



PLANT-BASED PRODUCTION OF
BIOACTIVE AVIAN INTERLEUKIN-12 (IL-12) PROTEIN

PATENTED TECHNOLOGY FOR PRODUCTION OF BIOACTIVE AVIAN IL-12 IN PLANTS

Key Features:	<ul style="list-style-type: none">➤ Scalable and low-cost method for production of bioactive avian IL-12➤ Highly potent immune-modulator and vaccine adjuvant➤ A variety of plants, whether monocot or dicot, may be employed as host for the expression system, including, but not limited to tobacco, flax, corn, canola, rice, rye, wheat, cotton, peanut, soybean, and potato.
Commercial Applications:	<ol style="list-style-type: none">1. Veterinary vaccine production specifically for poultry industry, including, but not limited to chicken and turkey2. Research reagent supplies for immunological studies and vaccine development and testing3. Probiotic feed supplements for poultry, which can be used as an alternative for antibiotics to promote growth and protection from disease by enhancing immune system.
Project Summary:	<p>Arkansas State University and BioStrategies LLC are developing a patented method for production of bioactive avian IL-12 in plants. The technology provides commercially applicable yields of plant-produced bioactive avian IL-12 at levels of at least 1% total soluble protein.</p> <p>Bioactive avian IL-12 protein synthesized in a plant successfully functions in vitro and in vivo as a potent immune modulator and an adjuvant that significantly enhances the efficacy of veterinary vaccines against avian influenza and other poultry diseases. The compound is proven to elicit protective and immune response in birds.</p>
Potential Markets Overview:	<ol style="list-style-type: none">1. Veterinary vaccines The global market for Veterinary Vaccines is forecast to reach US\$5.6 billion by the year 2015, according to Global Industry Analysts, Inc.2. Research reagents The global market for Laboratory Chemical Reagents is forecast to reach US\$16.5 billion by the year 2015 (<i>Global Industry Analysts, Inc.</i>).3. Animal feed additives According to a new market report published by Transparency Market Research, the market for animal feed additives is to grow from US\$13.5 billion in 2011 to US\$18.5 billion in 2018. In 2011, 80% of antibiotics produced were sold in the U.S. for meat and poultry.
Development Status:	Laboratory scale production and product quality are proven and repeatable.
Patent Status:	Patented.
Commercialization Status:	Seeking for research and development partners.