

PUBLISHED PEER-REVIEWED STUDY SHOWS THAT 4LIFE TRANSFER FACTOR® SUPPRESSES OVERACTIVE IMMUNE RESPONSES*

Technical White Paper

Dr. Lawry Han

4Life Research, Sandy, Utah

OBJECTIVE

This study, "Immunomodulatory Effects of Modified Bovine Colostrum, Whey, and Their Combination with Other Natural Products: Effects on Human Peripheral Blood Mononuclear Cells," published in *Current Therapeutic Research*, evaluated the influence of 4Life Transfer Factor products on human peripheral blood mononuclear cells' (PBMC) ability to produce cytokines upon activation. Cytokines help coordinate immune responses to potential health threats, and PBMCs are commonly used in immune system research.*

BACKGROUND

Some natural products, including bovine colostrum, have well-known immune system benefits for humans. 4Life Transfer Factor is derived from bovine colostrum and chicken egg yolk using a specialized and patented process for optimal immune system benefits. 4Life has a long history of studying the immune benefits of 4Life Transfer Factor. Numerous studies (including in vitro, preclinical, and human clinical studies¹) have shown that 4Life Transfer Factor significantly improves immune system function.*

An underactive immune system is bad for human health, but an overactive immune system can be equally bad. The best option is to have a robust and balanced immune system to protect your body. This study observed the effects of 4Life Transfer Factor on cytokine production when facing an overactive immune response in PBMCs.*²

STUDY DESIGN

PBMCs were pretreated with UltraFactor®, NanoFactor®, OvoFactor®, 4Life Transfer Factor® Blend, or 4Life® Transfer Factor Plus® Tri-Factor® Formula. PBMCs were then stimulated with lipopolysaccharide (LPS) or phytohemagglutinin (PHA) to mimic overactive immune responses, which were typically marked by overproduction of cytokines. Cytokine levels were then measured to evaluate the impact of 4Life Transfer Factor products on cytokine production when facing overactive immune responses in PBMCs. The levels of cytokines IL-1 β, IL-6, IL-8, and TNF-α were measured in LPS-activated PBMCs. The levels of cytokines of IL-1 β, IL-5, IL-10, IL-13, IFN-γ, and TNF-α were measured in PHA-activated human PBMCs.*

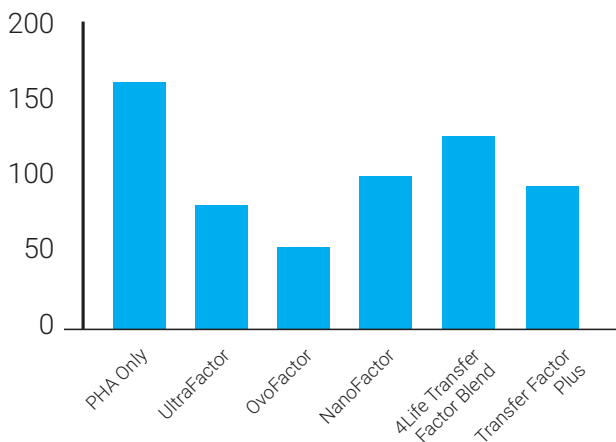
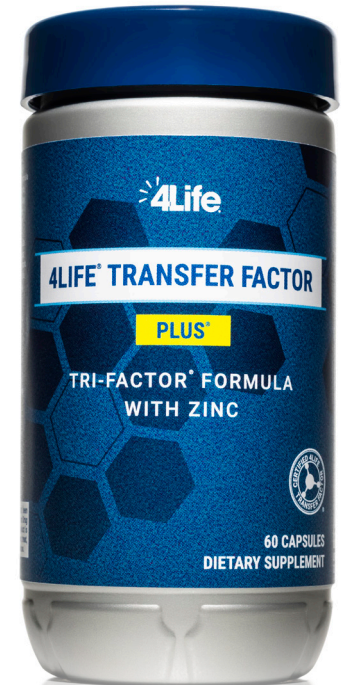


FIGURE 1

4Life Transfer Factor products significantly suppressed IL-5 production in PHA-activated PBMCs, compared to PHA-activated PBMCs without treatment from any 4Life Transfer Factor products.*



STUDY FINDINGS

All studied 4Life Transfer Factor products demonstrated robust immunomodulatory properties and regulated cytokine production in overactive PBMCs. The studied products mainly suppressed cytokine production in LPS-activated PBMCs and PHA-activated PBMCs. For example, all these studied 4Life Transfer Factor products significantly suppressed the production of IL-5, a powerful pro-inflammatory cytokine, in PHA-activated PBMCs (See Figure 1).*

CONCLUSION

This published peer-reviewed study showed that 4Life Transfer Factor products modulated innate and adaptive immune cell activities. Specifically, 4Life Transfer Factor products were able to calm down overactive immune responses. This study has opened the door for applications of 4Life Transfer Factor products across many aspects of health, not only for those who can benefit from boosting their immune system function, but also balancing their immune system.*

1. <https://www.4life.com/corp/Page/47/studies-and-publications>

2. Xuesheng Han, David Vollmer, Elena Y. Enioutina. Immunomodulatory Effects of Modified Bovine Colostrum, Whey, and Their Combination with Other Natural Products: Effects on Human Peripheral Blood Mononuclear Cells, *Current Therapeutic Research*, Volume 99, 2023, 100720, <https://doi.org/10.1016/j.curtheres.2023.100720>.

*THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE, OR PREVENT ANY DISEASE.