

Biomeditsinskaya Khimiya 2007 vol.53 N1, pages 72-85

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## Influence of ZN(II) and MN(II) on catalytic activity of aspartic proteinases of *Candida albicans*

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### Abstract

The interaction of secreted aspartic proteinases *Candida albicans* (SAP *C. albicans*) with ZnCl<sub>2</sub> and MnCl<sub>2</sub> was studied. Logarithms of stability constant from the data of electronic spectroscopy were calculated:  $\lg\beta = 4,73 \pm 0,20$  for the complex [SAP *C. albicans* - Zn(II)] and  $\lg\beta = 7,02 \pm 0,20$  for the complex [SAP *C. albicans* - Mn(II)]. The composition and maximum accumulation of complexes in solution were calculated. The optimal conditions of hydrolysis of the substrate, HAS (human serum albumin) in the presence of proteinases were determined: [HSA]=0.004 g/ml, [SAP]=2.33  $\mu$ M, pH=4.5, the time of incubation of 25 min. The activity SAP *C. albicans* in the presence of ZnCl<sub>2</sub> and MnCl<sub>2</sub> in different concentrations in optimal conditions of enzymic hydrolysis was estimated. For the first time the activating action of ZnCl<sub>2</sub> on catalytic activity of proteinase in concentration  $5 \times 10^{-7}$  mol/l was discovered. The maximal rate of enzymic reaction ( $V_m$ ), the Michaelis constant ( $K_m$ ) and constants of effects in presence and absence as the effector of ZnCl<sub>2</sub> were calculated. The estimation of albuminatic activity of *C. albicans* infections family in different diseases localization in the presence and the absence as the effector of ZnCl<sub>2</sub> was evaluated.

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### Keywords

Effectors, Enzymic catalyts, Kinetic parameters, Proteinases of *Candida albicans*