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Trends & Developments in BioProcess Technology

A Production of BioProcess Technology Network

From the Editor-in-Chief

This is a special issue of the *BioProcessing Journal* in which we're featuring biotechnology in Cuba. We've been publishing manuscripts from Cuban scientists and engineers since 2004, and we have built some special relationships with a number of the leading product developers there. Next year, we have been invited to visit the Center for Genetic Engineering and Biotechnology (CIGB), which is Cuba's largest biotechnology facility. While we are there, we also plan to attend the international workshop on [Emerging Targeted Therapies in Cancer and Autoimmunity](#), held April 21–25 in Varadero, Cuba. This meeting is organized by the Biomedical Research Branch of the CIGB.

The recent relaxation of travel restrictions between the US and Cuba still leaves a Congressional trade ban in place that can't be overturned by an Executive Action. It could take many years before normal trade, or the free exchange of scientific technology, can take place.

European organizations have been doing business with Cuba during its last 30 years of biotechnology development, and have benefited from both licensing and distribution agreements for generic pharmaceuticals, as well as vaccines and other biologicals. However, as far as direct US/Cuban interactions, we'll probably have to go through a period of "low-level" scientific exchanges before there is much interaction. As a starting point, it has been proposed by the American Association for the Advancement of Science (AAAS) that an official scientific and technology agreement be established to form a broader framework for interactions.



Cuba's specialty has been vaccine development for both human and veterinary medicine, which has resulted in their very successful vaccines for hepatitis B, meningitis, typhoid fever, and polio. However, they have also developed a number of monoclonal antibodies, interferons, immunoglobulins, cytokines, and therapeutic cancer vaccines. These products have involved expertise in numerous expression technologies including plants, bacteria, yeast, and a variety of mammalian systems.

Areas of mutual interest with the US could certainly include the development of vaccines for tropical diseases such as dengue fever, Ebola, and West Nile virus, as well as drug-resistant tuberculosis and rabies. However, the opportunities are much broader.

Herber Biotec S.A. is the exclusive representative for the products and intellectual property developed at CIGB, and is responsible for all of the licensing and distribution agreements. US companies could truly benefit from open trade relations with Cuba so they could benefit from the work that is being done, and possibly manufacture products there. Whereas, Cuba could gain great value by being able to collaborate more freely with US biopharmaceutical firms and academic labs.

A handwritten signature in black ink, appearing to read 'Keith L. Carson'.

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