

# Mitigating The Lethal Coagulopathy Of Sepsis

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## Technology description

### Summary

Sepsis remains a major cause of death worldwide. UC San Diego researchers have discovered that the Ashwell receptor in the liver protects against the lethal coagulopathy of sepsis and by activating the receptor one can increase survival.

### Description

Glycosylation produces glycan ligands of receptors termed lectins. The Ashwell receptor is the major lectin of hepatocytes and rapidly clears from blood circulation glycoproteins bearing glycan ligands that include galactose and N-acetylgalactosamine. This asialoglycoprotein receptor activity remains a significant factor in the preparation and delivery of pharmaceuticals, yet a biological purpose of the Ashwell receptor has remained elusive. UC San Diego researchers have identified ligands of the Ashwell receptor as endogenous glycoproteins and regulatory components in blood coagulation and thrombosis. Ashwell receptors are poised to induce thrombocytopenia associated with streptococcal pneumoniae infection by eliminating platelets that have been de-sialylated by the bacterial NanA neuraminidase. This hemostatic adaptation by the Ashwell receptor moderates the onset and severity of disseminated intravascular coagulation during sepsis and improves the probability of host survival.

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