Deconstructing Ebola to find its weakness and defeat it

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The Ebola epidemic in West Africa has pushed the decades-long search for a treatment to a frenetic pace. Somewhere in the virus' deceptively simple structure is a key to taming it. To find that key, scientists are undertaking multiple strategies, some of which are being fast-tracked for human testing, according to an article in *Chemical & Engineering News* (*C&EN*), the weekly newsmagazine of the American Chemical Society.

Senior editors Lisa M. Jarvis and Bethany Halford of *C&EN* note that the Ebola virus is endowed with a mere seven genes that code for eight proteins. Although few in number, the proteins each have many functions, which allow the virus to commandeer nearly 70 proteins from a person it infects. To fight this highly efficient virus, scientists are taking several approaches. They're designing antibodies to prevent the virus from attaching to host cells, and working on small molecules to attack the virus at various stages of its life cycle. They're also starting clinical trials on antiviral drugs that are already approved to treat other kinds of infections.

If developed quickly enough, an effective treatment could curb the current outbreak. It could also potentially spare the world from future epidemics. But as some scientists point out, drugs and vaccines take years to tailor into safe and effective therapies, so it's essential the efforts continue long after this crisis passes.

More information: "Unraveling Ebola" - cen.acs.org/articles/92/i48/Unraveling-Ebola.html

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