

Engineered spleen fights sepsis

Researchers have developed a high-tech method to rid the body of infections — even those caused by unknown pathogens. A device inspired by the spleen can quickly clean blood of everything from *Escherichia coli* to Ebola, researchers report on September 14, 2014, in *Nature Medicine*.

Blood infections can be very difficult to treat, and can lead to sepsis, an often-fatal immune response. More than 50 percent of the time, physicians cannot diagnose the cause of an infection that has prompted sepsis, and so they resort to antibiotics that attack a broad range of bacteria. This approach is not always effective, and can lead to antibiotic resistance in bacteria.

In search of a way to clear any infection, a team led by Donald Ingber, a bioengineer at the Wyss Institute for Biologically Inspired Engineering in Boston, Massachusetts, developed an artificial 'biospleen' to filter blood.

The device uses a modified version of mannose-binding lectin (MBL), a protein found in humans that binds to sugar molecules on the surfaces of more than 90 different bacteria, viruses and fungi, as well as to the toxins released by dead bacteria that trigger the immune overreaction in sepsis.

Read the full, original story: [Artificial spleen cleans up blood](#)