"NOVEL TARGET AND COMPOUND FOR TREATMENT OF INFLAMMATORY AUTOIMMUNE DISEASES" VCU # 11-097

Applications

- Potential novel treatment mechanism for inflammatory autoimmune diseases
- Multiple Sclerosis
- Rheumatoid Arthritis
- Further research into the involvement of MDSCs in disease progression

Advantages

- Marked reduction of the symptoms of MS and RA in mice

Inventors

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Market Need

Rheumatoid arthritis (RA) is an inflammatory autoimmune disease affecting 1 to 3% of Americans. It is known for its debilitating effects on the synovial joints causing cartilage and bone destruction eventually leading to death. While believed to have genetic factors, the underlying pathology of RA and other similar inflammatory autoimmune diseases remains relatively unknown. Historically, myeloid-derived suppressor cells (MDSCs) have been linked to tumor growth and certain inflammatory conditions. Recently, researchers have observed MDSCs in connection with inflammatory autoimmune diseases such as RA, multiple sclerosis, inflammatory bowel disease, and psoriasis.

Technology Summary

VCU researchers have discovered the involvement of MDSCs in the progression of inflammatory autoimmune diseases. Additionally, they have discovered a new use for an existing compound and a monoclonal antibody that selectively reduces MDSCs in mice. They have documented the compound as having a marked diminishing effect on the symptoms of inflammatory autoimmune diseases. This discovery presents a new avenue of treatment for diseases such as multiple sclerosis and rheumatoid arthritis.

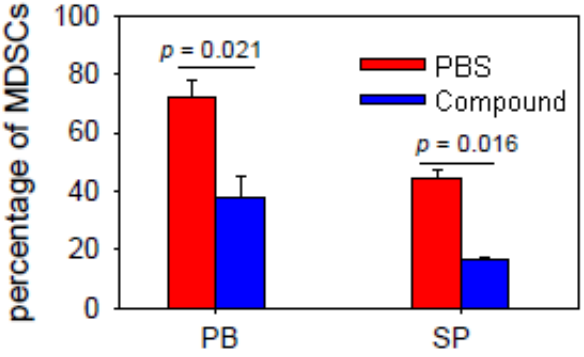

Figure 1: Compound dramatically decreases MDSCs in Peripheral Blood and Spleen Cells

Technology Status

Patent pending: U.S. and foreign rights are available. Researchers have studied the impact of MDSCs and their novel compound using a mouse model with similar symptoms as human autoimmune diseases.

This technology is available for licensing to industry for further development and commercialization.

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