Immune Modulation: Research Summary
Transfer Factor vs. Colostrum vs. Proline-Rich Peptides

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ABSTRACT

Objective:

The study measured immune activation, cytokine responses, and immune modulation.

A preliminary in vitro study was initiated to determine how Transfer Factor Multi-Immune™ (TFMI), a multi-ingredient supplement designed by Researched Nutritionals® to support the immune system, mounts a protective immune response, how it responds to different types of immune triggers such as bacterial or viral insults, and whether proline-rich peptides (PRP'S) and colostrum are comparable to transfer factors in eliciting an immune response. Three products were produced and compared:

- Transfer Factor Multi-Immune™ (Researched Nutritionals®), containing a proprietary transfer factor complex, colostrum & herbal blend
- Colostrum & herbal blend (same blend as TFMI but without transfer factor)
- Proline-rich peptides (PRP's), colostrum & herbal blend (same blend as TFMI but with proline-rich peptides substituted for transfer factor)

The study measured immune activation, cytokine responses and cytotoxic response. Each test was conducted against a control. Each arm of the study was tested for direct immune response, bacterial immune response, viral immune response, and strong pathogen response.

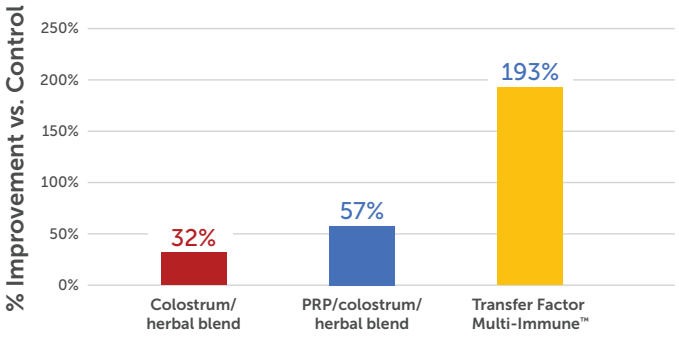
Results:

Immune Activation

- Transfer Factor Multi-Immune™ demonstrated the most potent immune activation
- Colostrum & herbal blend demonstrated a mild immune activation but much less than with added transfer factors
- Proline-rich peptides, colostrum & herbal blend demonstrated a mild activation similar to colostrum & herbal blend alone

Natural Killer Cell Activation*

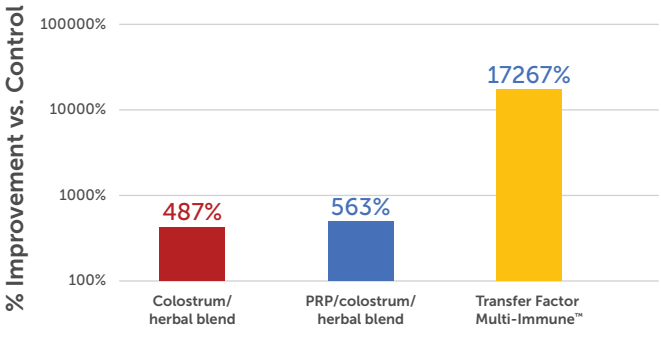
Innate Immune System Activation



*% improvement in Mean Fluorescent Intensity for CD 69 Receptor on Natural Killer Cells. (CD69 is highly correlated with NK cell activity)

T and B Cell Lymphocyte Activation*

Adaptive Immune System Activation

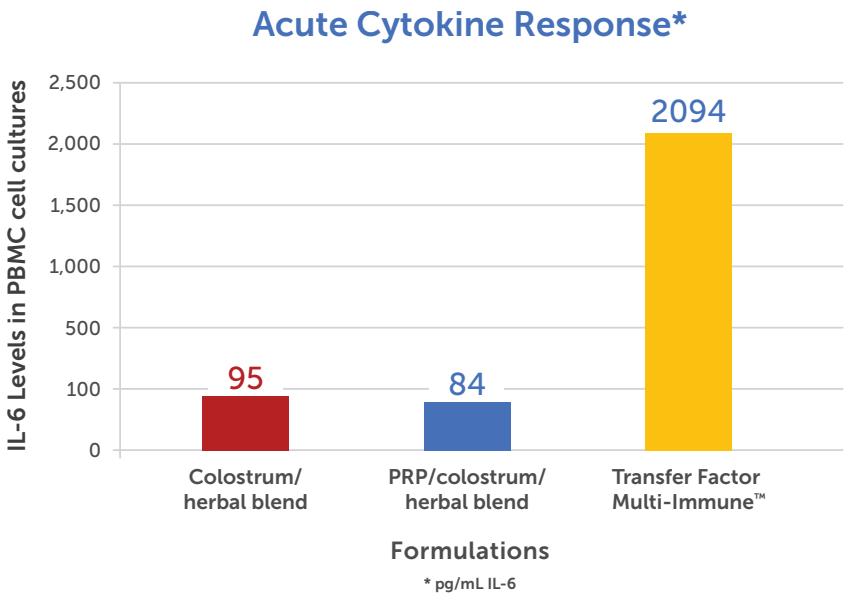


*Mean Fluorescent Intensity Percent Change CD69 and CD25 Receptors on Lymphocytes

MORE

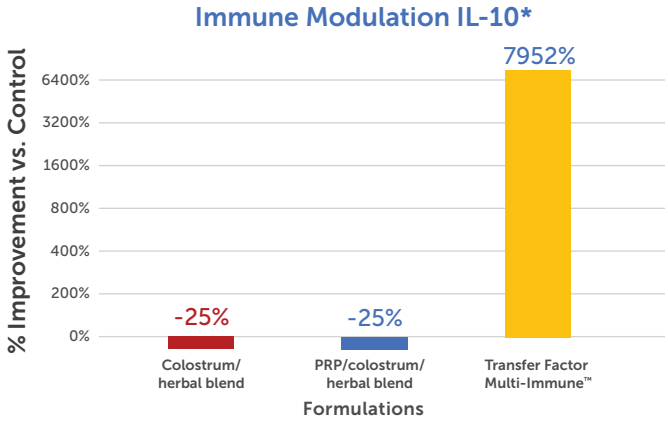
Cytokine Response

- Transfer Factor Multi-Immune™ mounted the strongest acute immune response with the release of pro-inflammatory cytokines
- Colostrum & herbal blend demonstrated a mild cytokine immune response
- Proline-rich peptides, colostrum & herbal blend were the least effective at mounting an acute immune response

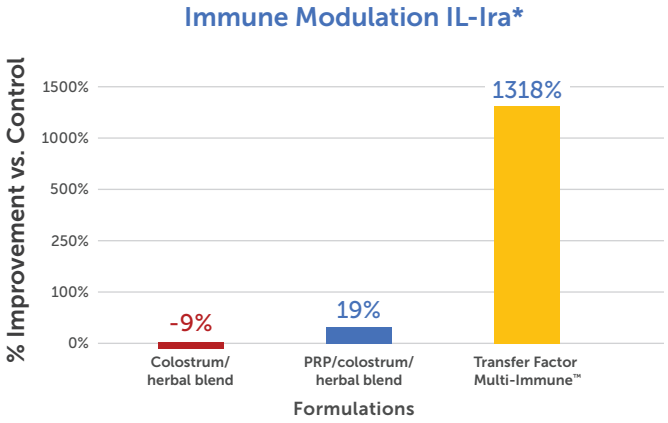


Immune Modulation

- Transfer Factor Multi-Immune™ mounted the most effective immune modulation to promote immune system balance



* % Improvement In Mean Fluorescent Intensity for IL-10 on Peripheral Blood Mononuclear Cell Cultures (PBMC)



* % Improvement In Mean Fluorescent Intensity for IL-1ra on Peripheral Blood Mononuclear Cell Cultures (PBMC)

Discussion:

This research was able to elucidate the mechanisms of action of each of the three nutritional supplements. Although many of the herbal ingredients and colostrum have been studied, this research provides an in-depth understanding of how transfer factor provides a comprehensive impact on the immune system, including Th1, Th2, Th17 and T-reg cells.

Conclusion:

Transfer factor supports a strong Th1 response, along with immune modulation of Th2, Th17, and Treg cells, that is very different from colostrum and proline-rich peptides.

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