The search for inhibitors of interleukin-1 based on the sequence of interleukin-1 receptor antagonist.

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Streszczenie

In order to find the low-molecular-weight interleukin-1 (IL-1) inhibitors, we synthesised a series of peptides, derived from three regions of interleukin-1 receptor antagonist (IL-1ra): N-terminal (residues 5-9), central (90-98) and C-terminal (143-148). The decision was based on the thorough analysis of structural and functional properties of IL-1 proteins and the resemblance of some fragments of IL-1ra to well-known immunomodulators, like thymopentin and tuftsin. The competition between our peptides and IL-1 were measured as the inhibition of IL-1 induced IL-2 production in LBRM/CTLL cell line system. All peptides presented some activity, although the most interesting results (when the range of activity and dose-dependence were taken into account) were obtained for tuftsin and peptide VTKFYF from the C-terminal part of IL-1ra.