Future ISICR Meetings

Sept. 15, 2007
(History of the Interferons)

Sept. 16-19, 2007
Oxford, UK

2008 Meeting
Joint ISICR/ICS
Montreal, Canada
Oct. 12-16
www.cytokines2008.org

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ISICR

INTERNATIONAL SOCIETY FOR INTERFERON AND CYTOKINE RESEARCH

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An Interview with the 2007 Milstein Award Winner, Dr. Shizuo Akira

Thomas Tan

Dr. Shizuo Akira is a Professor at the Research Institute for Microbial Diseases at Osaka University, Japan (since 1999), and also a project director of AKIRA Innate Immunity, ERATO (Exploratory Research for Advanced Technology) of Japan Science and Technology Corporation (JST) (since 2002). He received his M.D. in 1977, and Ph.D. in 1984 from Osaka University. After two years of postdoctoral working in Department of Immunology, University of California at Berkeley, he started to investigate IL-6 gene regulation and signaling in the Institute for Molecular and Cellular Biology, Osaka University, and cloned the transcription factors, NF-IL6 and STAT3. He was a Professor in Department of Biochemistry, Hyogo College of Medicine from 1996 to 1999, where he became involved in Toll-like receptor (TLR) research. His current research interests are molecular mechanisms of host defense and innate immunity, and as part of these studies, he has generated many important knockout mice. In 2006 and 2007 he was recognized as the hottest scientist who had published the greatest number of 'Hot Papers' (11 papers) over the preceding two years. He is the recipient of several international awards, including the Robert Koch Prize and the William B. Coley Award.

ISICR: Congratulations on receiving the Milstein Award. Where were you when you first learned that you have been selected by ISICR to receive the prestigious Award?

SA: In my office. Professor Paula Pitha-Rowe called to inform me that I have been selected as the winner of the Milstein Award 2007.

(Continued on Page 2)

*(**Dr. Shizuo Akira**, cont. from page 1)*

ISICR: What does the Award mean to you?

SA: Interferon research was and now is very strong in Japan. Indeed, we already have famous Japanese researchers as Milstein Awardees. I am very honored to be included in such prominent list, and proud of the internationally high standard of interferon research in Japan.

ISICR: What do you feel are your most important contribution to the field of cytokine research?

SA: Identification of TLR9 as CpG DNA receptor.

ISICR: And if you have to pick one TLR member or pathway, which one would you target for therapy?

SA: Of course, TLR9. I have high hopes for TLR9 stimulating molecules in vaccine development, allergy treatment, and cancer immunotherapy.

ISICR: You also made seminal discoveries on IL-6 and STAT3. Which disease indications do you think would best benefit from therapies targeting IL-6 and STAT3 pathways?

SA: IL-6 is now found to be an essential cytokine which drives Th17 response. Blockade of IL-6 action or STAT3 signaling will be useful for treatment of chronic inflammatory diseases and autoimmune diseases.

ISICR: What ignited the fire in you to become a scientist? Who was your mentor or role model in your scientific career?

SA: I was initially trained as a medical doctor, and practiced two years in a municipal hospital after graduation. I wanted to do research, and decided to pursue graduate studies at Osaka University, Medical School. My mentor was Professor Tadamitsu Kishimoto, who was studying B cell differentiation and discovered IL-6. In order to learn molecular technology, I was sent to the lab of Professor Tasuku Honjo, who was a professor in the Department of Genetics at Osaka University. The encounter with both superb scientists determined my fate to become a scientist.

ISICR: Thinking back, how has the trajectory of your Ph.D. pursuit influenced your career choices and present position?

SA: I think two things during my PhD course influenced my career choices and present position. One is that I could publish my experimental results in Cell and EMBO journal as the first author and Nature as the second author. The other is I met two distinguished immunologists, Professors Kishimoto and Honjo, and I was much influenced by their personalities and their achievements.

ISICR: You were a postdoctoral fellow at the University of California-Berkeley. Was this your first trip to the US? Any cultural shock?

SA: That was my first trip to the US. I had not experienced cultural shock much because Japan was already immersed with American culture. But I had difficulty in communicating in English.

ISICR: You have authored and co-authored over 500 papers, *and* you're one of the most cited immunologists. How did you do it?

SA: For one, the generation of various knockout mice increased the number of papers because the mice are utilized in other laboratories in a collaborative manner. And I always searched the next target from the results obtained by knockout mice. For instance, we found by chance that MyD88 knockout mice are unresponsive to LPS. This got me involved in innate immunity research. Then, we started to knock out all receptors which might use MyD88 as adaptor, including IL-1 receptors family and Toll-like receptors. Once it was shown that TLR4 is an LPS receptor, the next question became what was the role of other TLRs. We searched for many immunostimulants which activate immune cells to produce cytokines. Step by step we identified the ligand recognized by individual TLRs. We then noticed that LPS still activates NF-κB in the absence of MyD88. We searched for the genes which are induced in response to LPS in MyD88 knockout

*(**Dr. Shizuo Akira**, cont. from page 2)*

mice and found interferon-inducible genes. We also expected the presence of MyD88-related molecules, and mined for such molecules in database, and found several genes, and started knocking them out as well in mice, and uncovered their role. Our main strategy is to find out the next research target from the phenotype of knockout mice before embarking on the *in vitro* experiments.

ISICR: If you weren't a scientist, what would you be?

SA: Medical doctor. Perhaps a novelist, but I know I will not become a good writer.

ISICR: What's your idea of relaxation?

SA: I like to read novels.

ISICR: Can you describe the research environment at Osaka University?

SA: The building is old, and the space of my lab is small. The University is constructing a new building, which is scheduled to be completed by April, 2009, and my lab will move to the new building.

ISICR: What are your current priorities?

SA: To continue the high quality of our publications, but it does not mean to simply publish papers in high-impact journals.

ISICR: What are you most looking forward to at this year's ISICR Annual Meeting in Oxford?

SA: New findings regarding the DNA sensors.

ISICR: And that's why you're a highly cited immunologist--always working and always on the lookout for the next target! Thank you for your time, Dr. Akira.

SA: My pleasure.

ISICR Awards

The Seymour and Vivian Milstein Young Investigator Awards
The Milstein Young Investigator Awards are presented to ISICR members who have made notable contributions to either basic or clinical research within 8 years after receiving their Ph.D or M.D.. This award is provided by a generous gift of the Milstein Family.

2007 Young Investigator Awards

Luis Martinez-Sobrido
Mount Sinai School of Medicine

Vladimir Hurgin,
Weizmann Institute of Science

Andrea K. Erickson
University of Texas Southwestern Med Ctr - Dallas

Jesper B. Andersen
National Institutes of Health, USA

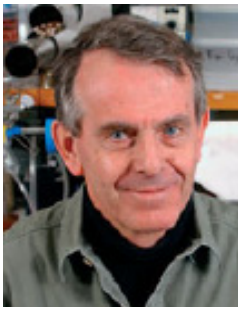
Brenda L. Fredericksen
University of Maryland

The Christina Fleischmann Memorial Award to Young Women Investigators Eligibility: The rules for this ISICR award are the same as for the Seymour and Vivian Milstein Young Investigator Award (see above) except for gender and that candidates within 10 years after receiving a PhD or M.D. degree. Every year the Christina Fleischmann Memorial Award is presented to a young woman ISICR member who has made notable contributions to either basic, translational or clinical research. This award is made possible through the generosity of the Fleischmann Foundation and is dedicated to the memory of ISICR member and outstanding interferon research scientist Christina Fleischmann.

2007 Christina Fleischmann Awardee

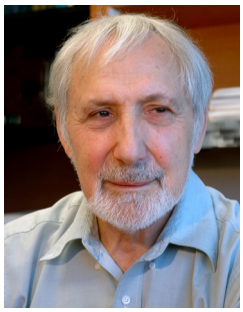
Nancy Jewell
Columbus Children's Research Institute

2007 ISICR Honorary Members



Dr. Ian Kerr

Dr. Ian Kerr has had a long and very distinguished career studying the mechanism of action of the interferons. Obtaining his PhD in 1963, he did postdoctoral work at Stanford and MIT, and was a group leader at the MRC National Institute of Medical Research for many years before moving to Lincoln's Inn Fields in 1980. Dr. Kerr has made numerous ground breaking contributions to our understanding of how interferons alter cellular behaviour. These include the discovery of 2-5A, the 2'-5' oligoadenylates which activate RNA degrading enzymes as part of the interferon response; the identification and characterization of interferon-responsive genes; and the application of somatic cell genetic approaches to elucidate signal transduction pathways controlling interferon-induced genes. Dr. Kerr was made a Fellow of the Royal Society in 1985, and amongst other awards has twice received the ISICR Milstein Award. Dr. Kerr retired in 2005 as a senior group leader at Lincoln's Inn Fields, London Research Institute. (Info copied from the 2005 London Research Institute Annual Report).



Dr. George Stark

Dr. George Stark graduated in Chemistry from Columbia University and became a postdoctoral fellow at the Rockefeller University. He then went to Stanford University and eventually became a Professor of Biochemistry. In 1983 he moved to the Imperial Cancer Research Fund in London as Associate Director of Research. Dr. Stark joined The Cleveland Clinic Foundation in 1992, as Chairman of the Lerner Research Institute, a position he held until August 2002. He currently holds the title of Distinguished Scientist and runs a busy laboratory in the Lerner Research Institute. Dr. Stark was elected to the National Academy of Sciences (USA) in 1987 and became a Fellow of the Royal Society (London) in 1990. In October 2002, he was elected to the Institute of Medicine of the National Academy of Sciences. Dr. Stark is also a winner of the ISICR Milstein Award.

Major objects of research conducted by Dr. Stark include the interferons, pathways that activate or repress the transcription factor NFκB and stress-induced pathways that activate the tumor suppressor protein p53 and pathways that respond to activated p53.

THE ISICR SLIDE REPOSITORY

Ever see a slide in a talk that you wish you could use for your own presentation? Well now this may be possible through the ISICR Slide Repository. Members can now go in and post slides that they have developed or download slides that others have provided to the membership. **OVER 280 SLIDES ARE NOW AVAILABLE!!!!!!** For this member only feature, you need to have your member number so if you are not sure what that is, please contact the membership office. We urge members to upload general slides that other members can use for lectures, classes, seminars, etc. Slides are not to be changed without permission from the donor and all copyright permissions must be obtained. The repository now has a useful search capability that allows you to find slides on a particular topic. If you have trouble uploading or downloading slides, please contact Howard Young at younghow@mail.nih.gov.

PLEASE CONSIDER CONTRIBUTING YOUR SLIDES. The success of this initiative depends upon you, the membership!!!!

NEW ISICR MEMBERS

We welcome these members to the ISICR and we look forward to their participation in the annual meeting and ISICR committees and activities.

Joined March 2007 thru July 2007

Jessica Kaplan Altman
Northwestern Univ, USA

Gila Arad
Hebrew Univ of Jerusalem, Israel

Glen N. Barber
Univ of Miami, USA

Sonja Marie Best
Natl Inst of Allergy & Infect Dis, NIH, USA

Danielle Brabant
Laurentian Univ, Canada

Daniel Burke
Univ of Toronto, Canada

Krisztina Kormondine Buzas
NIH/NCI-Frederick, USA

Mei Po Chan
Univ of Hong Kong-LKS, China

Ridong Chen
HumanZyme Inc, USA

Maria Vincenza Chiantore
Istituto Superiore di Sanita, Italy

Sharon Sue Wen Chow
POWH & UNSW Rsch Labs, Australia

Ricardo Roque Cibotti
MedImmune Inc, USA

Troy Cline
Ohio State Univ, USA

Alfred Corey
Human Genome Sciences, Inc, USA

Blossom Damania
Univ. North Carolina-Chapel Hill, USA

Valentina D'Escamard
New York Univ Sch of Med, USA

Nicole Anne De Weerd
Monash Inst of Med Rsch, Australia

Mark Stephen Diamond
Washington Univ Sch of Med, USA

Lasse Dissing-Olesen
Univ of Southern Denmark

Linda Dixon
Inst for Animal Hlth Pirbright Lab, UK

Raymond Peter Donnelly
FDA CDER, USA

Jamila El Bougrini
CNRS, France

Andrea Kaup Erickson
Univ of Texas Southwestern Med Ctr-Dallas, USA

*(**New Members**, cont. from page 5)*

Felix Ivanovich Ershov
Gamaleya Inst for Epid & Microbiol, Russia

Joyce Eskdale
Humigen, USA

Michele Fiscella
Human Genome Sciences, Inc, USA

Eugene Friedman
New York Univ Sch of Med, USA

Dirk R. Gewert
BioLauncher Ltd, UK

Gael Gibbs
Murdoch Univ, Australia

Leorid Gratovskiy
New York Univ Sch of Med, USA

Seda S. Grigorian
Gamaleya Inst for Epid & Microbiol, Russia

Diego A. Jaitin
Weizmann Inst of Sci, Israel

Danlin Jia
Univ of Toronto, Canada

Cecilia Johansson
Imperial College London, UK

Susan John
Kings Col London, UK

Adam Joseph Karpala
Australian Animal Hlth Lab

Surinder Kaur
Northwestern Univ, USA

HeeSun Kim
Yeungnam Univ Col of Med, Korea

Hyon-Suk Kim
Yonsei Univ Col of Med, Korea

Yeon Hyang Kim
Hallym Univ, Korea

Barbara Kroczynska
Northwestern Univ, USA

Thomas Kuri
Inst for Med Microbiol & Hygiene, Germany

Guy Lemay
Univ de Montreal, Canada

Xikui Liu
MD Anderson Cancer Ctr, USA

Stephen Locarnini
VIDRL, Australia

Rhiannon May Lowe
Imperial College/GSK, UK

Dorthe Lundsgaard
Novo Nordisk A/s, Denmark

Uwe Marx
ProBioGen Ag, Germany

Jacqueline M. McBride
Genentech, USA

Jia Meng
New York Univ Sch of Med, USA

Frederique Michel
Inst Pasteur, France

Jehangir S. Mistry
Millipore Corp, USA

*(**New Members**, cont. from page 6)*

Takashi Moriguchi
Kyoto Univ Grad Sch of Pharm Sci, Japan

Bei Morrison
Cleveland Clinic Fnd, USA

Bindukumar B. Nair
SUNY Buffalo, USA

Yu Nakashima
Kyoto Univ Grad Sch Parm Sci, Japan

Shreeram Chakravarthy Nallar
Univ of Maryland Sch of Med, USA

Anatoliy Davidovich Namgaladze
Farmaclon Ltd, Russia

Roza I. Nurieva
MD Anderson Cancer Ctr, USA

Atsushi Okumura
Univ of Pennsylvania, USA

Manjing Pan
UMDNJ-Robert Wood Johnson Med Sch, USA

Inger Lund Pedersen
Novo Nordisk, Denmark

Yann Percherancier
C.N.R.S., France

Penny Powell
Univ of East Anglia, UK

Katrin Ramsauer
Med Univ of Vienna, Austria

Amanda J. Redig
Northwestern Univ, USA

Anthony Sadler
MIMR, Australia

Sandra Marie Schaal
Univ. of Miami Miller Sch of Med, USA

Federico Serana
Laboratorio di Biotecnologie-Spedali Civili Med, Italy

Veronika Sexl
Univ Vienna, Austria

George Mariane Soares
Fiocruz, Brazil

Phillip Stumbles
Murdoch Univ, Australia

Tomohiko Suzuki
Toray Industries Inc., Japan

Manuel Vega
Nautilus Biotech, France

Eugenia N. Vyhlova
Gamaleya Inst of Epidemiol & Microbio, Russia

Dakang Xu
Monash Inst of Med Rsch, Australia

Jae-Kwang Yoo
Univ of Toronto, Canada

Chia-Yi Yu
Academia Sinica, China

Zhenghong Yuan
Fudan Univ-Shanghai Med Col, China

Fuquan Zhang
Inst for Animal Hlth Pirbright Lab, UK

*(**New Members**, cont. from page 7)*

Antonia Percario Zulema
Univ Degli Studi Roma Tre, Italy

Claudia Zylberberg
Akron Biotech, USA

New Member Minibios

Linda Dixon, Ph.D.
Head, African swine fever virus group, Institute for Animal Health, Pitbright, UK

Dr Linda Dixon studied for her PhD in the Dept of Molecular Biology, University of Edinburgh, Scotland. She carried out postdoctoral research at the University of Edinburgh and the Friedrich Miescher Institute, Basel Switzerland before joining the staff at the Institute for Animal Health, Pirbright, UK to establish a group working on African swine fever virus. Her research has involved characterising the genomes of ASFV isolates of different pathogenesis and functional analysis of the encoded proteins. The main focus has been on virus encoded proteins involved in evasion of host defences. This large DNA virus replicates in macrophages and encodes a number of proteins which interfere with signalling pathways. One protein studied by her lab, A238L, acts to inhibit both NF-kB dependent gene transcription and calcineurin phosphatase activity. A second protein, CD2v, is a transmembrane protein with an extracellulat domain that resembles the host CD2 but differs in the cytoplamsic domains. Her lab has worked on interactions of the cytoplasmic domain of CD2v with host proteins. Recently several ASFV proteins which inhibit type I interferon induction have been identified and ongoing work is involved in defining their mechanism of action. Another area of research is in the use of porcine microarrays to study macrophage responses following infection and to evaluate the role of individual virus proteins in modulating host gene expression. The knowledge gained from studies on genes involved in immune evasion and virulence is being applied to the rational development of candidate attenuated virus vaccines by sequential gene deletion.

Reason for joining ISICR
"Being a member of ISICR will provide an opportunity for me to learn from and interact with scientists working both on the basic mechanisms involved in interferon and cytokine signalling as well as those interested in how viruses manipulate these responses."

Gilla Kaplan, Ph.D.
Head, Laboratory of
Mycobacterial Immunity and
Pathogenesis
Public Health Research Institute
225 Warren Street, Newark, New
Jersey 07103-3535
Telephone: 973-854-3220
kaplan@phri.org

Dr. Gilla Kaplan earned a PhD degree from the University of Tromso, Norway. Postdoctoral training was undertaken as a Fogarty International Fellow in the Laboratory of Cellular Physiology and Immunology at the Rockefeller University where she subsequently held the positions of Assistant and Associate Professor.

Dr. Kaplan is currently head of the Laboratory of Mycobacterial Immunity and Pathogenesis, at the Public Health Research Institute (PHRI), in Newark. She was appointed full Member at PHRI in 2002. Dr. Kaplan also holds the positions of Professor of Medicine at UMDNJ and honorary Professor of Medicine, at the University of Cape Town, South Africa. She serves as Advisor to The Heiser Program for Leprosy and Tuberculosis and The

*(**New Members minibios**, cont. from page 8)*

Institute of Infectious Diseases and Molecular Medicine, Cape Town, South Africa..

Internationally recognized for her many contributions to the field of infectious disease immunology, Dr. Kaplan, a member of the American Academy of Microbiology, is also a member of many scientific advisory committees and editorial boards. She has been an invited speaker at international scientific colloquia focusing on infectious diseases, innate immunology, cytokines, HIV and vaccine development.

Dr. Kaplan's laboratory has been at the forefront of dissecting the cellular and molecular mechanisms governing immune responses to pathogenic microorganisms, such as *Mycobacterium tuberculosis*. Dr. Kaplan is the author of over 150 publications in peer-reviewed scientific journals, as well as numerous monographs, book chapters and review articles.

Xiaoyu Hu, M.D., Ph.D.
Instructor
Hospital for Special Surgery,
New York, NY

Dr. Xiaoyu Hu received her M.D. degree from Beijing Medical University in 1997 and Ph.D. degree from Weill Graduate School of Medical Sciences of Cornell University in 2004. Dr. Hu joined the Research Division of Hospital for Special Surgery in 2004 as a postdoctoral fellow and was promoted to instructor in 2005. Her research interests include many aspects of macrophage biology, particularly signaling crosstalk between interferons and other macrophage activating factors. Currently she is involved in projects studying the crosstalk between interferons and toll-like receptor (TLR) signaling pathways and the effect of interferons on TLR-induced inflammatory responses. Dr. Hu is the recipient of Arthritis Foundation Young Scholar Award from New York Chapter.

Reason for joining ISICR: "My research has always focused on the biology and signaling mechanisms of interferons. I thought that this is the perfect time to join the ISICR when we celebrate the 50th anniversary of the discovery of interferons."

Daniela Verthelyi, M.D. Ph.D.
Principal Investigator
Laboratory of Immunology,
Division of Therapeutic Proteins,
Center for Drug Evaluation and Research, Food and Drug Administration, 8800 Rockville Pike, Bethesda, MD 20892

Dr. Verthelyi received her M.D. degree from the University of Buenos Aires, Argentina, in 1988, and her Ph.D. degree in Immunology from the Virginia-Maryland Regional College of Veterinary Medicine at Virginia Tech in 1996. During this phase of her career, her research focused on understanding the effects of sex hormones on B cell homeostasis. She was the first to show that chronic exposure of non-autoimmune mice to estrogen leads to B cell hyperactivity and increased expression of auto-antibodies that are associated with systemic lupus and anti-cardiolipin syndrome. Following completion of her doctoral research, Dr. Verthelyi joined the laboratory of Dr. Dennis Klinman, where she described, a new class of immunostimulatory DNA, called CpG ODN type D, which selectively induce the production of IFN-a by human plasmacytoid dendritic cells and the maturation of monocytes into dendritic cells. Using these, she developed the first model of CpG ODN mediated immunoprotection in primates and established their effectiveness in immunocompromised human and non-human primates. In 2002, she became a research/reviewer and a principal investigator in at the FDA, where she continues to work on the identification and characterization of modulators of the innate immune response as they relate to potential therapies for infection with agents of bioterrorism and emerging pathogens. Her group has recently developed novel pro-drug forms of CpG ODN that resolve issues of product aggregation in sequences containing poly G strands and can be used to prolong the immunoprotective effect of these oligos. She is currently interested in the impact of innate immune modifiers on inflammatory processes in the CNS. Dr Verthelyi lives in Maryland with her husband and 2 daughters.

ISICR Members in the News

Eleanor Fish, incoming ISICR President
Canada Research Chair in Women's Health and Immunobiology

The Canada Research Chair in Women's Health and Immunobiology is a partnership between the Women's College Research Institute, the University Health Network (UHN) and the Department of Immunology at the University of Toronto. This Chair conducts and inspires research focused on sex differences in the immune system.

“Do men and women's bodies work differently at the most basic level? Why are women more likely to have lupus? MS? Arthritis? Should treatment of these conditions be different for women and men?”

These are questions we don't have the answers to yet, says WCRI Senior Research Scientist Gillian Einstein.

"Why should autoimmune disease be more commonin women than in men? Is it due to hormones, genes or both?"

The answers to these questions lie in basic science research, laboratory-based studies that examine the body's workings at the cellular and molecular level. "The University of Toronto has an incredibly talented pool of basic science researchers," says Einstein. "That is a real opportunity for women's health, because there is also an enthusiasm here to collaborate."

Almost three years ago, Einstein developed a proposal for a Canada Research Chair in the basic science of women's health; many of the Faculty of Medicine's basic science programs as well as hospital research institutes were ultimately involved. In the spring of 2007, the dream became a reality with the announcement of Dr. Eleanor Fish as Canada Research Chair in Women's Health and Immunobiology. The new chair is a partnership between the Women's College Research Institute, the University Health Network and the Department of Immunology.

Dr. Fish leads the Arthritis & Autoimmunity Research Centre (AARC) at the University Health Network, Canada's largest and most comprehensive research centre dedicated to autoimmune disease. She is a well-known scientist, who studies the molecular mechanisms underlying the actions of the immune system.

Dr. Eleanor Fish and Dr. Gillian Einstein

"I am thrilled that Eleanor allowed herself to be put forward for this the new chair," says Einstein. "She is a widely-respected researcher, with an international reputation as an immunologist and with collaborations in the developing as well as the developed world. She has a strong commitment to turning her work toward understanding sex differences. Her laboratory and research team at the University Health Network are well poised to take on this project. We anticipate that a group of people will form aroundher who want to understand why carrying two X chromosomes correlates with other gene expressions so that women's immune systems responded differently - including the over-exuberant response that leads to autoimmune disease."

Fish will expand her own studies of the immune system to document sex-based differences in how we respond to infection, but she agrees that it's the building of a research collaborative that is really important.

"One of the things I have committed to as the Canada Research Chair is to recruit a faculty member to UHN who will really begin to look at the sex differences in autoimmune disease." Like herself, she hopes her new recruit will have an appreciation

*(**Members in the News**, cont. from page 10)*

for the broad scope of women's health research.

"I'm part of a basic science department [Immunology] at the University, says Fish, "but I am hospital-based, so I've always had an interest in translational research -work that can apply what we learn about the underlying mechanisms to the treatment of disease." She says that Gillian Einstein has further inspired her with her passion for building bridges between disciplines to create a more integrated body of women's health knowledge. "It's infectious and she is right. Building an integrated community that shares knowledge across disciplines is the essential function of this Chair."

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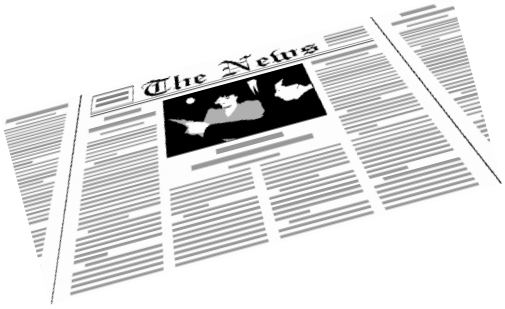
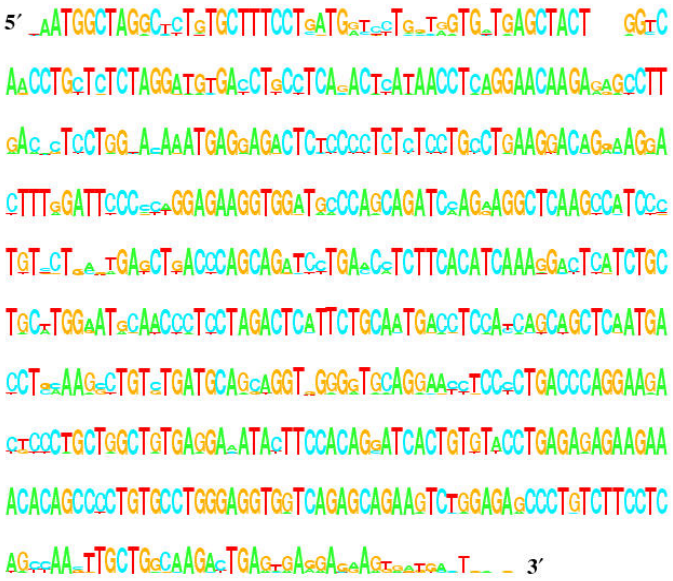


Mouse Interferon α Gene Family



This picture represents a comparison of the mouse Interferon alpha gene sequences as analyzed by a program developed by Dr. Tom Schneider, NCI-Frederick. The height of the letters reflects the sequence conservation of the nucleotide (tallest are the most conserved). For more information on this type of analysis, see Schneider TD and Stephens RM. Sequence Logos: A New Way to Display Consensus Sequences, Nucleic Acids Res. 18:6097-6100, 1990.

POST DOCTORAL OPENING

Position description:
The successful candidate will conduct independent basic molecular and cellular pharmacology research in the area of anti-cancer therapy. He/she will be responsible for designing and conducting experiments to understand the mechanism of action, intracellular metabolism and localization, and resistance development for Gilead's small molecule anti-cancer lead inhibitors including compounds in early stage clinical development. The candidate will also closely interact with a multidisciplinary discovery team focusing on the identification of novel selective small-molecule anticancer inhibitors. The candidate is expected to present and publish results of his/her research.

Requirements:
PhD degree in life sciences, preferentially in cellular or molecular biology, immunology, or molecular pharmacology with 3 to 5 years of laboratory experience. Solid theoretical understanding and excellent technical skills in molecular and cellular biology together with well developed communication skills and computer literacy are essential. Background in molecular oncology, drug metabolism, bioinformatics, and/or enzymology will be a plus.

Contact: Dr. Tomas Cihlar at Tomas.Cihlar@gilead.com

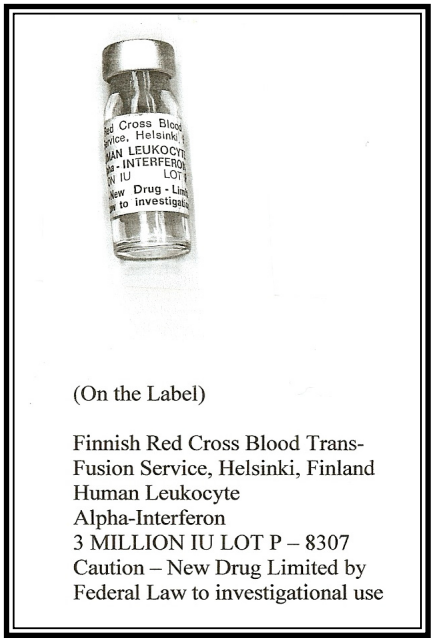
Interferon & the Comics

The first mention of interferon appeared in a Flash Gordon comic strip as shown below (circa early 1960s).

While there are no other examples of the mention of interferon in the comics (readers are welcome to submit other examples if they are aware of such), PBL Biomedical, a long time Corporate Sponsor of the ISICR, has just released the first of what is to be a series of comic books about Interferon.

The purpose of this publication is to teach younger scientists and laypeople about interferons and their role in immunity, although there has been a great response from senior scientists as well. PBL wants people to appreciate that while interferons have been studied for over 50 years, they are still an active and vibrant area of research. The comic is freely available to anyone who signs up to receive the comic at the PBL website (www.interferonsource.com), but also to any professors who teach immunology and/or virology. In future issues, PBL will profile each of the type I and II interferons, and once a year, highlight the major role that interferons play in disease (lupus, MS, cancer, etc), starting, in the first issue, with influenza.

The Interferon Foundation



One of the interesting stories in the early history of the science and politics surrounding the discovery of interferon is that of the "Interferon Foundation". The early promise of interferon as a therapy for cancer reached all the way to the halls of the US Congress as individuals such as Dr. Mathilde Krim were instrumental in getting the Congress to consider an appropriation earmarked for the production of what was being hyped as a wonder drug. As interferon was so difficult and labor intensive to purify, the cost for a full treatment was >$30,000 (relatively modest by today's standards but very high in 1980). Furthermore, as was stated in the March 31, 1980 issue of Time Magazine, almost no one got interferon. The promise of this new drug to combat cancer led Texas oilmen Leon Davis and Roy Huffington to try and do something to help patients that might benefit from interferon treatment. Encouraged by Dr. Jordan Gutterman, one of the early pioneers in the clinical use of interferon and the 1992 recipient of the ISICR Milstein Award, Davis and Huffington formed the Interferon Foundation with the goal of raising money to pay for interferon for cancer patients. Leon Davis was the Chairman of the Interferon Foundation and his fundraising approach was a bit different from most charitable foundations in that he went directly to corporate executives in the oil industry and private foundations, bypassing the more commonly used method of specific fundraising events. Davis and

(***Interferon Foundation*** continued from page 12)

Huffington proved very successful as up to $20 million was raised through their efforts. All of this money went to the purchase of clinical grade interferon as no funds were used for foundation expenses. The majority of the funding went to M.D. Anderson but other institutions performing clinical trials with interferon also benefited. It is believed that this is the largest amount of money that was ever privately raised for clinical trials of a single drug.

While no longer in existence, the Interferon Foundation set a distinct example as a charity whose sole purpose was to obtain sufficient quantities of a new experimental drug for the treatment of cancer. Thus the efforts of Leon Davis and Roy Huffington are an important and unique chapter in the history of Interferon.

WWW

BioEdit

http://www.mbio.ncsu.edu/BioEdit/bioedit.html

BioEdit is a biological sequence alignment editor written for Windows 95/98/NT/2000/XP. An intuitive multiple document interface with convenient features makes alignment and manipulation of sequences relatively easy on your desktop computer. Several sequence manipulation and analysis options and links to external anaylsis programs facilitate a working environment which allows you to view and manipulate sequences with simple point-and-click operations.

New version is WinXP compatible
BioEdit's features include:

- Several modes of hand alignment
- Automated ClustalW alignment
- Automated Blast searches (local and WWW)
- Plasmid drawing and annotation
- Accessory application configuration
- Restriction mapping
- RNA comparative analysis tools
- Graphical matrix data viewing tools
- Shaded alignment figures
- Translation-based nucleic acid alignment
- ABI trace viewing, editing and printing
- Customizable ...

CRISP

http://crisp.cit.nih.gov/

CRISP (Computer Retrieval of Information on Scientific Projects) is a searchable database of federally funded biomedical research projects conducted at universities, hospitals, and other research institutions. The database, maintained by the Office of Extramural Research at the National Institutes of Health, includes projects funded by the National Institutes of Health (NIH), Substance Abuse and Mental Health Services (SAMHSA), Health Resources and Services Administration (HRSA), Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDCP), Agency for Health Care Research and Quality (AHRQ), and Office of Assistant Secretary of Health (OASH). Users, including the public, can use the CRISP interface to search for scientific concepts, emerging trends and techniques, or identify specific projects and/or investigators. Below you will be able to access additional general information about the CRISP database, as well as obtain answers to questions frequently asked about CRISP. In addition, this home page serves as the gateway to interactive searching of Award Information.

fRNAdb: Functional RNA Database

http://www.ncrna.org/frnadb

Functional RNA Database (fRNAdb) is a database service that hosts a large collection of non-coding transcripts including annotated/un-annotated sequences from H-inv database, NONCODE, and RNAdb. A set of computational sequence analyses are performed over these registered sequences. The analyses include RNA secondary structure motif discovery, EST support, finding cis-regulatory elements, sequence homology search, etc. The fRNAdb provides an efficient interface to help users filter out particular transcripts that match their own criteria to sort out functional RNA candidates.

HubMed

www.hubmed.org

An alternative interface to the PubMed medical literature database
Includes:
1. Daily updates of search results via web feeds.
2. Quick access to searches with a Firefox search plugin or a HubMed bookmarklet (drag to your browser's bookmarks toolbar).
3. Export citations in RIS, BibTeX, RDF and MODS formats, or directly to RefWorks.
4. Unzip HubMed's import filter into Endnote's Filters folder for direct import into Endnote, or install the RIS Export plugin for direct import into ProCite, RefMan and older versions of Endnote.
5. Use the Citation Finder to convert reference lists from PDFs into search results.
6. Create lists of closely related papers using Rank Relations, then visualise and browse clusters of related papers using TouchGraph (requires Java).
7. Graph occurrences of keywords in published papers over time.
8. Tag and store annotated metadata for articles of interest.
Recommended by Kevin Ahearn in *Genetic Engineering News*

MedHelp: Section on interferon

http://www.medhelp.org/HealthTopics/Interferon.html

Questions and answers about interferon from the Doctor's Forum.

Mouse Phenome Database

http://phenome.jax.org/pub-cgi/phenome/mpdcgi?rtn=docs/home

MPD is a database of mouse strain characterizations. Phenotype and genotype data presented on this web site are voluntarily contributed by researchers from a variety of institutions and settings, or in some cases retrieved by us from open public sources. MPD goals include:
to assist investigators in selecting mouse strains for experiments
to provide a standardized platform for discovering genotype/phenotype relationships to provide a standardized collection of reference data on the laboratory mouse

Affiliation
MPD is headquartered at The Jackson Laboratory, an organization that uses the laboratory mouse to better understand human health (http://www.jax.org). MPD is a grant-supported research effort with 3 fulltime staff members.

Phenotype data
Number of publicly-available contributed phenotype projects: 54
Number of publicly-available measurements: 837
Average number of strains tested per measurement: 18
Data for females and males are always segregated.

Genotype data (SNPs)
Number of SNP locations: ~10 million
16 strains have been assayed at more than 8 million locations. Lesser amounts of data are available for 125 inbred strains and strains in 7 RI panels.
Number of available SNP data sets: 23

Mouse strains
Total number of strains having any phenotype or genotype data in MPD: 570

NIAID RESEARCH RESOURCES FOR INTERFERON RESEARCH

http://www.beiresources.org/registration/register.cfm

A. Background and Purpose
The need for well-characterized reference reagents as an adjunct to research has long been recognized by the National Institute of Allergy and Infectious Diseases (NIAID). In 1969, NIAID accepted the responsibility for the preparation and evaluation of a panel of Interferon International Reference Reagents. These reference reagents, produced under NIAID contracts with industry, universities, and nonprofit research organizations, were selected in consultation with acknowledged authorities in the field. The

potency of the reagents is based on the results of repetitive testing in a number of different laboratories having expertise in interferon assay procedures. Complete details concerning production and testing are provided with each ampoule shipped. The interferon standard preparations designated by the World Health Organization (WHO) as International Standards or International Reference Preparations are the sole reagents for the international standardization of interferons used for both clinical therapy and experimental research. Reference standards for human and murine interferons as well as antibodies to the interferons are distributed by the Repository. These materials are not intended for either diagnostic or therapeutic use.

B. Availability and Distribution of Reagents

NIAID interferon reagents are intended for use as laboratory reference standards only. One ampoule of a reagent is provided to an investigator per year. They are not intended for either diagnostic or therapeutic use. Each of the reagents has been defined as containing a certain amount of interferon per ampoule based on specific assay methods. If you have questions about a particular reagent, please contact the Repository at the number below. Interferon reagent catalogs and order forms are available for downloading at the NIAID Repository website, ww.bratonbiotech.com. If you are unable to access the Internet, you may request the latest copy of the interferon catalog and order form by directly contacting the Repository using the fax or telephone numbers listed below. Reagent request forms must be completed by hand, they are not available for on-line completion or submission. Prior to submitting your completed and signed request form, please make a copy for your files. Then forward all completed and signed original documents to the Repository address listed below. To help expedite your order the Repository does accept the completed and signed forms by fax. Failure to submit all completed and signed original documents to the Repository will prevent us from considering any future reagent requests that are submitted by you or your organization.

Please forward all correspondence to:
BEI Resources
P.O. Box 4137
Manassas, VA 20108-4137
Tel #: 1-800-359-7370
Email: contact@beiresources.org

NIH Videocast

http://videocast.nih.gov/PastEvents.asp

This site contains a collection of events, including seminars, lectures and some symposia, that were held on the NIH campus. Included are the NIH Immunology Interest Group weekly seminar series and the NIH Director's Wednesday Afternoon seminar series.

Oncolink: the Web's first cancer resource

http://oncolink.upenn.edu/index.cfm

OncoLink was founded in 1994 by Penn cancer specialists with a mission to help cancer patients, families, health care professionals and the general public get accurate cancer-related information at no charge. Recent changes have been made to OncoLink to update the look and feel of our site. OncoLink is designed to make it easy for the general public to navigate through the pages to obtain the information that they want. The home page has buttons and hypertext links. If you click on the buttons or the underlined text with your mouse, you will go directly to your area of interest.

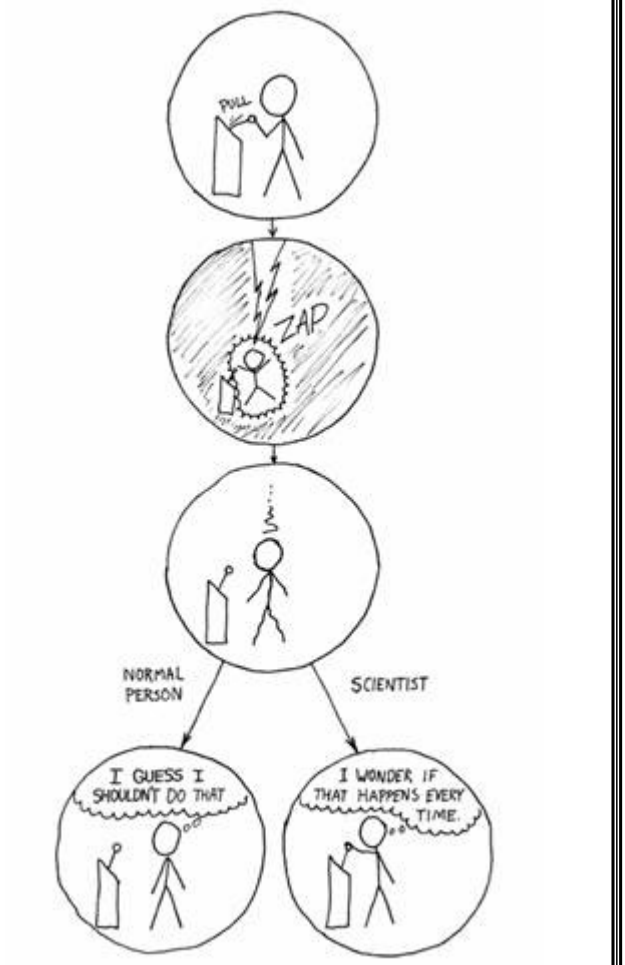
Through OncoLink you can get comprehensive information about specific types of cancer, updates on cancer treatments and news about research advances. We update the information everyday and provide information at various levels, from introductory to in-depth. If you are interested in learning about cancer, you will benefit from visiting OncoLink.

WWW (continued)

Understanding Cancer

http://www.cancer.gov/cancertopics/understanding-cancer/

This Web site contains graphic-rich tutorials for educational use by life science teachers, medical professionals, and the interested public. Each tutorial is also available in PDF and PowerPoint formats that may be downloaded from the Web. Simply click on any title listed below and when the tutorial opens, click within the Page Options box located in the left margin. The art presented here is copyrighted and distributed free of charge for educational purposes. A National Cancer Institute citation must appear on all copies.



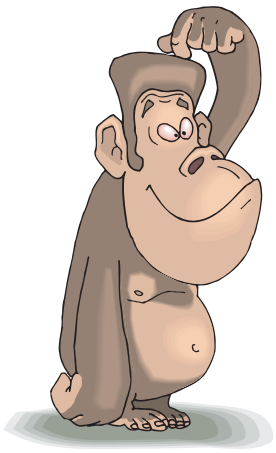
Obtained from http://xkcd.com/242/

Brainteaser

See if you can figure out what these words have in common?

Banana
Dresser
Grammar
Potato
Revive
Uneven
Assess

Are you peeking or have you already given up? Give it another try....
You'll kick yourself when you discover the answer. Go back and look at them again, think hard.



OK..
Here you go... Hope you didn't cheat.
This Is Cool.

Answer:
In all of the words listed, if you take the first letter, place it at the end of the word, and then spell the word backwards, it will be the same word. Did you figure it out? I did not!

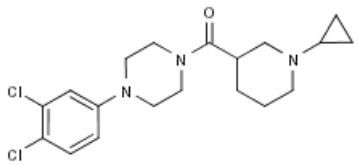
Biotech News

Clips from the *Daily Drug News*
Hannah Nguyen

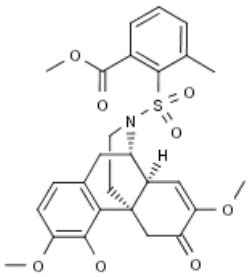
[July 19, 2007] **RANKL**: Target To Watch for development of therapeutics for treatment of osteolytic bone disorders

RANKL (receptor activator of NFkappaB ligand): is a member of the tumor necrosis factor (TNF) family of cytokines that is produced by cells of osteoblastic lineage and is a crucial modulator of bone remodeling and required for the development and activation of osteoclasts. It is a target for the treatment of osteolytic bone disorders such as osteoporosis, rheumatoid arthritis and cancer-related bone disease like follicular lymphoma with bone involvement where aberrant expression of RANKL has been observed in malignant cells. There are a few products targeting RANKL for the treatment of these indications: The RANKL vaccine, RANKL AutoVac from Pharmexa and the human monoclonal anti-RANKL antibody denosumab from Amgen are currently under active preclinical and phase III clinical development, respectively, for the treatment of osteoporosis, rheumatoid arthritis, multiple myeloma and/or cancer-related bone disease (Prous Science Integrity[R]).

[July 17, 2007] NatureMed has patented the use of a series of **sinomenine derivatives with cytokine production inhibitory properties** for treating inflammatory disorders such as rheumatoid arthritis and osteoarthritis. The therapeutic potential of such compounds is attributed in particular to their ability to curb tumor necrosis factor-alpha, interleukins IL-1, IL-6 and IL-8 biosynthesis. Additional indications include Alzheimer's disease and Parkinson's disease, among other neurodegenerative disorders, asthma, arrhythmia and inflammatory pain (WO 2007070703).

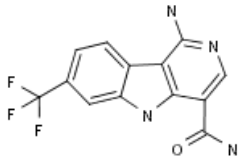


WO 2007071952



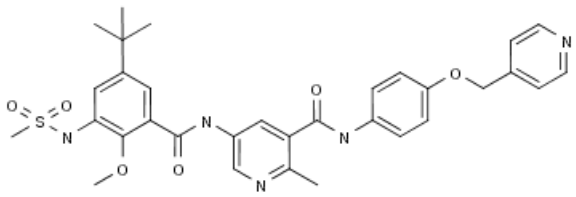
WO 2007070703

[June 19, 2007] Merck and Merck Frosst have jointly disclosed a novel series of tricyclic compounds that act as **inhibitors of protein kinases**, notably IKK-beta kinase (IKK-2), JAK1, JAK2, JAK3 and TYK2 and, as such, are considered to have potential for use in treating myeloproliferative disorders and cancer, as well as asthma, chronic obstructive pulmonary disease, rheumatoid arthritis, osteoarthritis, inflammatory bowel disease, dermatitis, psoriasis, atherosclerosis, hypertension, myocardial infarction, heart failure, diabetes, osteoporosis, stroke, Alzheimer's disease, multiple sclerosis, neuropathic pain and rhinitis (WO 2007061764).



WO 2007061764

[June 11, 2007] Kemia scientists have disclosed a novel series of **bisamide compounds** that act as **cytokine (TNF-alpha) release inhibitors** and are thus expected to be useful for treating inflammatory disorders such as arthritis. Their potential for use as analgesic and anticancer agents is additionally described (WO 2007056016).



WO 2007056016

*(**Biotech News**, cont. from page 17)*

[July 30, 2007] ChemoCentryx earns milestone payment from GlaxoSmithKline ChemoCentryx has earned a milestone payment from GlaxoSmithKline for progress in its **small-molecule CCR1 product discovery** and development program. The milestone payment was triggered by the acceptance of ChemoCentryx' orally bioavailable small molecule, CCX-354, as a candidate for full development. CCX-354 selectively inhibits the chemokine receptor known as CCR1, a validated target for the treatment of certain autoimmune diseases such as rheumatoid arthritis (RA), as well as other inflammatory diseases. Unlike existing injectable or infusible treatments for RA, CCX-354 is designed as an oral medicine which is highly potent and selective for the CCR1 target. This approach provides advantages such as the potential to treat the devastating effects of RA without the safety consequences sometimes seen by globally suppressing the immune system, as happens with such current therapies such as the anti-TNF biologics available today. In preclinical studies, CCX-354 has been shown to block the activity of all known naturally occurring proinflammatory proteins that drive CCR1-mediated inflammation. The compound exhibits encouraging pharmacokinetic properties and is highly potent. Notably, CCX-354 appears to block only the activity of the CCR1 chemokine receptor without binding to any other receptors, which may minimize off-target side effects (ChemoCentryx News Release).

[June 15, 2007] Coley acquires 3M's therapeutic Toll-like receptor R&D programs Coley Pharmaceutical Group today announced that it has entered into an agreement with 3M to acquire the majority of its therapeutic **Toll-like receptor (TLR) cancer programs**. The acquisition includes a pipeline of clinical and preclinical small-molecule candidates targeting TLR7 and TLR8, as well as more than 200 issued and several hundred pending patents and a library of approximately 10,000 small-molecule activators of TLR7 and TLR8. In addition to their role in cancer treatment, these compounds have other possible indications in the treatment of asthma, allergic disorders, viral diseases and certain dermatological diseases. Coley anticipates initiating phase I/II clinical trials in a cancer indication in 2008 with one of the newly acquired TLR small molecules. The lead molecule in this portfolio was studied by 3M in several phase I/II monotherapy clinical trials in cancer. It has demonstrated pharmacological activity and has been administered safely at clinically relevant doses to more than 100 subjects (Coley Pharmaceutical Group News Release).

[August 01, 2007] Anadys and Novartis discontinue development of ANA-975 for HCV Anadys Pharmaceuticals and Novartis have decided to discontinue the development of **ANA-975**, a phase Ib compound for the treatment of hepatitis C virus (HCV) infection. The parties have determined that the results received to date from the ongoing 13-week toxicology study together with the results observed in the previous 13-week toxicology study do not support further clinical evaluation of chronic daily dosing of ANA-975 in hepatitis C patients. Anadys continues its development of **ANA-773**, another Toll-like receptor 7 (TLR7) agonist prodrug distinct from ANA-975, and expects to file an IND by the end of 2007. Anadys plans to evaluate ANA-773 in phase I clinical trials for the treatment of advanced cancer. The program is independent of the Novartis collaboration and is not affected by the decision to discontinue development of ANA-975. TLR7 is a pattern-recognition receptor that activates the innate immune response. Stimulation of TLR7 induces the release of interferon alfa and other type I interferons from immune cells, the release of various proinflammatory cytokines, the upregulation of costimulatory molecules and the development of an adaptive immune response. Small-molecule TLR7 agonists have been shown to have broad antiviral and anticancer effects in preclinical models and in some clinical settings (Anadys Pharmaceuticals News Release)

[July 13, 2007] OT-551 holds promise for oncology and inflammatory conditions. Activation of procoagulant mechanisms as a result of cancer or inflammation can lead to venous thromboembolism. Scientists from Albany College of Pharmacy and Othera Pharmaceuticals evaluated the antithrombotic potential of OT-304 analogues in human monocytes and endothelial cells. Microarray and thrombelastography experiments revealed that OT-304 analogues, which target NF-kappaB and oxidative stress path-

*(**Biotech News**, cont. from page 18)*

ways, downregulated various proinflammatory cytokines and chemokines such as TNF-alpha, IL-1beta and IL-6 and procoagulant mediators such as tissue factor (Mousa, S. A. et al. 21st Congr Int Soc Thromb Haemost (ISTH) (July 6-12, Geneva) 2007, Abst O-M-004). OT-551, the lead compound in the series of OT-304 analogues, is currently in a phase II program at Othera Pharmaceuticals as a potential drug to inhibit the progression or prevent cataracts in patients who have undergone vitrectomy surgery. In addition to the newly discovered inhibitory activity at the level of NF-kappaB, the compound also possesses potent antioxidant and antiangiogenic activities. **OT-551** holds therapeutic promise for such diseases as age-related macular degeneration, cataracts, dry eye, resistance to cancer chemotherapy, cancer-related thrombosis and rheumatoid arthritis (Othera Pharmaceuticals News Release).

Clinical Trials

Hannah Nguyen

More information on this list can be obtained at http://clinicaltrials.gov [CT], http://www.centerwatch.com/search.asp [CW], or http://clinicalstudies.info.nih.gov [CCNIH].

Gefitinib and **PEG-Interferon Alfa-2b** in Treating Patients With Unresectable or Metastatic Kidney Cancer. ClinicalTrials.gov identifier. In California. Study Chair: Primo N. Lara, MD, University of California, Davis. Study ID Numbers: CDR0000540598; CCC-PHII-40; ZENECA-AZ1839US/0227; UCD-200412338-4; UCD-ZD1839

Study to Evaluate the Safety and Efficacy of **Adeno-IFN Gamma** in Cutaneous B-Cell Lymphoma. ClinicalTrials.gov identifier NCT00394693. In California Illinois & Texas, USA, France, Switzerland. Study ID Numbers: 12928

Screening for Latent Tuberculosis in Healthcare Workers With **Quantiferon-Gold Assay**: A Cost-Effectiveness Analysis. ClinicalTrials.gov identifier NCT00449345. At the Community Tuberculosis Service, Rehovot, Israel. Principal Investigator: David Shitrit, MD, Maccabi Health Services. Study ID Numbers: 2006055.

Safety and Efficacy of Intravenous ACZ885 (**a fully human anti-interleukin-1 monoclonal antibody**) and Oral Methotrexate Therapy in Patients With Early Rheumatoid Arthritis. In many US States, Belgium, Germany, Italy, Netherlands, Spain. Principal Investigator: Novartis, Investigative Study ID Numbers: CACZ885A2204

Inflammation, Proteolysis and **IL-1 Beta Receptor Inhibition** in Chronic Hemodialysis Patients. ClinicalTrials.gov identifier NCT00420290. At Vanderbilt University Medical Center, Nashville, Tennessee, 37232, Cindy Booker 615-343-5828 cindy.a.booker@vanderbilt.edu. Principal Investigator: Adriana Hung, MD, Vanderbilt University. Study ID Numbers: 060661

Interleukin-2 With Sorafenib (BAY 43-9006) for Unresectable or Metastatic Clear Cell Renal Carcinoma. ClinicalTrials.gov identifier NCT00418496. At Ohio State University, Columbus, Ohio, 43210, Ohio State University Cancer Clinical Trial Matching Service, 866-627-7616, osu@emergingmed.com. Principal Investigator: J. Paul Monk, M.D., Ohio State University. Study ID Numbers: OSU-06006; SR05-890; CPRL002AUS07

Safety and Efficacy Study of ALT-801 (**a recombinant fusion protein with an interleukin-2 component**) to Treat Progressive Metastatic Malignancies. ClinicalTrials.gov identifier NCT00496860 United States, Florida H. Lee Moffitt Cancer Center & Research Institute, Tampa, Florida, 33612, United States; Recruiting Study ID Numbers: CA-ALT-801-01-06

Interleukin 11, Thrombocytopenia, CML, Imatinib in CML Patients. ClinicalTrials.gov identifier NCT00493181. At U.T.M.D. Anderson Cancer Center, Houston, Texas, 77030. Principal Investigator: Jorge E. Cortes, MD 713-794-5783 jcortes@mdanderson.org. Study ID Numbers: 2004-0113

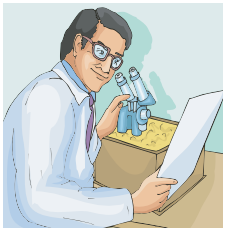
(Clinical Trials, cont. from page 19)

Safety and Efficacy of EGEN-001 (contains **the human gene for interleukin-12**) Combined With Carboplatin and Docetaxel in Recurrent, Platinum-Sensitive, Ovarian Cancer. ClinicalTrials.gov identifier NCT00473954. At the University of Alabama at Birmingham, Birmingham, Alabama, 35233. Principal Investigator: Ronald D. Alvarez, MD, Division of Gynecologic Oncology at University of Alabama at Birmingham. Study ID Numbers: EGEN-001-201.

MS-275 and **GM-CSF** in Treating Patients With Myelodysplastic Syndrome and/or Relapsed or Refractory Acute Myeloid Leukemia. ClinicalTrials.gov identifier NCT00462605. At the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, Maryland, 21231-2410, Clinical Trials Office - Sidney Kimmel Comprehensive Cancer Center, 410-955-8804, jhcc-cro@jhmi.edu. Study ID Numbers: CDR0000540608; JHOC-NA_00006989

Alterations of Immunologic Mediators During Severe Sepsis (LAVISS_01). ClinicalTrials.gov identifier NCT00484146. At Klinikum St. Georg gGmbH, Interdisciplinary Intensive Care Unit, Leipzig, Sachsen, 04129, Germany, Armin R Sablotzki, MD, 0049-341-909-2570, armin.sablotzki@sanktgeorg.de. Study ID Numbers: ISRCTN34508816

Pilot Study of **Allergy Immunotherapy** and Prevention of Viral Respiratory Infections. ClinicalTrials.gov identifier NCT00405899. At Allegheny General Hospital, Pittsburgh, Pennsylvania, 15212, Jennifer Koehrsen, MS 412-359-6988, jkoehrse@wpahs.org. Principal Investigator: Deborah Gentile, MD. Study ID Numbers: RC - 4064



Reviews of Interest

In a recent issue of the JBC

Samuel CE. Interferons, Interferon Receptors, Signal Transducer and Transcriptional Activators, and Interferon Regulatory Factors. *J. Biol. Chem*. 282:20045-20046, 2007

Pestka S. The Interferons: 50 Years after Their Discovery, There Is Much More to Learn. *J. Biol. Chem*. 282:20047-20051, 2007

de Weerd NA, Samarajiwa SA, Hertzog PJ. Type I Interferon Receptors: Biochemistry and Biological Functions. *J. Biol. Chem*. 282:20053-20057, 2007

Ozato K, Tailor P, Kubota T. The Interferon Regulatory Factor Family in Host Defense: Mechanism of Action. *J. Biol. Chem*. 282:20065-20069, 2007

Other reviews

Baccala R, Hoebe K, Kono DH, Beutler B, Theofilopoulos, AN. TLR-dependent and TLR-independent pathways of type I interferon induction in systemic autoimmunity. *Nature Medicine* 13: 543-551, 2007

Boyman O, Purton JF, Surh CD, Sprent J. Cytokines and T-cell homeostasis *Curr. Op. Immunol*. 19: 320-326, 2007

Brandt K, Singh PB, Bulfone-Paus S, Rückert R. Interleukin-21: A new modulator of immunity, infection, and cancer. *Cytokine & Growth Factor Rev*. 18:223-232, 2007

Kanzler H, Barrat FJ, Hessel EM, Coffman RL. Therapeutic targeting of innate immunity with Toll-like receptor agonists and antagonists. *Nature Medicine* 13:552-559, 2007

Khabar KS, Young HA. Post-transcriptional control of the interferon system. *Biochimie*. 89:761-769, 2007

*(**Reviews of Interest**, cont. from page 20)*

Nagy G, Clark JM, Buzás EI, Gorman CL, Cope AP. Nitric oxide, chronic inflammation and autoimmunity. *Immunol. Lett*. 111:1-5, 2007

O J. Review: Commercial interferon-gamma release assays have high specificity but suboptimal sensitivity for detecting latent TB. *ACP J Club*. 2007 147:21, 2007

Menzies D, Pai M, Comstock G. Meta-analysis: new tests for the diagnosis of latent tuberculosis infection: areas of uncertainty and recommendations for research. *Ann. Intern. Med*. 146:340-354, 2007

O'Doherty C, Villoslada P, Vandenbroeck K. Pharmacogenomics of Type I interferon therapy: A survey of response-modifying genes. *Cytokine & Growth Factor Rev*. 18: 211-222, 2007

Stockinger B, Veldhoen M. Differentiation and function of Th17 T cells. *Curr. Op. Immunol*. 19: 281-286, 2007

Yoneyama M, Fujita Y. Function of RIG-I-like Receptors in Antiviral Innate Immunity. *J. Biol. Chem*. 282:15315-15318, 2007

100 Years

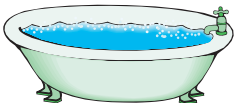
THE YEAR 1907 (mostly US info)

One hundred years ago.
What a difference a century makes!
Here are some of the US Statistics for the Year 1907:

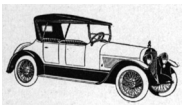
****

The average life expectancy in the US was 47 years.

Only 14 percent of the homes in the US had a bathtub. Most women only washed their hair once a month, and used Borax or egg yolks for shampoo.



Only 8 percent of the homes had a telephone. A three-minute call from Denver to New York City cost $11 USD.



There were only 8,000 cars in the U.S. and only 144 miles of paved roads.

The maximum speed limit in most cities was 10 mph.

Alabama, Mississippi, Iowa, and Tennessee were each more heavily populated than California. With a mere 1.4 million people, California was only the 21st most populous state in the US.

The population of Las Vegas, Nevada was only 30.

The tallest structure in the world was the Eiffel Tower!

The average wage in the U.S. was 22 cents per hour (0.16 euros at todays' rate) and the average US worker made between $200 and $400 per year.

A competent accountant could expect to earn $2000 per year, a dentist made $2,500 per year, a veterinarian $1,500 per year, and a mechanical engineer about $5,000 per year.

*(**100 Years**, cont. from page 21)*

More than 95 percent of all births in the US took place at HOME.

Two out of every 10 U.S. adults couldn't read or write and only 6 percent of all Americans had graduated from high school.

Ninety percent of all U.S. Doctors had NO COLLEGE EDUCATION! Instead, they attended so-called medical schools, many of which were condemned in the press AND the government as "substandard."

Sugar cost four cents a pound.

Eggs were fourteen cents a dozen.

Coffee was fifteen cents a pound.

Canada passed a law that prohibited poor people from entering into their country for any reason.

Five leading causes of death in the US were:
1. Pneumonia and influenza
2. Tuberculosis
3. Diarrhea
4. Heart disease
5. Stroke

Crossword puzzles, canned beer, and ice tea hadn't been invented yet.

There was no Mother's Day or Father's Day.

Marijuana, heroin, and morphine were all available over the counter at the local corner drugstores. Back then pharmacists Said, "Heroin clears the complexion, gives buoyancy to the mind, regulates the stomach and bowels, and is, in fact, a perfect guardian of health."

There were about 230 reported murders in the ENTIRE U.S.A.!

How I Got to Understand the British

Bob Friedman

During the years 1971-73 I was privileged to work in Ian Kerr's laboratory in the Biochemistry Department at Mill Hill in London. It was a wonderful time both scientifically and socially. Although I made many friends, I was told repeatedly that I would never really understand the British unless I became familiar with cricket. So, when the rain temporarily stopped, and the cricket season came around, I signed up to play for the Biochemistry team.

There was some hesitancy about allowing me to play, as I had only vague notions of the rules of the game, but the team was short-handed, so I was permitted to participate in the first match of the season, which was a truncated version of a real match. I would explain that last statement fully, but it would take too long, suffice to say that in the Mill Hill intramural league the matches took place over one afternoon rather than five days, each side batted only once, and the team with more runs was declared the winner. If you wish to determine how this differs from real cricket, consult Google.

At any rate, because of my unfamiliarity with the game, while the other team batted, I was put in the furthest reaches of the cricket pitch, where it was judged unlikely I would be much involved with the proceedings. Little did we realize how the match would develop, for after a few batsmen had been dismissed, a ball was hit on the ground directly at me. I picked it up, wondering what to do with it. The other members of my team gesticulated, trying to convey something to me, but it wasn't getting through. The

*(**Understand the British**, cont. from page 22)*

most significant directions seemed to be coming from our wicket-keeper (roughly equivalent to a catcher in baseball), so I threw the ball in his direction. I have a good throwing arm, being left-handed,

and accustomed to playing the outfield in baseball, and the ball went directly at him on a single bounce. Too late I realized he was standing behind several poles stuck in the ground (which I later discovered to be called stumps) with something suspended across them (bails), which after a bounce my throw hit, and knocked apart, whereupon the members of my team went wild. I was totally perplexed about what they were on about until it was explained that I had dismissed the striker out by knocking down the stumps while he was running between the two wickets. Had I known the significance knocking down the wicket, and aimed for it, I'm sure I wouldn't have hit it in a thousand years.

After everyone had quieted down, the match went on. The best batsmen on the other side took a turn, and proceeded to slaughter us, hitting the ball all over the pitch, and sometimes out of it. After about 10 minutes of this, one of them hit a high drive right to me. I took a step back, and caught the ball in the same manner I would have, had I been playing baseball, in the palm of my right hand with my left hand cradling the ball. It was a perfect catch, but there was one thing missing - a glove, which would have been present in a baseball game, but not in a cricket match, except for the wicket-keeper. Ouch! It really hurt, but it dismissed the batsman.

Soon, the other side was all out, so it was our inning. The members of my team complimented me on my catching the ball, but explained that no Brit would have tried to do what I had done, but would have taken a few steps back, and picked up the ball after it hit the ground. And I could well understand why this was so, for as I waited to take my turn as

batsman, I noticed my right hand was beginning to become quite sore and swollen. When I actually did bat, every time I struck the ball, I experienced excruciating pain in my right hand. When I had been dismissed, I commented on the pain I had experienced, and was told it was unusual. Another look at my right hand convinced me that I had probably broken a bone in it at the time I had caught the ball. My teammates volunteered to bring me to the local hospital to have my hand examined after the match ended. This occurred rather sooner than anyone had expected, when two American visitors on the other team, who also wanted to better understand the British, collided head to head chasing a ball that had been hit high in the air. Indeed, one was knocked momentarily unconscious, and the other, badly shaken up.

The three of us were loaded into a car, and brought to Edgeware General Hospital. I was triaged to orthopedic (excuse me, orthopaedic) surgery to have my hand examined; the other two injured Americans, to neurology from which they were soon discharged. The x-ray of my hand indicated a clean brake in the third metacarpal of my right hand, and to this day, I lack one knuckle on that hand as a result of the fracture. The attending radiologist, with a laugh, commented that I ought not to engage in such dangerous activities as cricket, and to stick to American football. I replied that I had thought that the only injury one could suffer in a cricket match was to die of boredom.

He frowned.

British Slang that may come in handy while you're in Oxford

http://www.effingpot.com/index.shtml

All right? - This is used a lot around London and the south to mean, **"Hello, how are you"**? You would say it to a complete stranger or someone you knew. The normal response would be for them to say "All right"? back to you. It is said as a question. Sometimes it might get expanded to "all right mate"? Mostly used by blue collar workers but also common among younger people.

Bladdered - This rather ugly expression is another way of saying you are **drunk**. The link is fairly apparent I feel!

Cock up - A cock up means you have made a **mistake**. It has nothing to do with parts of the male body!

Fagged - If you are too lazy or tired to do something you could say "I can't be fagged". It means you can't be **Bothered.**

Fruity - If someone is feeling fruity then they are feeling **frisky**. Watch out!

Give us a bell - This simply means **call me**. You often hear people use the word "us" to mean "me".

Her Majesty's pleasure - When visiting England, try to avoid being detained at Her Majesty's pleasure. This means being **put in prison** with no release date!

Hiya - Short for **hi there**, this is a friendly way of saying hello.

I'm easy - This expression means **I don't care** or **it's all the same to me**.

Keep your pecker up - This is one way of saying **keep your chin up**. Use with caution.

Khazi - Another word for the *toilet*. Our version of your **bathroom**.

Spend a penny - To spend a penny is to **go to the bathroom**. It is a very old fashioned expression that still exists today. It comes from the fact that in ladies *loos* you used to operate the door by inserting an old penny.

Taking the piss - One of the things Americans find hardest about the Brits is our sense of humour. It is obviously different and is mainly based on irony, sarcasm and an in-built desire to "take the piss". This has nothing to do with urine, but simply means **making fun of someone**.

TTFN - Short for "ta ta for now". Which in turn means **goodbye**! Said by older folks and one Radio Two DJ in particular.

Wacky backy - This is the stuff in a joint, otherwise known as **pot** or **marijuana**!

Yonks - "Blimey, I haven't heard from you for yonks". If you heard someone say that it would mean that they had not seen you for **ages**!

Zonked - If someone is zonked or "zonked out" it means they are totally *knackered* or you might say **exhausted**. When a baby has drunk so much milk, his eyes roll into the back of his head, it would be fair to say he was zonked!

Cytokines 2008

Oct. 12-16, 2008

7th Joint Conference:
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Cytokines 2008

The organizers cordially invite you to participate in the 7th Joint Meeting of the International Society for Interferon and Cytokine Research and the International Cytokine Society "Cytokines 2008" to be held October 12 to 16, 2008 in Montreal, Quebec, Canada. Our Conference will harness the biomedical expertise and energies of these major societies to provide a comprehensive update of recent insights into basic and clinical aspects of Cytokines in Cancer, Inflammation, and Infectious Diseases. The overall theme of this Conference is **Translating Science into Health**, and is chosen to emphasize the integration of basic, pre-clinical, pharmaceutical and clinical research in the areas of cancer, immune modulation, inflammation and infectious diseases. Topics to be covered will include cytokine/interferon structure and function, gene regulation, signal transduction, regulation of cell survival, microenvironment, new cytokines, as well as the multiple roles of cytokines in immunology, inflammation, angiogenesis, host defense and tumor biology. A significant part of the conference will be devoted to cytokine-based therapies in malignancy and other disorders as well as emerging therapies targeting cytokines in autoimmune, inflammatory and malignant diseases. Senior scientists, young investigators, physicians, postdoctoral fellows, graduate students and representatives of the pharmaceutical industry all stand to profit from the interactions available at this venue. We believe that this Conference - set in the beautiful cosmopolitan city of Montreal during the stunning fall display of colors - will reflect the best of current cytokine research and will provide a vital impulse for further development.

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