"A NOVEL THERAPEUTIC TARGET FOR SEPSIS TREATMENT" VCU #12-51

Applications

- Sepsis
- Hemorrhagic shock
- Identification of therapeutic compounds
- Potential diagnostic tool to screen different stages of sepsis

Advantages

- New pathway and target
- Combined diagnostic tool and therapeutic target
- New approach for sepsis treatment

Inventors

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Market Need

Sepsis is the second-leading cause of death in non-coronary ICU patients, with high mortality rates of 50%. With sepsis, bacterial antigens stimulate a cascade of cellular events leading to multisystem organ failure and death. Current treatment of sepsis rests mostly on antibiotics, blood pressure management and surgical drainage of infected fluid, but this is not fully effective and needs to be improved in order to decrease the mortality associated with this condition.

Technology Summary

This is a new method and target for sepsis and hemorrhagic shock treatment by regulation and modulation of endogenous bioactive lipids mediators. Researchers have demonstrated with *in vivo* studies that inhibition of this target can shift the balance between pro- and anti-inflammatory molecules and stimulate the production of anti-inflammatory eicosanoids leading to a resistance to LPS-induced septic shock. This discovery not only presents a possibility to identify molecules for the development of new therapeutics for sepsis and hemorrhagic shock, but also represents the potential for creation of a diagnostic tool for different stages of sepsis.

Technology Status

In vitro and *in vivo* experiments show the importance of this target in sepsis. Currently seeking partners for drug screening and further development of the technology.

Patent pending: U.S. and foreign rights are available.

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