



Center for Emerging Drug Discovery

UAB

Volume I, Issue II
Fall/Winter 2012-2013

Influenza!

Influenza has arrived in Birmingham! Children's of Alabama and University Hospitals and Clinics have seen an increasing number of ambulatory care visits and hospitalizations for severe influenza infection, particularly Influenza B. In addition to Influenza B, the circulating strain in the community is H3N2. The circulating H3N2 strain matches that which is in the current influenza vaccine; however, the Influenza B strain matches the vaccine strain in only approximately 50% of cases. Thus, we will be encountering severe influenza in our community this year. Please remember that it is not too late to get immunized for influenza. While there is not a perfect match for influenza B, you will still be protected from 75% of circulating strains. If you develop influenza, stay home and do not go to work. In addition, for those working in our hospital environment, exquisite etiquette to hand washing and personal hygiene is essential. For sick individuals, the treatment of choice remains oseltamivir.

New Projects

The following investigators were recently awarded ADDA pilot funding and have been added to the still growing portfolio of drug discovery projects. All projects are moving forward towards the discovery and development of new therapeutic molecules in their respective areas of disease.

- **Frances E. Lund, PhD**

Department of Microbiology.

Treating B-cell-derived neoplasms by targeting the ectoenzyme CD38: a regulatory of the NAD metabolic pathway.

- **Sunnie R. Thompson, PhD**

Department of Microbiology.

Development of an anticancer therapeutic against ribosomal protein S25.

We congratulate these PIs and look forward to working with them in the coming year.



Inside this issue:

| | |
|---|----------|
| <i>Influenza!</i> | <i>1</i> |
| <i>New Projects</i> | <i>1</i> |
| <i>Academic-Pharmaceutical Partnerships</i> | <i>1</i> |
| <i>Summary of October annual meeting – SERCEB</i> | <i>2</i> |
| <i>Drug Discovery Lectures</i> | <i>2</i> |
| <i>NERCE Medicinal Chemistry Workshop</i> | <i>2</i> |
| <i>Save the Date!</i> | <i>2</i> |

Academic-Pharmaceutical Partnerships

This past August, the UAB Center for Clinical and Translational Science and the Alabama Drug Discovery Alliance entertained senior scientists and management from Gilead Sciences, Inc., Foster City, CA. Gilead Sciences is the world's leader in the development and sales of drugs to treat HIV infections. In addition, they launched a program to make their medications available to the developing world at trivial costs. The goal of the UAB meeting was to begin to build an academic-pharmaceutical alliance. UAB scientists presented key findings reflecting areas of work in cystic fibrosis, cancer, pulmonary hypertension, and inflammation. The immediate outcome of this meeting is that three of the UAB presenters have been invited to Gilead Sciences to more formally explore collaborative research relationships. In addition, two other investigators will have the opportunity to develop investigator initiated clinical trials. It is hoped that relationship will provide a springboard for future collaborations between our academic institution and the pharmaceutical industry.

In addition, UAB researchers have initiated discussions with investigators at Emory University related to a partnership between the two drug discovery programs. A planning meeting is being scheduled for early 2013.

CEDD staff

Director:

Richard Whitley, MD

Associate Director

Clinical Sciences:

Penny Jester, BSN, MPH, CCRC

Associate Director for Basic Science and Drug Development:

Maaïke Everts, PhD

Program Manager:

Mary Wyatt Bowers, MA

Address/Contact:

Center for Emerging Drug Discovery
Children's Harbor Building 303
1600 6th Ave, South
Birmingham, AL 35233
Phone: 205 934-2973
Fax: 205 934-8559
E-mail: maaïke@adda.edu

Summary of October annual meeting – SERCEB



This year's SERCEB annual meeting, held on October 1-2, 2012 in Chapel Hill, NC, focused on the progress made by the regional consortium since funding was first awarded ten years ago. Due to the significant spread and increased incidence of Dengue virus infections as well as the recent appearance of a new novel strain in Sri Lanka, a number of investigators have concentrated their research efforts on determining the pathogenesis and potential vaccines for this virus. Multiple investigators reported on their work with other emerging infections, particularly chikungunya and coronaviruses. Fred Sparling, the SERCEB director, summarized the two day meeting by noting that although the upcoming recompensation for the Centers of Excellence will eliminate the regional focus of this award, he expects that collaborations formed since the initial funding in 2003 will continue to produce significant results.

Drug Discovery Lectures

From August 31 to October 19 2012 we hosted a drug discovery and development oriented lecture series, graciously co-sponsored by the UAB Center for Clinical and Translational Science. Slides are now online at www.adda.uab.edu. The content was as follows:

- 8-31: Maaik Everts – Intro to Drug Discovery and Its Funding
- 9-7: Indira Padmalayam – Assay Development
- 9-14: Mark Suto – What Makes a Target Validated and Druggable?
- 9-21: Lucile White – High Throughput Screening
- 9-28: Rich Whitley – Clinical Trials
- 10-5: Bob Galemno – Medicinal Chemistry: from Hit to Lead
- 10-12: Dave Winwood – Intellectual Property
- 10-19: Jennifer King – Pharmacokinetics and ADME



NERCE Medicinal Chemistry and Preclinical Development Workshop

On September 21st, the New England Regional Center for Excellence in Biodefense and Emerging Infectious Diseases (NERCE) hosted a workshop about medicinal chemistry and preclinical development.

As they mentioned on the event website (<http://medchemworkshop.eventbrite.com/>), since many academic investigators now have access to high-throughput screening, it is imperative that the process of hit-to-lead maturation using medicinal chemistry is understood. The workshop provided a basic introduction to the topic, with speakers from academic institutions and the NIH, and also highlighted case studies from academic labs that have moved therapeutic molecules through the pipeline. To start things off, Dr. Greg Cuny (the University of Houston) explained the functions of medicinal chemistry, including hit triage, facilitation of 'SAR by catalogue', compound design, and compound synthesis. He stressed how important it is to define progression criteria for compounds before embarking on a project, for example with respect to IC50, solubility, microsome stability, etc, to 'decide when to escape the loop of optimization'. His presentation was followed by another educational lecture by Dr. Edward Kerns (NCATS, NIH), who explained in more details what drug-like properties entail, and how to assay for them, when the ultimate goal is to have a compound with good pharmacokinetic properties, which engages with the target and has a pharmacological effect. Dr. Rosemarie Aurigemma (OBRA, NIH) completed the morning program by highlighting various resources at DMID that can be accessed by academic investigators; she strongly suggested to visit the website (<http://www.niaid.nih.gov/labsandresources/resources/dmid/pages/default.aspx?wt.ac=bcDmid>) and to talk to your program officer.

The afternoon session highlighted academic groups who had successfully developed compounds for various infectious diseases. The lineup included teams from the University of Michigan, Brigham & Women's Hospital, St. Jude Children's Research Hospital, Brandeis University and the University of Washington. It highlighted the excellent antimicrobial drug discovery and development work that can be accomplished in academic settings, and provided an inspiration for all of those in attendance.

Save the Date!

Mark your calendars for October 9-11, 2013 for the 2013 ADDC Conference; a unique venue facilitating collaboration and exchanging knowledge amongst representatives from academia, industry, foundations, and funding agencies. Check the conference website for additional information: www.addc2013.com. It will be held at the Music City Convention Center. Nashville, TN

