Methods and Compositions for Treating Inflammatory Diseases
Tech ID: 33049 / UC Case 2019-199-0

BACKGROUND

Immune responses are crucial in fighting against infections. An uncontrolled immune response, however, can be deadly. Sepsis is one such inflammatory disease that can lead to organ failure and death, so it is crucial to develop new sepsis therapies. Long noncoding RNAs (IncRNAs), although not translated into proteins themselves, can regulate gene expression in biological processes. Studies have shown that IncRNAs can regulate immune responses, which leads to substantial interest in implicating IncRNAs in inflammatory diseases.

TECHNOLOGY DESCRIPTION

This invention involves inhibitors of gastric adenocarcinoma predictive long intergenic noncoding (GAPLINC) RNA, a type of IncRNA, and is based on UC Santa Cruz researchers’ discovery that GAPLINC plays a role in regulating inflammation. GAPLINC knockdown studies suggested that GAPLINC negatively regulates the inflammatory response. Depleting GAPLINC increased expression of immune response genes. Furthermore, in response to endotoxic shock, Gaplinc knockout mice showed 100% survival, whereas wild type mice showed 0% survival after 2 days. By inhibiting GAPLINC, treatment for sepsis can start to go beyond supportive care.

APPLICATIONS

INVENTORS

▶ Carpenter, Susan
▶ Covarrubias, Sergio
▶ Vollmers, Apple

OTHER INFORMATION

KEYWORDS
long noncoding RNA, inflammation, GAPLINC, innate immunity, sepsis, p65

CATEGORIZED AS
▶ Medical
▶ Disease: Autoimmune and Inflammation
▶ Therapeutics

RELATED CASES
2019-199-0
ADVANTAGES

- unmet need

INTELLECTUAL PROPERTY INFORMATION

Patent Pending

RELATED MATERIALS

- A conserved long noncoding RNA, GAPLINC, modulates the immune response during endotoxic shock - 02/10/2021