

4Life™ News Brief:

Independent Bio-Assay Overview

December 11, 1998

Salt Lake City, UT - 4Life Research, a Provo, Utah research and development company released its latest assaying and testing for its new 4Life Transfer Factor™ product.

Transfer factor is a scientifically recognized delivery system for transferring immune system advantages from one species to another. In the patented process licensed to 4Life, immune factors are generated in cows and then "transferred" as a nutritional supplement to humans. Products manufactured incorporating the process are anticipated by industry experts to be the "next wave" of nutritional supplementation, operating in the newly defined area of "structure/function" claims. Dr. William Hennen, who is one of the world authorities on *transfer factor*, says of the science and technology: "*Transfer factor* is a material that has the ability to modulate the immune system. 4Life Transfer Factor™ contains both materials that help the immune system respond more effectively and materials to make sure the immune system is not over-responding."

4Life's founder and president, David Lisonbee said, "4Life has an agreement with the patent inventors to market *transfer factor*. United States Patent No. 4,816,563, issued on March 28, 1989, is licensed to 4Life. This patent describes the proprietary process used by 4Life to create its unique Transfer Factor™.

The only patent 4Life is aware of which identifies transfer factor in colostrum, the process for obtaining transfer factor from colostrum and whey, and the patented method "to further concentrate and/or purify transfer factor" from colostrum, is the one licensed to 4Life. It is United States Patent No. 4,816,563.

Laboratory Testing of 4Life's Transfer Factor™

According to William Hennen, Ph.D., Vice President of Research and Development at 4Life, "Each and every batch of Transfer Factor™ is tested by an independent laboratory with established, documented credentials in assessing for transfer factor activity. Very few laboratories have the experience or credentials to assay for TF activity. We go to great lengths to assure the quality of transfer factor in our product. This is the reason our distributors are consistently having such great success with Transfer Factor™. From infants to the elderly, reports keep coming in every day with results that have matched or exceeded our every expectation. Transfer factor has nearly 50 years of research and over 3,000 clinical studies and scientific papers proving its existence and effectiveness. Our licensed patent proved for the first time that transfer factor exists in colostrum and that it can be successfully extracted and assayed."

Independent Laboratories Show Transfer Factor Activity in 4Life's Transfer Factor™

Independent laboratory tests clearly indicate that 4Life's Transfer Factor™ shows significant transfer factor activity equal to the effectiveness of the standard vaccine.

The biological and chemical testing laboratory, BioLogics Inc. states the following regarding 4Life's Transfer Factor™:

"BioLogics Inc. has completed testing the preparations of bovine colostrum you sent for evaluation for TF (transfer factor) activity. Each preparation was evaluated for TF activity using a mouse foot- pad assay which measures delayed-type hypersensitivity (DTH). The results are shown below. A preparation was considered active if it induced significant DTH ($p < 0.005$ or better) as compared to the response to [an] antigen in control mice which were naive (not treated with TF)."

Preparation tested	Transfer Factor Presence	Transfer Factor Active	
Vaccinated Controls <i>Mice injected with standard antigen vaccine</i>	0.01 > P > 0.001	YES (P < 0.01)	Very Active
Colostrum Fraction <i>Normally fractionated colostrum</i>	0.20 > P > 0.10	NO (P > 0.10)	Failed
4Life Transfer Factor™ <i>Patented extract of colostrum</i>	0.01 > P > 0.001	YES (P < 0.01)	Very Active

"Further, it is critical to understand that a proper transfer factor assay includes both a zero-point standard and a high-end standard (to set the span of the scale.) The zero-point standard accounts for the nutritional value of the transfer factor preparation and is represented by the fractionated colostrum listed in the second row above. A vaccinated control is the GOLD STANDARD for establishing the high-end of the immunological scale as represented in the first row.

As was clearly shown, 4Life's Transfer Factor™ was not only measurably more potent than the normal colostrum of the second row, it was equal to the vaccine standard in causing a strong immune response," stated Dr. Hennen.

Top Transfer Factor Researcher Tests 4Life's Transfer Factor™

One of the world's leading TF researchers has also tested 4Life's Transfer Factor™ using a mouse foot-pad assay.

"Three different colostrum extracts were tested, one of which was 4Life's Transfer Factor™. 4Life's Transfer Factor™ tested highest in TF activity of any of the samples tested."

Molecular Weight Laboratory Testing of 4Life's Transfer Factor™

An independent laboratory experienced in molecular weight analysis tested samples of 4Life's Transfer Factor™ and found it to contain exactly what 4Life claims it contains: Molecules in the molecular weight of 10,000 daltons or less. Bay Bioanalytical Laboratory, Inc. stated in their report:

"[We] have reviewed the analysis of [4Life's] Transfer Factor performed in our laboratory using HPLC and a size exclusion column coupled with a light scattering, refractive index and a UV detector. Based on our analysis we can conclude [that] the analyzed fraction is composed primarily of molecules below 10,000 [daltons] molecular weight."

Bay Bioanalytical Laboratory, Inc.