



# California Biotechnology Foundation

NEWS UPDATE

News and Information from California's Biotechnology Leaders

*California Biotechnology News Update* highlights the latest developments in biotechnology research, economic contributions and workforce development opportunities. *California Biotechnology News Update* is published by the California Biotechnology Foundation and aims to provide valuable information about Life Science's vital role in California's economy, healthcare and education.

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## Biotechnology Medical Breakthroughs

### **New Findings May Shed Light on Brain and Spinal Cord Birth Defects**

New research, published by Cell Press in *Developmental Cell*, provides intriguing insight into how the nervous system forms during very early embryonic development. The study sheds light on a process called neural tube closure which, when disrupted, causes congenital birth defects of the brain and spinal cord, including anencephaly and spina bifida.

A study led by the Cardiovascular Research Institute at the University of California, San Francisco has shown that proteins called protease-activated receptors (PARs), which are best known for their role in tissue response to injury in adults, are required for neural tube closure. [Click here](#) to read more.

### **Stem Cells Can Be Engineered to Kill HIV**

Researchers from the UCLA AIDS Institute and colleagues have for the first time demonstrated that human blood stem cells can be engineered into cells that can target and kill HIV-infected cells -- a process that potentially could be used against a range of chronic viral diseases.

The study, in the-peer reviewed online journal PLoS One, provides proof-of-principle -- that is, a demonstration of feasibility -- that human stem cells can be engineered into the equivalent of a genetic vaccine.

[Click here](#) to read more.

## Biotechnology Economic Contributions

### **California Biotechnology Foundation Organizes Mission to China**

As 2009 came to a close, the California Biotechnology Foundation led a legislative visit to China in order to benefit California's leading life sciences companies, policymakers, and institutes seeking to better understand China's procurement operations, the China market, and China's investment in California's R&D, clinical trials, and other business areas.

This was a focused education and networking trip. CBF worked extensively with China trade experts and Chinese government officials to ensure targeted access to state-owned enterprises, private-sector companies (both Chinese and non-Chinese) and university based clinical program operators.

CBF arranged for participants to meet with Chinese government officials from those ministries and departments with direct authority and oversight over the nation's biotechnology industry, including the China National Center for Biotechnology Development (CNCBD) under the Ministry of Science and Technology.

The trip took the delegation from Shanghai to Beijing, and included visits to several life science parks. There are a total of 57 science parks throughout China. The group also visited the most advanced cardiovascular hospital in China, and had meetings with economic development and investment promotion organizations in Beijing. The group also met with

Chinese government officials to learn about the unique procurement process in China so that CA biotech companies and government entities can better understand China's process for purchasing life science products as they fulfill plans to build thousands of hospitals and clinics within the next decade. The California delegation also toured biotech and pharmaceutical companies, and were briefed on the regulatory environment in China by members of a California-based law firm that has had offices there for more than a decade.

The trip was tremendously successful for everyone involved. All trip participants including industry organization BIOCOM have continued to build relationships with Chinese officials who have agreed to participate in a BIOCOM-sponsored event CALAsia which is an international forum bringing together key life science decision-makers from California, the U.S. and the Asia Pacific region to identify, explore, and further trans-Pacific business endeavors. For more information contact Patty Cooper at [patty.cooper@cabiotech.org](mailto:patty.cooper@cabiotech.org) or (916) 233-3499.

#### **CBF Co-hosts Public Policy Forum to Discuss Advancements in Medical Innovation and Progress**

California leaders in biotechnology, health, medicine, academia and labor recently gathered in San Francisco to discuss the importance of medical innovation and the opportunity to grow the California economy. Richard Gephardt, former Democratic Majority Leader of the U.S. House of Representatives and chairman of the Council for American Medical Innovation, moderated "Innovate California: A Best and Brightest Forum on Medical Innovation," highlighting the contributions made to public health and economic security.

The forum was hosted by the Council for American Medical Innovation, the California Biotechnology Foundation, Biocom and BayBio and addressed the many challenges in maintaining California's global leadership position in medical innovation and its importance not only to our health but also to our economy. Panelists including Steve Blank, Professor of Entrepreneurship, U.C. Berkeley, Stanford University, Gail Maderis, President and CEO, BayBio, and Senator Art Torres (Ret.), Vice-Chair, California Institute for Regenerative Medicine suggested that new discoveries in the life sciences and medicine are critical to the state's future economic success. Panelists also outlined the need to build on California's successful and sustainable biopharmaceutical industry capitalizing on the academic institutions and life sciences infrastructure already present in the state.

For more information about the forums or the Council for American Medical Innovation, visit [www.americanmedicalinnovation.org](http://www.americanmedicalinnovation.org) or contact Patty Cooper at [patty.cooper@cabiotech.org](mailto:patty.cooper@cabiotech.org) or (916) 233-3499

#### **Biomedical Jobs Appear to be 'Recession Resilient'**

San Diego Union Tribune, 2/3/10

Employment in California's biomedical industry has remained fairly stable through the recession, according to a new industry study that also points to numerous challenges on the horizon for the sector.

The report yesterday from the La Jolla-based California Healthcare Institute says the biomedical work force shrank slightly in the 12 months through March 2009 but was still up by more than 1,000 jobs from 2007.

Altogether there were 272,181 jobs in areas that ranged from biopharmaceuticals and medical devices to academic research and laboratory services, according to the report. The industry employed 24,123 people in San Diego County. [Click here](#) to read more.

### **Biotechnology Workforce Development**

#### **State Stem Cell Agency Launches On-line High School Curriculum, a Key Tool for Training Today's Youth for Tomorrow's High-Growth Jobs**

The California Institute for Regenerative Medicine (CIRM), the state stem cell agency, has launched an on-line stem cell education portal. The extensive set of course materials and activity resources will help high school and other educators prepare the youth of California to join the fast-growing biotech economy and help that sector find the workers its leaders say are already in short supply.

The portal was created through legislation by Senate President pro Tem Darrell Steinberg and Senators Gloria Romero and Tom Torlakson. The bill requires the California Department of Education (CDE) to collaborate with the Stem Cell Agency and the biotech industry to include stem cell science and biotechnology in existing career development programs. The bill also requires the CDE to post on its web site and provide to teachers and school districts the model curriculum on stem cell science being launched by CIRM today.

The site also provides introductory lectures that can be downloaded for basic biology classes, biotech oriented classes, AP Biology, or chemistry classes. Each version offers multi-media opportunities to engage the students with video and other activities and is available for MAC or PC. The portal offers the opportunity to match-make teachers' classes with stem cell scientists from neighboring universities or companies to give this introductory lesson or just come and talk to their classes. This will expose students deciding on their career paths to the latest scientific developments and support teachers in delivering the curriculum. In addition, the site contains links to additional teaching resources offered by other reputable organizations and calls on scientists and teachers to submit teaching material for CIRM to consider hosting.

The home page for the portal is: [http://www.cirm.ca.gov/stem\\_cell\\_education\\_portal](http://www.cirm.ca.gov/stem_cell_education_portal).

### **\$5 Million Stimulus Grant to Fund San Diego-Area Biotech Jobs**

San Diego Union Tribune, 2/16/10

A group of San Diego organizations will receive \$4.95 million in federal stimulus money to support efforts to train and place people in jobs in the biotechnology industry.

The three-year grant from the U.S. Department of Labor will support the "Biotechnology Readiness, Immersion, Certification and Degrees for Gainful Employment" program, or BRIDGE, to be administered through San Diego State University.

BRIDGE aims to provide services to more than 1,000 veterans, unemployed people and others, with programs available at a variety of levels, from high school students to people with graduate degrees.

San Diego State is working with Biocom, the regional biotech organization; the San Diego Workforce Partnership; and the Southern California Biotechnology Center at Miramar College.

The money will support initiatives such as the Life Sciences Summer Institute, an existing program that exposes high school students and teachers to the life sciences industry, and certificate programs at San Diego State and Miramar College.

### **CBF Welcomes New Partners**

- [Althea Technologies, Inc.](#)
- [Daiichi Sankyo Co., Ltd.](#)
- [Johnson & Johnson](#)
- [Life Technologies](#)

If you are interested in a CBF sponsorship please contact Patty Cooper at [patty.cooper@cabiotech.org](mailto:patty.cooper@cabiotech.org) or (916) 233-3499.

### **CBF Partner Spotlight**

#### **Althea Technologies Inc.**

[Althea Technologies, Inc.](#) is a leading provider of biopharmaceutical and injectable product development and manufacturing services. Based in San Diego, California, Althea offers cGMP biologic manufacturing of recombinant proteins and DNA-based biotherapeutics and vaccines with integrated analytical and formulation development services. As a part of Althea's comprehensive portfolio of service offerings, Althea can also provide aseptic filling of the final product into vials or syringes.

Althea works to assist in the development of promising new vaccines and therapeutics for patients around the world with unmet medical needs. As a result of Althea's 12 year history of producing and manufacturing drug innovations, vaccines and biopharmaceuticals are now in drug makers' pipelines. These therapeutics help fight and treat deadly diseases such as HIV, Ebola, Marburg, West Nile, Dengue, Malaria, Influenza, pancreatic cancer, non-small cell lung cancer, and prostate and ovarian solid tumors.

Althea Technologies employs over 170 Californians and was named one of the 100 fastest growing private companies in San Diego by the San Diego Business Journal, and one of the 50 fastest growing technology companies by Deloitte & Touche five years in a row.

For more information about Althea Technologies, Inc. please contact, [info@altheatech.com](mailto:info@altheatech.com).

#### **AltheaDx**

[AltheaDx](#) was founded in 2008 through its parent company, [Althea Technologies Inc.](#), which is a biologics and pharmaceutical services firm that provides critical manufacturing services that support researchers worldwide in their advancement of novel therapies and efforts to apply new genomic information. As an independent company, AltheaDx commercializes its breakthrough genetic testing technology through a variety of laboratory services and gene expression products for use in monitoring and managing cancer treatment.

AltheaDx is focused on providing genetic testing services and diagnostic products related to oncology applications. The company incorporates a test for differential diagnosis of pediatric solid-tumors, along with a pipeline of other biomarker sets that are used for cancer management. AltheaDx' goal is to cure cancer by reducing the time, risk, and cost of cancer drug development and bringing cancer diagnostics into widespread clinical use.

In addition, the company will continue to provide laboratory services for biopharmaceutical companies and contract research organizations, including the Express Pathway service suite, which is currently utilized by drug developers to identify promising molecules, explore treatment pathways or build marker sets of clinical utility. This offering of services and products cover the spectrum needed by many pharmaceutical companies from compound development to clinical diagnostics. The company is located within the Althea Technologies San Diego campus.

### **Calendar**



### **Clean Air Expo Offers Biotech an Opportunity to Promote Green Technology with Students**

Don't miss *A World We Can Change: A Clean Air Conference & Expo for High School Students* that aims to help Southern California build a thriving, sustainable future. The event is sponsored by the South Coast Air Quality Management District and will be held on Thursday, May 27, 2010, from 8:30 a.m. to 3 p.m. in the Los Angeles Convention Center- South Exhibit Hall.

California's biotechnology companies are some of most environmentally progressive industries in the state. This is an opportunity for biotech to feature some of their most innovative green technologies and get students excited about a career in biotech at the same time.

This educational conference will offer information on green job training, environmental volunteer opportunities, state-of-science technology displays, and the chance to network with leaders who are transforming the greater Los Angeles region toward low-emission vehicle technologies, renewable energy, and cleaner air.

The conference is free and exhibits cost a nominal fee. Pre-registration is required. **Registration is available online at [www.aqmd.gov](http://www.aqmd.gov); click on conference icon. For more information please e-mail [aworldwecanchange@aqmd.gov](mailto:aworldwecanchange@aqmd.gov).**

**Do you have an event you would like to spotlight?** Please send details to [patty.cooper@cabiotech.org](mailto:patty.cooper@cabiotech.org) or contact Patty at (916) 233-3499.