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# Plant-based Production of an Antibody Therapeutic for West Nile Virus

In the past decade, West Nile Virus (WNV) in the United States has resulted in more than 29,000 diagnosed cases of infection. These infections can lead to severe neurological disease, long-term morbidity, and in some cases even death.

There are no effective and specific antiviral treatments for infection by WNV. There are no currently approved vaccines or therapeutic agents for human use. The impact of WNV infection—particularly in resource-poor health care systems—calls out for the development of a cost-effective and safe therapeutic.

Researchers at the Biodesign Institute of Arizona State University have produced a therapeutic antibody against West Nile Virus. This antibody can be rapidly produced at high levels in plants.

Results to-date have shown that an antibody purity of greater than 95% can be produced in a scalable manner. In a mouse challenge model, the researchers discovered that the antibody acts as both a prophylactic and post-infection therapeutic agent. This antibody therefore may have the potential to protect against infection in mammalian systems.

### Potential Applications

- Prophylactic treatment of West Nile Virus infection
- Post-infection treatment of West Nile Virus infection

### Benefits and Advantages

- Scalable: Antibody production in plants can be increased to meet demand.
- Cost-effective: Economical plant-based production of recombinant antibodies.

For more information about the inventor(s) and their research, please see [Dr. Chen's directory webpage](#)

