

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo
PIBIC Last Name - Sacramento First Name - Rogério Middle - Silva

Service (sector) Cornea and External Disease N° CEP

Action of lytic peptides based on a salivary protein from *Triatoma infestans* on *Acanthamoeba castellanii*

Sacramento RS; Martins RM; Freitas D; Foronda AS; Alvarenga L; Hofling-Lima AL; Schenkman S.

Purpose: Trialysin is a pore-forming lytic protein from the saliva of the insect *Triatoma infestans*, active against *Trypanosoma cruzi*. In this study we evaluated the ability of a synthetic lytic peptide corresponding to the lytic portion of trialysin against culture-derived *Acanthamoeba castellanii* trophozoites. Methods: Axenic strains of *Acanthamoeba castellanii* (ATCC30011) were maintained in Neff medium at 25°C in 25 cm² culture flasks. Trophozoites were obtained by mechanically releasing adhered cells from culture flasks in new medium. The synthetic peptide P6 resuspended in water was incubated in the desired concentrations with the same volume of about 1 x 10⁶ trophozoites/ml for 1 hour at 25°C. Viability was determined by trypan-blue dye exclusion test and the number of viable cells was determined in a Neubauer hemacytometer. Percentage of viable cells was determined according to the control, performed in the absence of peptide

Results: Preliminary assays using peptide have demonstrated its activity on *A. castellanii* cells. The cell mortality rate was 46% at concentration of 0.3 µg/ml and 77% at 0.6 µg/ml. Total lysis was seen at concentration of 1.2 µg/ml.

Conclusions: Our data indicate that P6 was effective against *Acanthamoeba castellanii* trophozoites. Best characterization of lysis is being performed as well as other lytic peptides based on trialysin are being tested in order to determine the best lytic peptide. These results can be important in the development of new anti-*Acanthamoeba* compounds.