

Demystifying Science: What is Vaccinia?

The Vaccinia virus (VACV or VV) is a large, complex, enveloped virus belonging to the poxvirus family. It has a linear, double-stranded DNA genome approximately 190 kbp in length, and which encodes approximately 250 genes. The vaccinia was at the heart of the modern smallpox vaccine. History has it that Edward Jenner isolated a cowpox virus and injected it into a boy. This protected him from small pox and birthed the vaccination era. However, recent work finds that Jenner may not have just used a cowpox virus. What he used may have contained even the horsepox virus and slivers of other viruses too. This cocktail makes up vaccinia and there are new investigations into its genetic structure to make it amenable to new kinds of vaccines. A new article in the journal *Lancet Infectious Diseases* suggests that the smallpox vaccine might actually have come from horses.

A study of nearly 300 people living in different parts of India found that nine single-base variants (single-nucleotide polymorphisms or SNPs) account

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