

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



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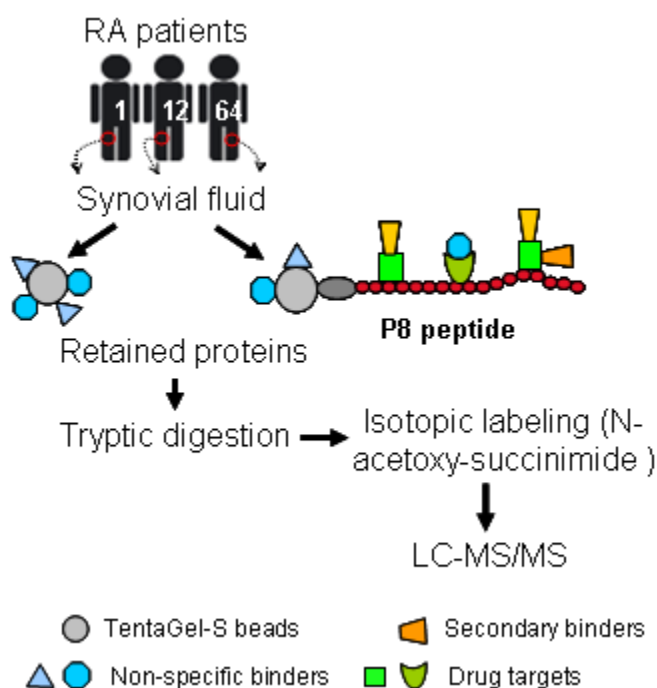
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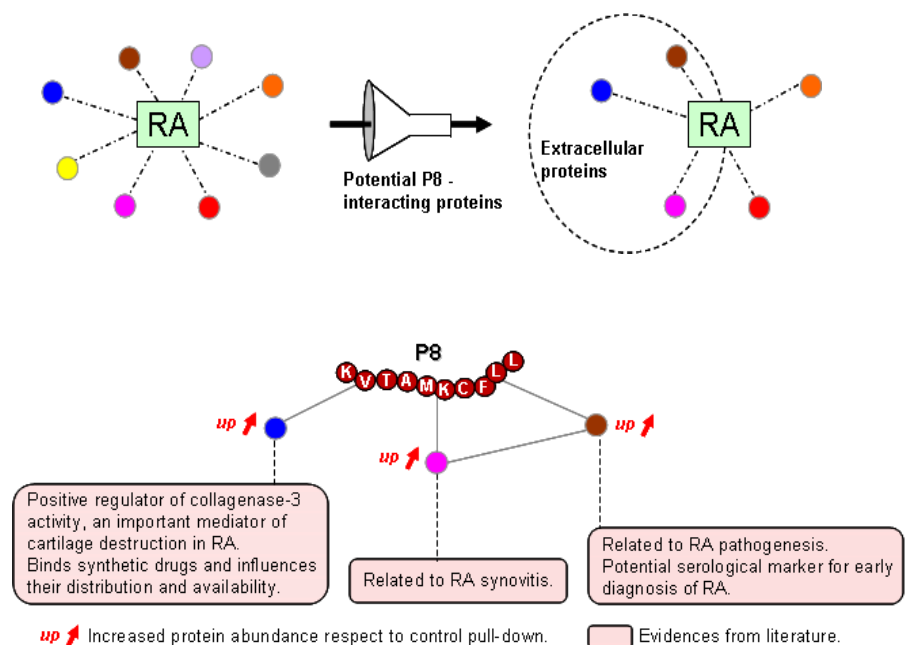
Abstract

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-15R α and blocks the biological activity of IL-15 [1,2]. Although IL-15R α is a membrane receptor, soluble IL-15R α 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



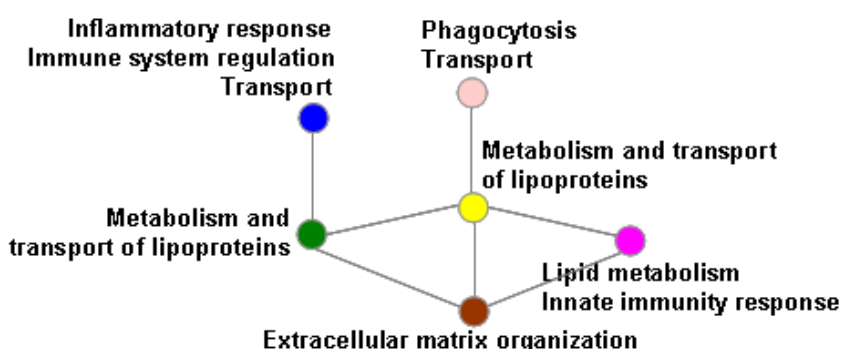
3. Most of the identified proteins are functionally related to RA disease, including three P8 – interacting proteins.



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.



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 mediate the biological effect of P8 peptide.

References

1. Santos, A. et al. *Biotechnología Aplicada* **2008**, 25: 320-324.
2. Savio, A. S. et al. *J. Pept. Sci.* **2012**, 18(1): 25-29.
3. Machado Diaz, A. et al. *Arthritis* **2012**, 2012: 943156.