

Differentially Expressed Genes in Large Granular Lymphocyte Leukemia

Researchers at the University of South Florida have developed a novel method which utilizes gene sequences as markers to screen, detect, diagnose, and treat large granular lymphocyte (LGL) leukemia.

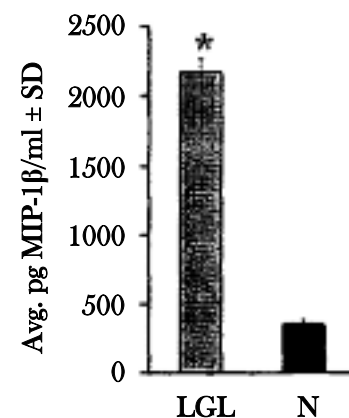
Leukemia can be defined as a malignant disease of the blood or bone marrow and is characterized by the formation of mutant white blood cells. Healthy white blood cells, known as lymphocytes, fight infections and diseases. Mutations in these cells cause abnormal growth and impair cell functions. LGL leukemia is one of multiple chronic forms of leukemia and is often associated with various autoimmune diseases such as rheumatoid arthritis. Certain types of LGL leukemia can be extremely deadly. For example, NK-LGL is notoriously aggressive with 80% of patients dying within two months of diagnosis despite treatment with multi-agent chemotherapy. The deadly forms of this disease highlight the need for earlier detection methods and a more effective LGL leukemia treatment option.

USF researchers have developed novel materials and methods for the screening, diagnosis, and treatment of LGL leukemia and associated autoimmune disorders such as rheumatoid arthritis. A series of novel gene sequences in these disorders have been identified and can be used as molecular markers for screening and diagnostic measures. The same gene sequences may also be utilized as novel therapeutic targets for treatment. A biological sample is taken for the screening and treatment process and can be obtained from various fluids including the peripheral blood, urine, or saliva.

ADVANTAGES:

- Potential LGL leukemia therapeutic applications
- Early LGL leukemia detection
- Applications for autoimmune disorders
- Simple sampling method

Novel Gene Sequences for the Detection and Treatment of LGL Leukemia



LGL Leukemia Cells Exhibit a Significant Overexpression of Lymphocyte Related Proteins When Compared to Normal (N) Cells