

ImmunoBio employs its breakthrough antibodies in a complex (AAC) technology to combat the world's most serious diseases, providing improved health and prolonged life for both humans and animals. Our proprietary AAC technology safely combines specific viruses or bacteria with appropriate neutralizing antibodies to create novel vaccines with improved safety and performance.

## AAC Technology

### IMPROVES vaccine efficacy through:

- Potential to enhance immune response from virulent, mild, or highly attenuated vaccines
- Better presentation/processing of antigens to important immune system components
- Affecting duration of immunity
- Effective, early vaccination in the face of maternal antibodies

### HEIGHTENS vaccine safety through:

- Reduced number of adverse effects from live antigen vaccines, both morbidity and mortality
- Accommodation of more immunogenic strains of virus or bacteria
- Minimized or eliminated need for adjuvants

### EXTENDS vaccine utility through:

- Reduced dosing schedule—single-dose efficacy in many cases
- Added flexibility in the timing of vaccination



Today ImmunoBio has successfully completed several viral and bacterial trials in multiple species utilizing the AAC technology and is making great strides toward developing additional novel vaccines with significant commercial potential.

### Simple, Yet Elegant — How AAC Works

Research shows that the addition of specific neutralizing antibodies to vaccine virus or bacteria at the correct pre-determined antigen to antibody ratio creates an AAC mechanism that can modify the time at which the virus is released, improve safety of "virulent" vaccines, penetrate maternal antibodies better, and enhance the level and duration of the immune response. In addition, preliminary data suggest that the addition of antibody to a highly attenuated or very mild virus, to form the AAC, can boost recognition and enhance the immune response because of better presentation of the antigen by immune processing components.

### A History of Innovation — About ImmunoBio

ImmunoBio's AAC technology was initially discovered at the University of Arkansas and for over 10 years has been approved and profitably deployed in one vaccine—Bursaplex®. Another poultry vaccine utilizing AAC technology, Newplex®, has been licensed by the USDA but not yet commercialized. ImmunoBio acquired the intellectual property rights to AAC technology for all human and non-poultry animal applications in 2001.

### Improved Health for All

For humans, ImmunoBio currently focuses on these four critical areas:

#### Respiratory Syncytial Virus (RSV)

Using AAC technology, ImmunoBio believes a safe vaccine can be created with enhanced efficacy for widespread pediatric and geriatric use.

#### Seasonal/Pandemic Influenza

ImmunoBio's AAC background studies with other diseases indicate the potential to illicit cross-strain protection, provide dose-sparing, and enhance immunity in a flu vaccine.

#### Dengue

In partnership with Arbovax, new host-range mutations of the dengue 2 virus will be formulated into AAC, with the potential of providing cross-strain protection and enhanced immunity.

#### Adenovirus Vector

AAC technology preliminarily indicates improved safety, better penetration of acquired immunity in the host, and increased memory in important immune cells.

In addition, ImmunoBio's veterinary vaccine efforts target several viral and bacterial vaccines, including Porcine Reproductive and Respiratory Syndrome and S. equi for horses.

Discover how ImmunoBio's AAC technology can help you improve your vaccines.

Contact ImmunoBio at 919.398.6233 or visit our website.