✦**Transfer factor** is a scientifically proven means of intricate immune communication at the cellular level. Produced by the immune system, it is naturally designed to transfer highly concentrated, easily usable immune intelligence from one immune system to another, as from human mother to baby through her colostrum or "first milk."[1]

In 1949, Dr. H. Sherwood Lawrence demonstrated that transfer factors, when obtained from an immune-competent donor, could transfer that immune competence to immune-naïve recipients.[2]

Transfer factors are essential components of immune health in even the most primitive of species, and have been found to be universally effective between mammals. This means "TF" is not species specific (the isolated molecules are essentially identical) and so is an effective means of "transferring immune system advantages from one species to another." [3]

The tiny size of these molecules make them non-allergenic; [4], and more than 50 years of scientific research has provided a wealth of evidence regarding transfer factor's safety and benefits toward immune effectiveness.[5, 6, 7]

TF is the essence of the immunologic message[8] and **relays "how to function" memory from the competent immune system to the naïve or compromised immune system**. The result is:

1) the ability to more rapidly recognize and respond to a wide range of health threats;[9]

2) effective immune system regulation, which helps to avoid inappropriate responses resulting in overreaction to non-harmful stimuli, or misdirected action toward one's own tissues;[10,11]

3) antigen specific components of TF influence the activity of macrophages and cytotoxic T-lymphocytes, thus helping the immune system to function more effectively in recognizing certain microorganisms and antigens.[12]

4) activation of Natural Killer or "NK" cells, the first-line-of-defense immune-cell warriors whose function is to seek and destroy harmful microbes and abnormal cells;[13,14] [Though once believed to do this without prior stimulation, a 2004 research study conducted at Rockefeller University demonstrated that NK cells require activation to function effectively.[15]]

5) aggressive and effective immune response in a variety of pathologies.[16,17,18,19,2]

---

1 **Process for obtaining transfer factor from colostrum transfer factor so obtained and use thereof**. Wilson, GB, Paddock GV. US Patent Number 4816563; Mar. 28, 1989. http://www.patentstorm.us/patents/4816563/fulltext.html

2 **The cellular transfer of cutaneous hypersensitivity to tuberculin in man**. Lawrence HS, Proc Soc Exp Biol Med. 1949 Aug;71(4):516-22. http://www.ncbi.nlm.nih.gov/pubmed/18139800 [PubMed - OLDMEDLINE] Full text in PDF documents for NRR website folder.

3 **A new basis for the immunoregulatory activities of transfer factor—an arcane dialect in the language of cells**. Lawrence HS, Borkowsky W. Cell Immunol. 1983; 82:102-16. http://www.ncbi.nlm.nih.gov/pubmed/6227395 Full text in PDF in NRR website library.

4 **Effect of in vitro produced transfer factor on the immune response of cancer patients.** Pizza G, Viza D, Boucheix C, Corrado F. Eur J Cancer. 1977 Sep;13(9):917-23. http://www.ncbi.nlm.nih.gov/pubmed/578792 Available

in PDF for purchase at Science Direct: http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B7GGP-4C11C1J-1FS&_user=10&_coverDate=09%2F30%2F1977&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=12809144 40&_rerunOrigin=google&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=262f45625cce13bac934 22406d644b09
5 **In vitro studies during long-term oral administration of specific Transfer Factor**. Pizza C, De Vinci C, Fornarola V~ Palareti A, Baricordi 0, Viza D. *Biotherapy* 1996; 9(1-3): 175-85. http://www.ncbi.nlm.nih.gov/pubmed/8993778 PDF full text available for purchase at: http://www.springerlink.com/content/wt8657697055k611/
6 **Transfer factor 1993: New frontiers.** Judenbert HH, Pizza G. Progress in Drug Research. Vol. 42. © 1994 Birkhäuser Berlag Basel (Switzerland). http://www.ncbi.nlm.nih.gov/pubmed/8085011
7 **Transfer factor in malignancy.** Pizza, G, De Vinci C, Fudenberg HH. Prog Drug Res. 1994;42:401022. http://www.ncbi.nlm.nih.gov/pubmed/8085013
8 **Enhanced Transfer Factor**, 3rd edition, p.11. Hennen WJ., Ph.D., Woodland Publishing, 2005. http://www.discovertransferfactor.com/ebooks.htm
9[The biological activity of the transfer factor induced by bacterial antigens]. Liubchenko TA, Holeva OH, Kholodna LS, et al. Mikrobiol Z. 1997 Sep-Oct;59(5):83-100. [Article in Ukrainian]
http://www.ncbi.nlm.nih.gov/pubmed/9480022
10 **A new basis for the immunoregulatory activities of transfer factor–an arcane dialect in the language of cells.** Lawrence HS, Borkowsky W. Cell Immunol. 1983 Nov;82(1):102-116. http://www.ncbi.nlm.nih.gov/pubmed/6227395
11 **Transfer Factor current status and future prospects**. Lawrence HS, Borkowsky W.: Biotherapy 1996, 9(1-3), 1-5. http://www.ncbi.nlm.nih.gov/pubmed/8993750
12 **Methodological Letter_14/231 Transfer Factors Use in Immunorehabilitation After Infectious-Inflammatory and Somatic Diseases.** Vorobiev AA, Telnuikh IuV, Khalturina EO, et al. Reviewed by Tutelian BA, Karaulov AV. Ministry of Health and Social Development of the Russian Federation. Moscow, 30 Jul 2004. http://www.discovertransferfactor.com/ebooks.htm
13 **Increased tumor necrosis factor alpha (TNF-alpha) and natural killer cell (NK) function using an integrative approach in late stagecancers**. See D, Mason S, Roshan R. Immunol Invest. 2002 May;31(2):137-53. http://www.ncbi.nlm.nih.gov/pubmed/12148949
14 **Methodological Letter_14/231 Transfer Factors Use in Immunorehabilitation After Infectious-Inflammatory and Somatic Diseases.** Vorobiev AA, Telnuikh IuV, Khalturina EO, et al. Reviewed by Tutelian BA, Karaulov AV. Ministry of Health and Social Development of the Russian Federation. Moscow, 30 Jul 2004. http://www.discovertransferfactor.com/ebooks.htm
15 **The Abundant NK Cells in Human Secondary Lymphoid Tissues Require Activation to Express Killer Cell Ig-Like Receptors and Become Cytolytic.** Ferlazzo G., Thomas D, Lin SL, et al, *The Journal of Immunology*, 2004, 172: 1455-1462. http://www.ncbi.nlm.nih.gov/pubmed/14734722; Free full text: http://www.jimmunol.org/cgi/content/full/172/3/1455
16 Hennen WJ., Ph.D., **Enhanced Transfer Factor**, 3rd edition, p.13. Woodland Publishing, 2005. http://www.discovertransferfactor.com/ebooks.htm
17Hennen WJ., Ph.D., **Enhanced Transfer Factor**, 3rd edition, p.15. Woodland Publishing, 2005. http://www.discovertransferfactor.com/ebooks.htm
18 **Cell mediated immunity to meet the avian influenza A (H5N1) challenge**. Pizza G, Amadori M, Ablashi D, De Vinci C, Viza D. Med Hypotheses. 2006;67(3):601-8. PMID: 16603322 [PubMed - indexed for MEDLINE] http://www.ncbi.nlm.nih.gov/pubmed/16603322
19 **Methodological Letter_14/231 Transfer Factors Use in Immunorehabilitation After Infectious-Inflammatory and Somatic Diseases.** Vorobiev AA, Telnuikh IuV, Khalturina EO, et al. Reviewed by Tutelian BA, Karaulov AV. Ministry of Health and Social Development of the Russian Federation. Moscow, 30 Jul 2004. http://www.discovertransferfactor.com/ebooks.htm
20 **Protection of cells against HIV infection by the dialyzable leukocyte extract prior to cell culture duplication.** Fernández-Ortega C, Dubed M, Álvarez, et al. Biotechnología Aplicada 2008; 25: 145-148. Full text PDF: www.elfosscientiae.cigb.edu.cu/PDFs/BA/2008/25/2/BA002502OL145-148.pdf
21 **Transfer factors as immunotherapy and supplement of chemotherapy in experimental pulmonary tuberculosis.** Fabrae R A, Pérez T M, Aguilar L D, et al. Clin Exp Immunol. 2004 May; 136(2): 215–223. http://www.ncbi.nlm.nih.gov/pubmed/15086383; Free full text: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1809022/