BIO'S EMERGING COMPANIES

APRIL 1, 2012

FOCUS ON NEPHROLOGY/ENDOCRINOLOGY/ METABOLISM/GASTROENTEROLOGY

BIO SERVING AS YOUR WASHINGTON, D.C. OFFICE

A QUARTERLY REVIEW OF ISSUES, REGULATIONS, AND SCIENTIFIC DISCOVERIES IN THE FIELD OF NEPHROLOGY/ENDOCRINOLOGY/ METABOLISM/GASTROENTEROLOGY TREATMENTS AND THERAPIES

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SPECIAL POINTS OF INTEREST:

- **NCATS and CAN funded for FY 2012 (p. 3)**
- **TREAT Act and FAST Act introduced to reform FDA (p. 5)**
- **Congress reauthorizes SBIR; passes JOBS Act (p. 6)**

NIH STUDY TO TEST TREATMENT FOR FATTY LIVER DISEASE IN CHILDREN

With the launch of a new clinical trial supported by NIH, researchers are working to determine whether treating children diagnosed with the most severe form of fatty liver disease with a drug called cysteamine will help improve the liver.

The trial, called Cysteamine Bitartrate Delayed-Release for the Treatment of Nonalcoholic Fatty Liver Disease in Children (CyNCh),will enroll 160 boys and girls ages 8 to 17 with nonalcoholic fatty liver disease (NAFLD). The participants will receive cysteamine or placebo by mouth twice a day for a year. More than 90% of the children are expected to be overweight or obese. Participants need a baseline biopsy that confirms severe NAFLD to be eligible. Children with poorly managed diabetes, heart disease, & other chronic liver diseases will be excluded.

NAFLD covers a range of severity from simple liver disease without injury, called steatosis, to the more concerning nonalcoholic steatohepatitis, or NASH, which includes fat accumulation, inflammation, and liver injury. Most children with fatty liver disease are overweight and resistant to insulin. The only way to distinguish NASH from other forms of fatty liver disease is with a liver biopsy.

"We did not see fatty liver disease in children until recently," said Edward Doo, M.D., NASH Clinical Research Network project scientist and director of the Liver Diseases Program at NIDDK. "Fatty liver disease affects about 17% of children in the U.S. This rise in the number of children with NAFLD most likely mirrors the increase in obesity, which affects more than 16% of American children and teens," Dr. Doo said.

Results from a small pilot study using cysteamine in 11 children with NASH suggest that it improves liver enzymes by reducing toxins that can damage the liver. Cysteamine is approved to treat cystinosis, a genetic disease that causes the amino acid cystine to accumulate in the kidneys, liver, eyes, brain, and white blood cells. Modest weight loss through diet and physical activity may help some children with fatty liver disease, but it is a treatment option that seldom helps people meet their goals. "We know that following a weight loss plan for many children and adults can be daunting, especially if they have limited access to healthy food options that are low in fat, added sugars, and calories, and infrequent opportunities for physical activity," said Dr. Joel E. Lavine. "Hopefully, this trial will move us closer to finding a safe and effective treatment that helps children with fatty liver disease."

NAFLD can be a precursor to NASH, which may progress to cirrhosis, liver failure and liver cancer. NAFLD may also increase a patient's risk of developing heart disease. "We are concerned that the disease may advance as children become adults and increase their risk for cirrhosis, liver failure, liver transplantation, and death as adults," said Dr. Stephen P. James. "This multicenter, double-blind trial offers researchers and NIDDK an opportunity to rigorously assess how safe and effective cysteamine is in treating children with NASH, as well as to reveal new avenues worthy of scientific study."

For more information on this study, please click here.

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Bio BIOTECHNOLOGY INDUSTRY ORGANIZATION

NIDDK FUNDING ANNOUCEMENTS

PA-12-139, Pilot & Feasibility Clinical Research Studies in Digestive Diseases and Nutrition (R21) – June 16, 2012

PA-12-125, Secondary Analyses in Obesity, Diabetes and Digestive and Kidney Diseases (R21) – June 16, 2012

PAR-11-350, Research Using Biosamples From Selected Type 1 Diabetes Clinical Studies (DP3) – June 7, 2012

PAR-11-349, Research Using Subjects From The Type 1 Diabetes TrialNet Natural History Study (Living Biobank) (DP3) – June 7, 2012

PAR-12-048, Prevention and Treatment of Obesity, Diabetes, and Chronic Kidney Disease in Military Populations (R01) – June 14, 2012

PA-10-213, Development of Assays for High-Throughput screening for use in Probe and Pre-therapeutic Discovery (R01) – June 5, 2012

For more information or to find more funding opportunities, please click here.

Upcoming FDA Endocrinologic and Metabolic Drugs Advisory Committee Meeting

May 10, 2012

FDA ENDOCRINOLOGIC AND METABOLIC DRUGS ADVISORY COMMITTEE

On March 28 and 29, the FDA Endocrinologic and Metabolic Drugs Advisory Committee met to discuss the role of cardiovascular (CV) assessment in the preapproval and postapproval settings for drugs and biologics developed for the treatment of obesity. In July 2008, FDA held an advisory committee meeting to discuss the role of CV assessment in the pre-approval and post-approval settings for drugs developed for the treatment of type 2 diabetes mellitus. Subsequently, FDA published a guidance for industry on the issue. The March 28-29 advisory committee meeting followed up on this issue, asking participants whether long-term CV trials should be part of the approval process for drug developed for the treatment of obesity.

For more information on this meeting, please click here.

FDA GASTROINTESTINAL DRUGS ADVISORY COMMITTEE

On March 13, the FDA Gastrointestinal Drugs Advisory Committee met to discuss the potential for new drug therapies in the management of hyperbilirubinemia in newborn infants. Hyperbilirubinemia that results in jaundice occurs in about 60% of all newborns. In most instances, this is a self-limited, benign condition, but unconjugated bilirubin can be neurotoxic, and at high levels can cause rare complications, including kernicterus. Kernicterus is associated with significant mortality and morbidity and is characterized by choreoathetoid cerebral palsy, paralysis of upward gaze, sensorineural hearing loss, dental enamel dysplasia, and intellectual handicaps. Cases of kernicterus are still being diagnosed in the U.S., and some evidence suggests that the incidence of kernicterus may be rising in the U.S. There may be a specific population of patients that could be identified for which new therapies could be directed to address this ongoing important problem.

For more information on this meeting, please click here.

Upcoming FDA Gastrointestinal Drugs Advisory Committee Meeting

May 31, 2012

FY 2012 FUNDING FOR NCATS AND CAN

On December 23, 2011, President Obama signed into law the Consolidated Appropriations Act, which appropriated funds for various federal agencies, including the National Institutes of Health (NIH). Included in NIH's $30.690 billion budget authority was an appropriation of $576.5 million for the newly-authorized National Center for Advancing Translational Sciences (NCATS). The goal of the Center is to work in partnership with the public and private sectors to develop innovative ways to overcome obstacles in the translational science pipeline.

NCATS unifies certain existing NIH programs to accomplish these goals, including the Clinical and Translational Science Awards, the Office of Rare Diseases and Research, the Therapeutics for Rare and Neglected Diseases (TRND) program, the Bridging Interventional Development Gaps program, and the NIH Chemical Genomics Center. NCATS will also develop the Cures Acceleration Network (CAN), which was authorized in 2010 and recently appropriated $10 million in new funds to help bridge the "valley of death" between basic and clinical research.

FY 2012 Funding Levels

NIH
$30.690 billion

NCATS
$576.5 million

CAN
$10 million

NIDDK
$1.80 billion

NEW TECHNOLOGIES AVAILABLE FOR LICENSING FROM NIH TECHNOLOGY TRANSFER OFFICE

Use of Englerin A, a Small Molecule HSF1 Activator, for the Treatment of Diabetes, Obesity, and Other Diseases Associated with Insulin Resistance

This technology claims methods for treating conditions associated with insulin resistance using the small molecule epoxy-guaiane derivative englerin A and related compounds. The inventors have shown that englerin A, a compound originally isolated from the Phyllanthus plant and previously identified as an anti-cancer agent, can also be used to treat insulin resistance. Insulin resistance is associated with reduced gene expression and production of heat shock protein 70 (HSP70). Using a mouse with tumor model, the inventors discovered that administration of englerin A decreases blood glucose levels by activating transcription of HSF1, thereby increasing the expression and secretion of HSP70.

Antagonists of the Hedgehog Pathway as Therapeutics for the Treatment of Heterotopic Ossification, Vascular Calcification, and Pathologic Mineralization

Vascular calcification is a complex process that involves biomineralization and resembles osteogenesis. It is exacerbated during such conditions as diabetes, chronic kidney disease, and end stage renal disease. In the present technology, the inventors describe novel methods for preventing or treating heterotopic ossification and vascular calcification using one or more antagonists of the Hedgehog pathway.

To view full descriptions of these technologies and to find others available for licensing, please click here.

PATIENT ORGANIZATION EVENTS

National Kidney Foundation	International Society of Renal Nutrition and Metabolism	American College of Gastroenterology
NKF Spring Clinical Meetings May 9-13, 2012 Washington, D.C.	ISRNM International Congress June 26-30, 2012 Honolulu, Hawaii	ACG Annual Meeting October 19-24, 2012 Las Vegas, Nevada
Click here for more details.	Click here for more details.	Click here for more details.

HOUSE OF REPRESENTATIVES HEARINGS ON BIOTECHNOLOGY

House Energy and Commerce Committee, Subcommittee on Health
"FDA User Fees 2012: Hearing on Issues Related to Accelerated Approval, Medical Gas, Antibiotic Development and Downstream Pharmaceutical Supply Chain" — March 8, 2012

At this hearing, the Health Subcommittee heard from a variety of industries that are regulated by the FDA and depending on the User Fee Acts being reauthorized. For the biopharmaceutical industry, the committee focused on the FDA Accelerated Approval process. BIO Board Member John Maraganore testified on the importance of the Accelerated Approval pathway and in support of the FAST Act, which would enhance Accelerated Approval at FDA.

House Appropriations Committee, Subcommittee on Labor, HHS, Education, & Related Agencies
"Budget Hearing – Department of Health and Human Services – NIH" — March 20, 2012

This hearing focused on the newly-established National Center for Advancing Translational Sciences (NCATS) at NIH. NIH Director Collins and NCATS Acting Director Insel testified on the process of getting NCATS up and running and the expectations they have for the Center. Industry representatives, including BIO Board Member Scott Koenig, testified on the importance of NCATS and the key role it will play in advancing translational research.

House Committee on Science, Space, and Technology, Subcommittee on Technology and Innovation
"Fostering the U.S. Competitive Edge" — March 27, 2012

The Technology and Innovation Subcommittee held this hearing to better understand how federal policies and regulations affect competition, innovation, and job growth. BIO Board Chairman Ron Cohen testified on several steps that Congress has already taken to spur innovation, including SBIR, TDP, and patent reform. He also spoke in favor of reforms to the Accelerated Approval pathway at FDA.

SENATE HEARINGS ON BIOTECHNOLOGY

Senate Committee on Banking, Housing, and Urban Affairs
"Spurring Job Growth Through Capital Formation While Protecting Investors, Part II" — March 6, 2012

The Senate Banking Committee held this hearing to discuss several proposals on how to ease capital formation for emerging companies. The bills under consideration included an on-ramp to the public market for emerging growth companies and reforms to SEC Regulation A, SEC Regulation D, and the SEC private shareholder limit. OncoMed Pharmaceuticals CFO Will Waddill testified on how these policies would affect growing biotech companies and stimulate innovation and job growth. The legislation that BIO supported at the hearing was later combined into one bill and passed as the JOBS Act.

Senate Committee on Health, Education, Labor, and Pensions
"Strengthening FDA and the Medical Products Industry for the Benefit of Patients" — March 29, 2012

The Senate HELP Committee held this hearing to discuss the upcoming reauthorization of PDUFA and how FDA and its regulated industries can speed treatments and therapies to patients. Sara Radcliffe, Executive Vice President of Health, testified on behalf of BIO; she was joined by other industry representatives as well as Janet Woodcock (CDER) and Jeffrey Shuren (CDRH) from the FDA.

FDA REFORM LEGISLATION

BIO supports two pieces of legislation that would reform and modernize the FDA to speed life-saving treatments and breakthrough medicines to patients living with debilitating diseases. BIO CEO Jim Greenwood issued statements praising both the **TREAT Act** and the **FAST Act**. BIO has also testified on the Hill in support of the proposed reforms.

S. 2113 – Transforming the Regulatory Environment to Accelerate Access to Treatments (TREAT) Act
This bill would ***reform the FDA*** by advancing regulatory science and innovation, elevating FDA and empowering operational excellence, and enabling modernized patient-centric clinical development. Specific proposed reforms include updating FDA's mission statement, enhancing the agency's access to external scientific experts, and ***strengthening the Accelerated Approval pathway***.

Sponsor: Sen. Kay Hagan (NC)
Status: Referred to the Senate HELP Committee

H.R. 4132 – Faster Access to Specialized Treatments (FAST) Act
This bill would reform the Accelerated Approval pathway at the FDA to ***expedite the approval of drugs*** for serious of life-threatening diseases or conditions while maintaining important safety standards.

Sponsors: Rep. Cliff Stearns (FL-6) and Rep. Edolphus Towns (NY-10)
Status: Referred to the House Committee on Energy and Commerce

NEPHROLOGY/ENDOCRINOLOGY/METABOLISM/GASTROENTEROLOGY-FOCUSED LEGISLATION

H.R. 2239 – Functional Gastrointestinal and Motility Disorders Research Enhancement Act
This bill would require NIH to expand activities with respect to functional gastrointestinal and motility disorders (FGIMDs), including by providing support for the establishment of ***centers of excellence on FGIMDs***.

Sponsor: Rep. James Sensenbrenner (WI-5)
Status: Referred to the House Committee on Energy and Commerce

H.R. 2741 – Preventing Diabetes in Medicare Act
This bill would extend Medicare coverage to medical nutrition therapy services for ***people with pre-diabetes*** and risk factors for developing type-2 diabetes.

Sponsor: Rep. Diana DeGette (CO-1)
Status: Referred to the House Committee on Energy and Commerce

H.R. 1988 – Qualifying Therapeutic Discovery Project Tax Credit Extension Act
This bill would ***extend the Therapeutic Discovery Project*** through the year 2017 and ***fund it at $1 billion per year***. Qualifying investments in years 2011 through 2015 would qualify for the credit or grant.

Sponsors: Rep. Susan Davis (CA-53) and Rep. Allyson Schwartz (PA-13)
Status: Referred to the House Committee on Energy and Commerce

H.R. 3206 – Cultivating Scientific Expertise to Foster Innovation Act
This bill would ***change the conflict of interest policies at the FDA*** to give the agency and its advisory committees expanded access to scientific experts.

Sponsor: Rep. Michael Burgess (TX-26)
Status: Referred to the House Committee on Energy and Commerce

H.R. 942 – American Research and Competitiveness Act
This bill would ***extend and make permanent the R&D tax credit***. It would also increase the ASC rate to 20%.

Sponsor: Rep. Kevin Brady (TX-8)
Status: Referred to the House Committee on Ways and Means

BIO'S EMERGING COMPANIES

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BIO Meetings and Conferences

BIO International Convention
June 18-21, 2012
Boston, Massachusetts

BIO India International Conference
September 12-13, 2012
Hyderabad, India

Livestock Biotech Summit
September 19-21, 2012
Kansas City, Missouri

BIO Investor Forum
October 9-10, 2012
San Francisco, California

BIO China
October 24-25, 2012
Shanghai, China

BIO Europe Fall
November 11-14, 2012
Hamburg, Germany

PRESIDENT OBAMA SIGNS SBIR REAUTHORIZATION

On December 31, 2011, President Obama signed into law the **National Defense Authorization Act**, which reauthorized the SBIR program through 2017. Included in the reauthorization was an end to the eligibility ban on venture-backed companies. Now, venture-backed companies will be able to compete for 25% of SBIR funds at NIH, NSF, and the Department of Energy and 15% of funds at all other agencies. Additionally, research agencies with SBIR programs will increase the set aside from 2.5% to 3.2% by 2017. BIO is in the process of reaching out to SBA, which will propose rules on affiliation in the upcoming months.

CONGRESS PASSES THE JOBS ACT

In late March, Congress passed the **Jumpstart Our Business Startups (JOBS) Act** to ease capital formation for growing startup companies. The legislation includes an "on-ramp" to the public market for "emerging growth companies," which will give them a five-year transition period before having to comply with certain regulatory burdens, including Sarbanes-Oxley (SOX) Section 404(b). The bill will also allow companies to conduct direct public offerings of up to $50 million under SEC Regulation A, eliminate the ban on general solicitation in Rule 506 of SEC Regulation D, and raise the shareholder limit that requires private companies to register with the SEC. The JOBS Act passed both houses of Congress with broad bipartisan support and President Obama has indicated that he will sign it into law.

BIO ADVOCATES FOR TDP EXTENSION AND EXPANSION

BIO has been advocating Congress for an extension and expansion of the Therapeutic Discovery Project (TDP) tax credit program. The TDP was enacted in 2010 and awarded $1 billion in tax credits and grants to breakthrough biotechnology companies with fewer than 250 employees. To support extension and expansion of this important program, BIO produced three video vignettes which give policymakers a view of what TDP has done for biotech companies already. The videos highlight companies that received awards through the program and emphasize the positive effect that the funding had on job creation, the development of treatments, and U.S. competitiveness. To view these videos, please click **here**, **here**, and **here**.

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