorum* Ca^{2+}-ATPase activity.

Keywords: Ca^{2+}-ATPase, *Pachymerus nucleorum*, larvae, thapsigargin, Cu^{2+}, Zn^{2+}.

Apoio: CNPq, CAPES, FAPEMIG.