M-CSF plays role in host defense in bacterial pneumonia

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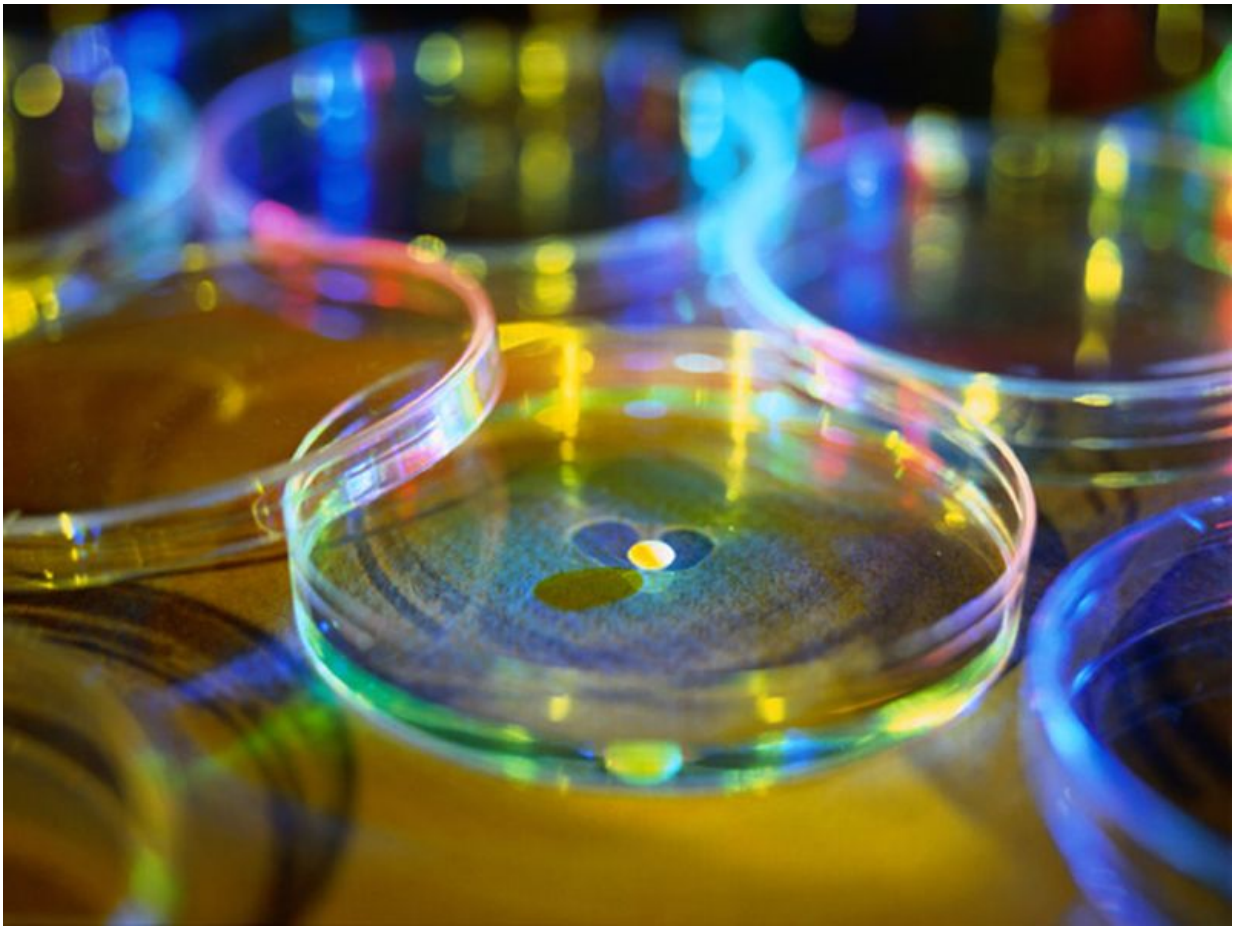

(HealthDay)—The cytokine M-CSF promotes survival of lung and liver

mononuclear phagocytes to mediate host defense during bacterial pneumonia, according to an experimental study published in the June 15 issue of *The Journal of Immunology*.

Noting that M-CSF has multiple effects on mononuclear phagocytes, Alexandra Bettina, from the University of Virginia in Charlottesville, and colleagues examined the role of M-CSF during bacterial pneumonia in a murine model.

The researchers observed reduced survival, increased bacterial burden, and greater lung injury with genetic deletion or immunoneutralization of M-CSF. M-CSF was also essential for lung mononuclear phagocyte expansion during infection, but had no effect on the number of bone marrow or blood monocytes, precursor proliferation, or leukocyte recruitment to the lungs. However, during pneumonia, M-CSF was necessary for survival and antimicrobial functions of lung and liver mononuclear phagocytes; bacterial dissemination to the liver and hepatic necrosis were seen in its absence.

"We conclude that M-CSF is critical to host defenses against bacterial pneumonia by mediating survival and antimicrobial functions of mononuclear phagocytes in the lungs and liver," the authors write.

More information: Abstract
Full Text (subscription or payment may be required)