Peptide Immunotherapy: The Use of Bovine Colostrum Proline-rich Polypeptides in Cytokine Modulation for the Alternative Relief of Allergic Symptoms

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Abstract

An alternative approach to modulating cytokine levels, in particular the pro-inflammatory cytokines, are possible in mammals with simple oral supplementation of a class of bovine first milking colostrum peptides.

A subclass of colostrum peptides of molecular weight 1000 (PRP-3b) was isolated using high pressure liquid chromatography - size exclusion ion exchange and collected in a microfiltered water solution. The amino acid sequence of PRP-3b was: Val--Glu--Ser--Tyr--Val--Pro--Leu--Phe--Pro. Physical symptoms of allergic inflammatory symptoms were observed, monitored, and recorded before and after 2ml oral administration. Peptides were administered orally at various intervals over a thirty day period.

The peptides appeared to relieve inflammatory pressures, for example sinus pressures, and other allergic symptoms in all cohorts, some within minutes after the initial oral dose. A greater reduction in symptoms was observed with more frequent administration. No negative side effects were observed throughout the trial.

It is understood, allergen plus IL-4 leads to allergy. IL-4 is not the only important cytokine in allergy. In many cases IL-13 (1) is even the more important cytokine, since it is produced for a longer time and to higher levels than IL-4. IL-5 is also an important cytokine in asthmatic patients.

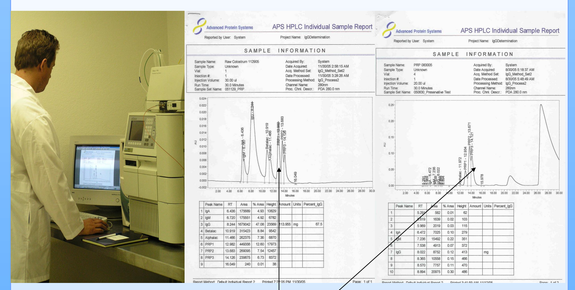
Modulation of the cytokine network using colostrum PRP3 sub-class peptides by oral supplementation appears to balance or modulate the mammalian cytokine system, and thus reduce real time allergic pro-inflammatory symptoms. Continuous oral supplementation is required if further exposure to allergens exists. Cytokine and immune modulation by colostrum peptide supplementation also can help with many other challanging health conditions; these are discussed herein.

Keywords: Biological Therapies, Immunotherapy, Immunomodulation, Allergy:Inflammatory Mediators

Background

PRPs from mammalian first milking colostrum can work as immune and cytokine modulators (2). It has been demonstrated to improve or eliminate symptomatology of both allergies and autoimmune diseases (MS, rheumatoid arthritis, lupus, and myasthenia gravis). PRP inhibits the overproduction of lymphocytes and T-cells and reduces the major symptoms of allergies and autoimmune disease: pain, swelling and inflammation. (4)

Sample Preparation



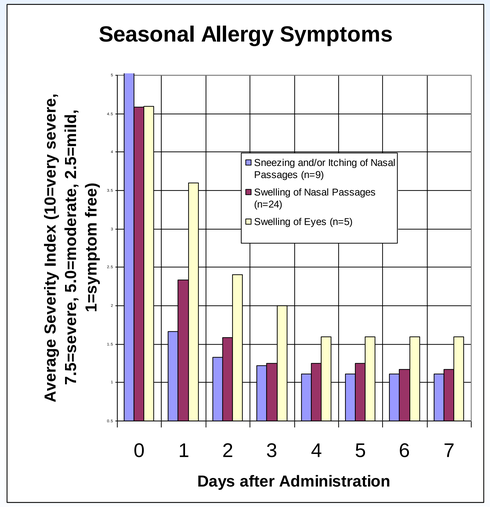
Raw Colostrum Liquid *PRP Isolate Liquid*

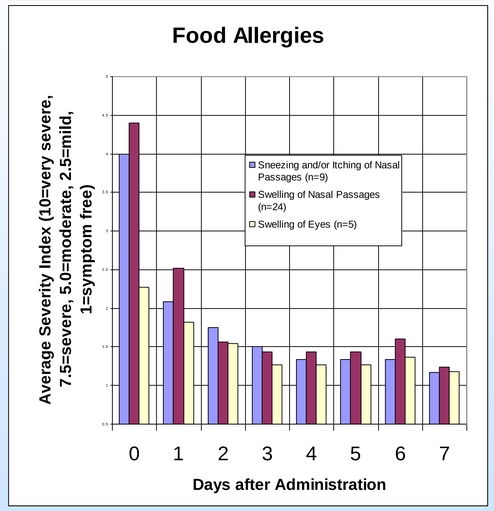
Extraction of the [PRP-3 fraction] from first milking raw colostrum was isolated using a waters HPLC 2695, and a Tosoh Biosciences G2000SW 30cm IX column.

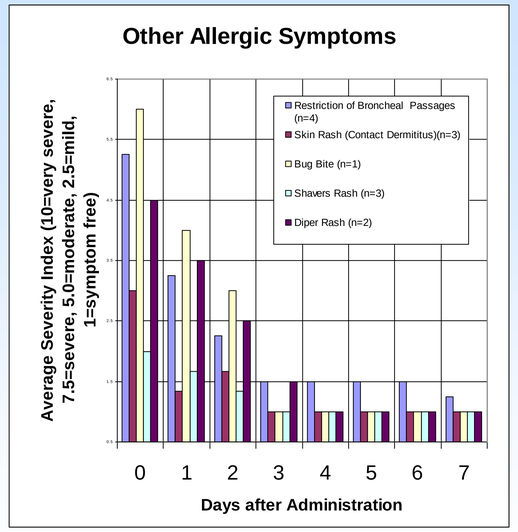
Methods

A Symptoms Assessment Form was used to interview and relief of allergic symptoms of sixty two patients for seven days. A numerical severity index was used to monitor progress, 10=very severe, 7.5=severe, 5=moderate 2.5=mild, 0=none. A PRP isolate throat spray was taken by the patients every four hours except when asleep.

Results







All sixty two cohorts showed a significant to moderate relief of allergy symptoms with respect to their health condition.

Conclusion

Cytokine modulation by frequent oral and topical PRP spray does significantly help with the temporary relief of many allergic symptoms.

References

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