“P8 peptide - interacting proteins in synovial fluid from rheumatoid arthritis patients”

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Abstract

Interleukin-15 (IL-15) is a pro-inflammatory cytokine related to the pathogenesis of autoimmune diseases. IL-15 has been proposed as a therapeutic target for rheumatoid arthritis (RA). P8 is a new IL-15 antagonist peptide that corresponds to sequence 36-45 of IL-15 protein (KVTAMKCFLL) [1]. P8 peptide binds to IL-15Rα and blocks the biological activity of IL-15 [1,2]. Although IL-15Rα is a membrane receptor, soluble IL-15Rα has been detected in synovial fluids from RA patients [3]. In the present work, potential interactors of P8 peptide were identified in synovial fluids from RA patients using a proteomic approach. These results contribute to a better understanding of the P8 peptide potentialities as a therapeutic drug.

General strategy

Results

1. A total of 12 proteins were identified in the pull-down experiment, respect to the control condition seven proteins were identified as potential P8 - interacting proteins.

2. The identified proteins have direct interactions suggesting the presence of complexes among the pulled-down proteins.

3. Most of the identified proteins are functionally related to RA disease, including three P8 – interacting proteins.

Conclusions

• P8 peptide synthesized on TentaGel-S beads retains seven proteins of the synovial fluid from RA patients.

• Three P8-interacting proteins are serum proteins that have been previously related to the pathogenesis of RA. Such proteins could mediates the biological effect of P8 peptide.

References