

## Pandemic Preparedness

### Support of Vaccine and Therapeutic Bioproduction

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**S**AFC Biosciences® since 1971 manufactures high quality sera, cell culture media, and specialty products for commercial firms using mammalian and insect cell culture methods to develop and produce biopharmaceuticals. SAFC Biosciences focuses on organizations involved in vaccine, human therapeutics, and animal health in all stages of development from preclinical through clinical phases I, II, and III, to commercial products. SAFC Biosciences has successful relationships with pharmaceutical, established and start-up biotechnology companies, contract research and manufacturing organizations, agricultural-related firms, and nonprofit organizations.

Traditional systems involving chicken eggs and primary chick embryo fibroblasts face a number of serious limitations, including quality and quantity control, risk of contamination, and inflationary costs of serum for growing the fibroblasts. In the past decade, however, bioproduction of vaccines has undergone a renaissance as new manufacturing techniques and new indications have spurred investment in next-generation candidates.

SAFC Biosciences is in a strong position to capitalize on its resources in rigorous supply chain management, quality systems, and manufacturing processes to be a major provider of raw materials for the vaccine industry.

#### PRODUCTS AND CAPABILITIES TO SUPPORT YOUR SPEED TO MARKET

Because you need the right product with the right specifications in the right size at the right time, our dedicated staff and streamlined processes quickly and consistently deliver reliable products to your manufacturing sites. Our global manufacturing and distribution facilities ensure supply security and prompt delivery to facilitate your process flow for vaccine production.

In addition to a wide selection of animal-component-free and animal-protein-free media developed for virus production, SAFC Biosciences has an experienced team of scientists who are dedicated to cell-based virus-production platforms. We specialize in increasing manufacturing efficiency by customizing formulations and feed strategies, with full documentation to support your processes.

SAFC Biosciences continues to expand its serum-free virus and vaccine media offerings to keep pace with the market's burgeoning demand for safer, faster, more economical production processes. Collaborating with Vivalis for over five years, SAFC Biosciences has recently introduced **EX-CELL® EBx®** cell growth and viral production media designed exclusively to support **EB66®** duck cells used in the commercial production of prophylactic and therapeutic vaccines.

**SAFC** Biosciences™  
Accelerate Success™



#### RISK MITIGATION OF CRITICAL RAW MATERIALS

SAFC Biosciences recognizes the importance of identifying and qualifying suppliers that support cGMP manufacturing requirements to ensure traceability, lot-to-lot consistency, safety, and global continuity of supply. Our supply chain offering includes risk mitigation, robust supplier relationship management, and critical raw material management, combined with a deep understanding of our customers' unique and changing needs to meet the demands of producing vaccines.

We provide specified materials of a consistent quality to minimize the potential for variability in our customers' batch-to-batch manufacturing. Our Global Quality team is composed of experts who encompass all critical areas of biopharmaceutical production including aseptic processing, manufacturing, scale-up, validation, analysis, cell culture, and microbiological testing. Quality systems are in place to minimize risk to product from design inception through to delivery, providing quality and consistency — key elements in biopharmaceutical risk mitigation strategies.

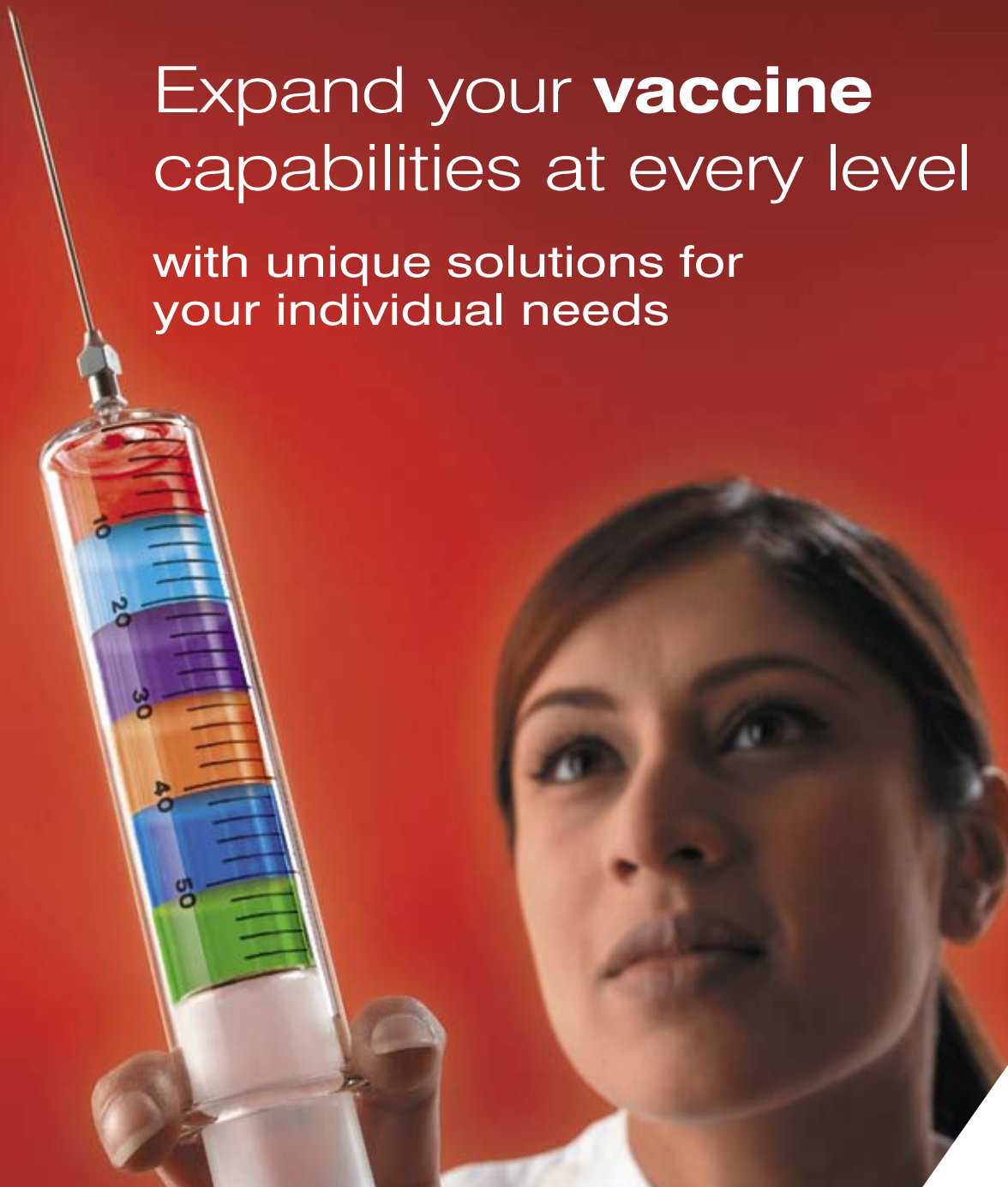
#### RAPID DEPLOYMENT FOR PANDEMIC PREPAREDNESS

Through a partnership with SAFC Biosciences, you join vaccine industry leaders who have discovered solutions to complex problems every step of the way on a path from process development to manufacturing. When you need to make decisions based on critical data and feasible options, we can quickly help you move vaccine production schedules in the right direction. Having proven solutions at every step of development and manufacturing allows for safe, efficient solutions for rapid development of vaccine products.

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# Expand your **vaccine** capabilities at every level

with unique solutions for your individual needs



Delivering integrated levels of service, expertise and dedicated support for your vaccine production, SAFC Biosciences® works closely with you to fully meet your specific in-house vaccine needs at every stage, from development through commercialization.

Our flexible approach focuses on your vaccine applications, with consistent, reliable solutions including custom media development, serum, buffers and single-use systems.

With decades of biopharmaceutical experience and industry knowledge of expression platforms, SAFC Biosciences accelerates your vaccine success.

To learn more, go to [www.safcbiosciences.com](http://www.safcbiosciences.com).

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