



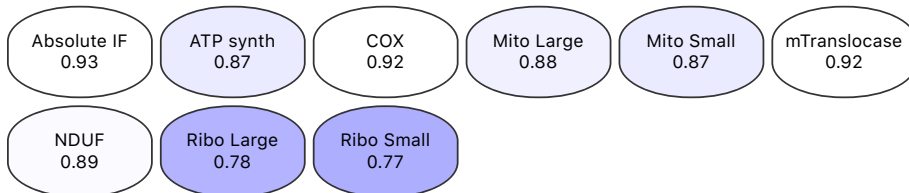
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 Phone: 410-957-1550  
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 Order Date: 2019

Patient ID: 16851  
 Ordering Physician: Shoemaker  
 Draw Date: 12/03/2019  
 Assay Date: 12/11/2019

**GENIE REPORT - Gene Expression: Inflammation Explained**

**1) Metabolism**

Ratio for metabolic gene families compared to normal controls. 1 equals control value.



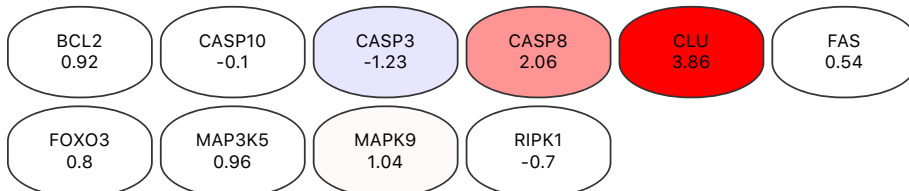
**2) Insulin**

The system that controls circulating blood sugar as well as sugar entry into the cell including binding proteins, receptors and growth factors.



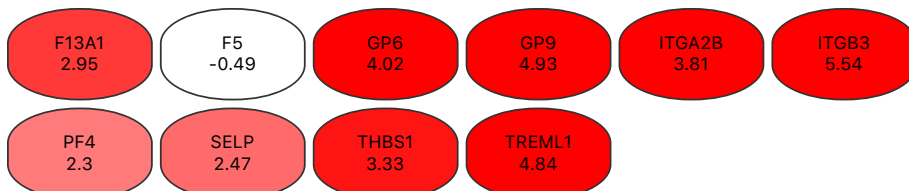
**3) Apoptosis**

Can be triggered by mild cellular injury and by various factors internal or external to the cell; the damaged cells are then disposed of in an orderly fashion.



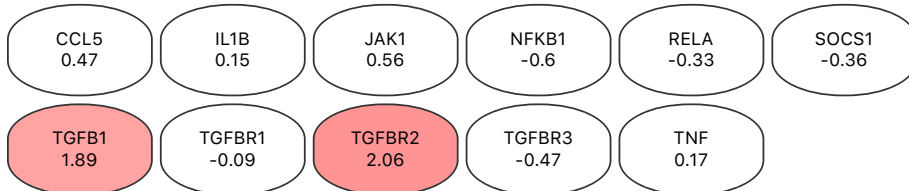
**4) Coagulation**

Also known as clotting is the process by which blood changes from a liquid to a gel forming a blood clot. It potentially results in hemostasis.



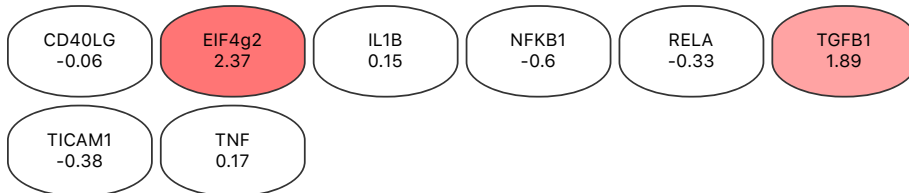
**5) Cytokines**

Signaling molecules that direct immune function.



### 6) Lyme

These genes were found to be changed in patients with acute and post antibiotics Lyme disease.



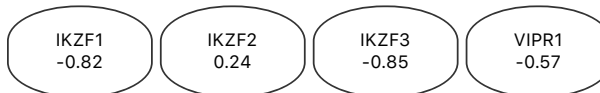
### 7) GZMS/DEF

Granzymes are proteases used by NK and Cytotoxic T cells to destroy unhealthy cells. Defensins are antimicrobial peptides.



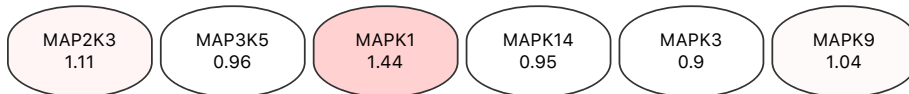
### 8) Ikaros

A family of transcription factors important for lymphocyte proliferation and senescence.



### 9) MAP Kinase

MAPKs are involved in directing cellular responses to a diverse array of stimuli.



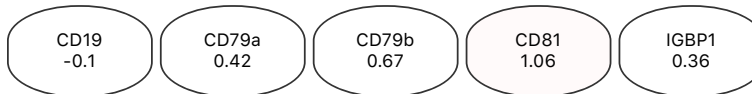
### 10) Toll Receptors

Different TLRs recognize different surface and intracellular components of microorganisms and are important in innate defense.



### 11) B Cells

Most often associated with antibody production.



### 12) T Cells

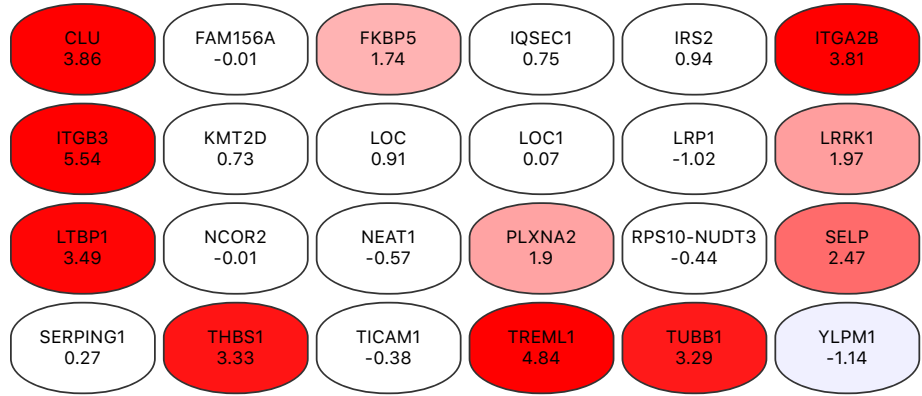
Most often associated with cell to cell combat and immunosynapse with APCs.



### 13) CIRS

#### Biomarkers - UP

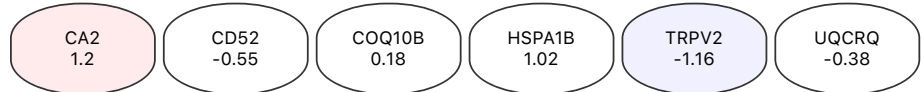
Genes important to CIRS typically found upregulated



### 14) CIRS

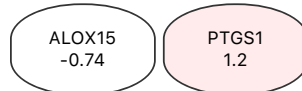
#### Biomarkers

Genes important to CIRS



### 15) Prostaglandins

Lipid signalling molecules



### 16) PTSD

Post Traumatic Stress Disorder



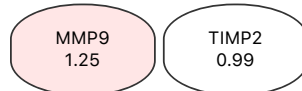
### 17) Histamine

Inflammatory vasodilator



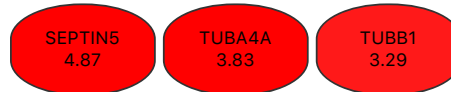
### 18) ECM

Extracellular Matrix



### 19) Cytoskeleton

A dynamic network of interlinking protein filaments that support cellular structure.



### 20) Complement

Plasma proteins of the innate immune system

