AdCEV™

Protein Expression Technologies

AdCEV™ is a vector technology for expressing proteins in fertilized hen eggs. The AdCEV/egg production platform offers a simple and scalable alternative to mammalian, insect, and yeast cell-culture based expression systems. AdCEV vectors can be used to make high-value biopharmaceuticals including subunit vaccines, VLPs, serum proteins, viral glycoproteins, interleukins, rMAbs and a host of other valuable biological products.

Using our AdCEV Vectors based services offers many attractive benefits including:

- Simplicity and lower cost
- Rapid cloning & expression of recombinant proteins
- Potential for milligram of recombinant protein/egg
- Short biological production time-- 72 hours
- Eukaryotic post-translational processing
- Simplified purification from allantoic fluid
- Rapid scale-up for production is possible
- High level of biosafety and environmentally friendly

Avril Biopharma scientists are actively developing improved vectors for producing different types of protein-based biopharmaceuticals. Working with our industry partners, we can help you develop a commercialization program. You can benefit from decades of clinical manufacturing experience using eggs *and* the most advanced vector, bioinformatics, and translational research technologies available for developing a high quality biological product.

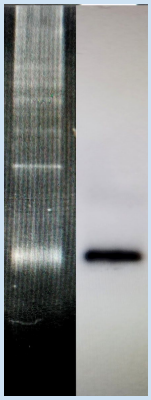
Avril Biopharma

PRODUCTS & SERVICES

Create your next recombinant product using our efficient and inexpensive research & development services for recombinant vaccine, therapeutic, diagnostic or research products:

- **Genomics/Bioinformatics**
- **Sequence and protein structure engineering**
- **Bulk production**
- **Purification and product stabilization**
- **Rapid scale-up to GMP manufacturing.**

Rabies Glycoprotein G Product



Western Blot Analysis. Cross reactivity of Recombinant Rabies Glycoprotein G with ~10ug partially-pure preparation with U. S. Standard Rabies Immune Globulin (RIG; Laboratory of Microbiology, In-vivo Testing and Standards, Division of Biological Standards & Quality Control, Office of Compliance & Biologics Quality, CEBR, FDA, 1401 Rockville Pike - HFM-683, Rockville, MD 20852-1448, USA). Left: Coomassie Fluorescent stained SDS-PAGE ; Right: Western Blot detection with chemiluminescent Goat Anti-human antibody.

Avril Biopharma, Inc. 343 15th St. Oakland CA 94612 USA 1-510-833-4755
sales@AvrilBiopharma.com

Product Development

Product Development for Global Health

Avril Biopharma, Inc. researches, develops and manufactures recombinant biopharmaceutical products specializing in *vertical integration* of molecular technologies with manufacturing technologies to facilitate vaccine, therapeutic and diagnostic product development. Our mission is to create safe, affordable solutions for biopharmaceutical manufacturing .

Our Technology Based Approach

Our services facilitate rapid design, testing and production of recombinant products based on three core technologies:

- **CAGE:** Computer Aided Gene Engineering-- Discovery bioinformatics and computational biology.
- **AdCEV:** A technology for producing recombinant proteins in embryonated hen eggs.
- **AgriPharm:** Scalable manufacturing systems for production of high quality products using an agricultural production base.

Engaging Clients

- **Contract Research (CRO)** services offer our clients access to Avril Biopharma technologies and the resources of our partners in exchange for research fees, license and royalty payments.
- **Contract Manufacturing** offering expertise and CRM sourcing to scale to bulk GLP/GMP manufacturing of products we develop for our clients.

Our Team

Avril Biopharma is led by an experienced international team with skills in recombinant technology, vaccine development, manufacturing and public health. We are skilled in both technology and business practices and can build concensus on global and local health needs, integrating them for sustainable health manufacturing solutions.

Avril Biopharma

What We Do.

GENETIC DESIGN

Sequence analysis has become an essential tool in product development--for design, testing and optimization of recombinant products. We have developed structural genetic methods to improve efficiency and vertically integrate the traditional product-development pipeline. We analyse the structural genetics of you protein to improve function and to determine better ways of expressing it.

GENE ENGINEERING

Translational Research to optimize the yield and quality of your product in the biological production platform of your choice.

PRODUCTION

Our AdCEV™/Egg platform can be used to produce high quality recombinant proteins. Working with our network of partners, we can design and build turn-key production facilities for manufacturing life saving bioproducts using such agriculture based platforms like.

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