

# **Ecto-phosphatase Activity on the Cell Surface of *Crithidia deanei***

Adriana dos Passos Lemos, André Luís Fonseca de Souza,  
Ana Acacia de Sá Pinheiro, Márcia de Berrêdo-Pinho and  
José Roberto Meyer-Fernandes\*

Departamento de Bioquímica Médica, Instituto de Ciências Biomédicas,  
Universidade Federal do Rio de Janeiro – UFRJ, CCS, Bloco H, Cidade Universitária,  
Ilha do Fundão, 21941-590, Rio de Janeiro, RJ, Brazil. Fax: 55 21-22 70-86 47.  
E-mail: Meyer@bioqmed.ufrj.br

\* Author for correspondence and reprint requests

Z. Naturforsch. **57c**, 500–505 (2002); received January 14/February 12, 2002

*Crithidia deanei*, Phosphotyrosyl Phosphatase, Vanadate Inhibition

*In the present work we have partially characterized an ecto-phosphatase activity in Crithidia deanei*, using viable parasites. This enzyme hydrolyzed *p*-nitrophenylphosphate at a rate of  $3.55 \pm 0.47$  nmol Pi/h  $\times 10^8$  cells. The dependence on *p*-NPP concentration shows a normal Michaelis-Menten kinetics for this phosphatase activity and the value of the apparent  $K_m$  for *p*-NPP was  $5.35 \pm 0.89$  mM. This phosphatase activity was inhibited by the product of the reaction, the inorganic phosphate. Experiments using classical inhibitors of acid phosphatases, such as ZnCl<sub>2</sub> and sodium fluoride, as well as inhibitors of phosphotyrosine phosphatase, such as sodium orthovanadate and ammonium molybdate, showed a decrease in this phosphatase activity, with different patterns of inhibition.