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The influence of serum proteins on biological activity of anticandidal peptides containing N3-(4-methoxyfumaroyl)-L-2,3-diaminopropanoic acid.

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Abstract

The binding of several anticandidal peptides containing N3-(4-methoxyfumaroyl)-L-2,3-diaminopropanoic acid (FMDP) to serum proteins was studied using equilibrium dialysis. The affinity of these FMDP-peptides for serum albumin was low and well correlated with their biological activity against Candica albicans ATCC 26278 in serum albumin solution. This binding did not affect the biological activity of FMDP-peptides. On the other hand, substantial raising of MIC values was observed when anticandidal activity of FMDP peptides was assayed in the presence of complete serum proteins. This effect was likely to be a result of interaction with non-albumin components of serum proteins. Preliminary evidence points to the possibility of non-specific interaction with components containing sulfhydryl groups. In this study Nva-FMDP-Nva peptide was shown to be the most active compound in the serum protein solution. Moreover Nva-FMDP-Nva was most resistant to inactivation by serum components in comparison to other FMDP-peptides.

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