

**PARTIAL CHARACTERIZATION OF THE ALKALINE PROTEOLYTIC ACTIVITY
FROM SIAMESE FIGHTING FISH *Betta splendens*.**

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In this work we present some properties of alkaline proteases from intestine of Siamese fighting fish (*Betta splendens*), a common ornamental fish. The physical-chemical parameters were determined using benzoyl-DL-arginine-p-nitroanilide (BAPNA) as substrate. The influence of pH (7.2-11.0), temperature (25-60°C), ions and trypsin inhibitors on the alkaline proteolytic activity were studied. For the thermostability study, samples were incubated at temperatures ranging from 25 to 60°C for 30 min. Optima pH and temperature were 10.0 and 50°C, respectively. The proteolytic activity was thermostable at 50°C. This tryptic activity was inhibited by all used ions in the following decreasing order: Cu^{2+} , K^+ , Ba^{2+} , Li^+ , Mg^{2+} , Ca^{2+} , Zn , Al^{3+} , Cd^{2+} . Six proteolytic bands were observed in a casein zymogram. The use of specific proteases substrate (BAPNA) and inhibitors (PMSF, TLCK and benzamidine) provide additional evidences that a trypsin-like enzyme is the main responsible for these proteolytic activities.

Keywords: *Betta splendens*, intestine, ornamental fish, proteases.

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