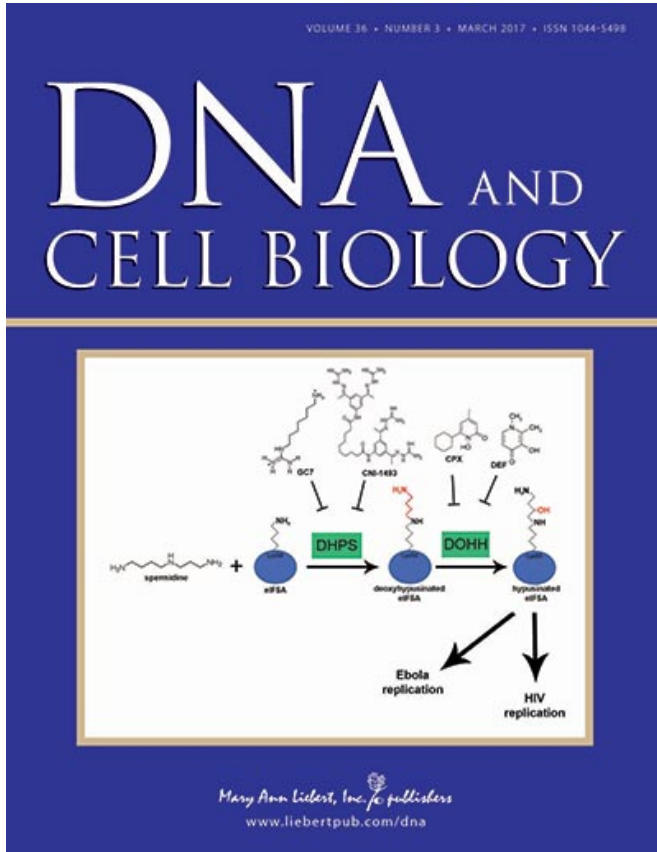


How do Ebola virus proteins released in exosomes affect the immune system?

16 March 2017



University, Benjamin Lepene, Ceres Nanosciences, Manassas, VA, and M. Javad Aman, Integrated BioTherapeutics, Gaithersburg, MD, discuss the latest research on the effects of the Ebola VP40 matrix protein on the immune system. The authors suggest that in addition to VP40, additional [viral proteins](#) may also be packaged in the membrane-bound exosomal vesicles, intensifying the damaging effects on [immune cells](#).

"Starting in December 2013, Ebola re-emerged in Western Africa and devastated the population of three countries, prompting an international response of physicians and of basic and translational scientists. This epidemic led to the development of new vaccines, therapeutics, and insights into disease pathogenesis and epidemiology," says Carol Shoshkes Reiss, PhD, Editor-in-Chief of *DNA and Cell Biology* and Professor, Departments of Biology and Neural Science, and Global Public Health at New York University, NY. "This paper from Pleet and colleagues is important because it shows that Ebola-infected cells secrete small bits of cytoplasm inside membranes, which contain Ebola viral proteins that can damage neighboring and distant host cells."

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Cells infected by the deadly Ebola virus may release viral proteins such as VP40 packaged in exosomes, which, as new research indicates, can affect immune cells throughout the body impairing their ability to combat the infection and to seek out and destroy hidden virus. The potential for exosomal VP40 to have a substantial impact on Ebola virus disease is examined in a review article published in *DNA and Cell Biology*.

In the article entitled "The Role of Exosomal VP40 in Ebola Virus Disease," Michelle Pleet, Catherine DeMarino, and Fatha Kashanchi, George Mason

More information: Michelle L. Pleet et al, The Role of Exosomal VP40 in Ebola Virus Disease, *DNA and Cell Biology* (2017). [DOI: 10.1089/dna.2017.3639](#)

Provided by Mary Ann Liebert, Inc

APA citation: How do Ebola virus proteins released in exosomes affect the immune system? (2017, March 16) retrieved 5 May 2021 from <https://medicalxpress.com/news/2017-03-ebola-virus-proteins-exosomes-affect.html>

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