



BioTechCircle News®

June, 2004

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Links to 106 Web articles of interest to the biotech community: technology, markets and business

Links to 106 Web articles in 13 categories:

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1) AGRIBIOTECH (6 articles)

ANIMAL

Can You Have Your Beef and Eat It Too?

Michael D. MacNeil, Agricultural Research Service, USDA (01-Jul-04)

Scientists have pinpointed a major gene in cattle responsible for boosting muscle size and leanness. The gene codes for the protein myostatin. The

ultimate goal is to provide consumers with cuts of beef that are not only lean, but also tender.

<http://www.ars.usda.gov/is/AR/archive/jul04/beef0704.htm>

CROPS

New Role For Tiny RNA In Plant Development

Rice University, Bio.com (21-Jun-04)

First discovered in abundance three years ago, scientists around the world are racing to find and study microRNAs -- tiny strands of ribonucleic acid (RNA) that regulate gene expression in plants and animals.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900117

From Hawaii to You: Flavorful Coffees and Creamy Macadamia Nuts

Marcia Wood, USDA (10-Jun-04)

Scientists are discovering more about the genetic makeup of exotic tropical coffee beans and nuts. One of the scientists' goals is to ensure that the genetic diversity of both crops is preserved for the future.

<http://www.ars.usda.gov/is/AR/archive/jun04/coffee0604.htm>

SLU Scientists Have Identified The First Gene Regulating Programmed Cell Death In Plant Embryos

Swedish Research Council, Science Daily (07-Jun-04)

Identification of the first gene that regulates cell death in plant embryos may be of significance in plant breeding and in forestry and can be exploited to increase production and bolster resistance in plants.

<http://www.sciencedaily.com/releases/2004/06/040603065957.htm>

ENVIRONMENTAL

Genome of Sudden Oak Death Bug Cracked

Celeste Biever, New Scientist (11-Jun-04)

The genome of the fungal pathogen that causes Sudden Oak Death has been sequenced, but treatment logistics is challenging. Scientists note that researchers are much further behind in understanding disease in plants than in humans.

<http://www.newscientist.com/news/news.jsp?id=ns99995102>

FOOD

Biotech Giant Working on 'Healthier' Food Applications

Nutra Ingredients (11-Jun-04)

Former head of FDA claims that shoppers might have more readily accepted genetically modified foods if the biotech industry had first launched foodstuffs bursting with health benefits. Discusses Monsanto's

plans to introduce improved soybeans in 2006.
<http://www.nutraingredients.com/news/news-NG.asp?id=52760>

2) BIO-BUSINESS MANAGEMENT (3 articles)

FACILITIES

Laboratory Equipment - Proteomics Goes to the Hospital

Mark D. Uehlin, Bio-IT World (17-Jun-04)

Tells of some components making up the proteomics facility of two hospitals with a small budget and a staff of one technician.

http://www.bio-itworld.com/news/061704_report5383.html

PATENT/INTELLECTUAL PROPERTY ISSUES

A Protocol for Trademark Protection

Robert B. Burlingame, BioPharm International (01-Jun-04)

Reviews trademark law and steps for national and international trademark registration. Presents strategy considerations for use of the Madrid Protocol to other methods of trademark registration. Links to additional resources.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=102283>

Technology Licensing — From First Steps to Executing a Plan

Debra Bingham and Suzannah K. Sundby, Esq., BioPharm International (01-Jun-04)

Lists 5 steps to the technology licensing process, discusses intellectual property (IP) issues to consider, including types of IP protection, areas of focus, the business and licensing plan and plan execution.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=102413>

3) CLINICAL TRIALS (4 articles)

MISCELLANEOUS

Meeting the Challenges of Internet-based Clinical Trials

Jules T. Mitchel, Applied Clinical Trials (01-Jun-04)

Some clinical research professionals question the advantages of moving away from "tried-and-true" tools such as paper CRFs. Explores the factors involved in implementing Internet-based clinical trials (IBCTs).

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=983>

PEDIATRICS/ NEONATOLOGY

What Shall We Do About the Children?

Peter O'Donnell, Applied Clinical Trials (01-Jun-04)

While preclinical tests and clinical trials in the EU ensure adult drugs are safe, high quality, and effective, that testing is simply not conducted for more than half the medicines used in children. Discusses new rule.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=965>

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SUBJECT ENROLLMENT/MANAGEMENT

Going Global

Mary Jo Lamberti, Applied Clinical Trials (01-Jun-04)

Clinical trials in developing nations-called "ascending markets"-are exploding as offer large naïve subject populations, low operating costs, and increasingly stable testing infrastructures. Regulatory reform is said to be driving the growth.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=983>

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Proving the eDiary Dividend

Sara McKenzie, Applied Clinical Trials (01-Jun-04)

Examines the impact of electronic diaries (eDiaries) on the collection of Patient Reported Outcome (PRO) data in a large, pivotal Phase III trial evaluating a medication for the treatment of overactive bladder (OAB).

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=983>

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4) CONTRACT SERVICES (1 article)

COLLABORATION

Clinical Trials and CROs in the 21st Century

Toby Jane Hindin, Applied Clinical Trials (01-Jun-04)

There are now more than one thousand CROs with the largest number existing in Europe, followed by North America and Japan. The CRO market trends are pointing in the direction of genetics, postmarketing research, the Internet and Informatics.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=965>

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5) DIAGNOSTIC TOOLS (1 article)

TEST SYSTEMS - CHEMISTRY/ BIOCHEMISTRY

Measuring Artificial Viruses To Improve Disease Detection

Bio.com (02-Jul-04)

A new method developed by researchers at the National Institute of Standards and Technology (NIST) for accurately measuring the concentration of artificial viruses in a solution may help doctors diagnose diseases like HIV and hepatitis C earlier.

http://bio.com/newsfeatures/newsfeatures_research.jhtml?cid=1500001

6) DRUG DELIVERY (1 article)

ORAL SOLID

Oral Delivery And Recombinant Production Of Peptide Hormones

Nozer M. Mehta, BioPharm International (01-Jun-04)

Oral delivery of therapeutic peptide hormones offers the promise of greater patient compliance when compared to injectable formulations. Describes the elements of a novel oral delivery formulation and subsequent animal and human tests.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=102281>

7) INDUSTRY (5 articles)

BIG PHARMA

Big Pharma Could Hog Biotech's Spotlight

Matthew Herper, Forbes.com (03-Jun-04)

Reports that big companies, such as Pfizer and Novartis are playing a bigger role in targeted cancer drug development.

http://www.forbes.com/technology/sciences/2004/06/03/cx_mh_0603asco.html

The Drug Research War

Kerry A. Dolan, Forbes.com (28-May-04)

In 2003, pharmaceutical companies worldwide spent nearly \$2 billion outsourcing out parts of the drug research process, mainly to U.S. specialists. Looks at growing importance of lower-cost locales like India and China.

http://www.forbes.com/sciencesandmedicine/2004/05/28/cz_kd_0528outsourcing.html

GEOGRAPHIC FOCUS

The Top Ten U.S. Biotech Clusters

Kerry A. Dolan, Forbes.com (07-Jun-04)

Reports ranking of U.S. metropolitan areas using 44 measurements within two broad categories: the biotech innovation pipeline and the assessment of impact. San Diego ranked number one.

http://www.forbes.com/2004/06/07/cz_kd_0607biotechclusters.html

Study Says Central New York Has Right DNA For Biotech Businesses

Biospace (04-Jun-04)

Study finds that first-rate talent, topnotch research institutions and well-established industry is the right combination for Central New York "to propel itself into one of the nation's top centers in biotechnology and life sciences."

http://www.biospace.com/news_story.cfm?StoryID=16386720&full=1

Swiss Biotech Outpaces Europe

Peter Vermij, Nature (24-Jun-04)

While Europe's biotech industry witnessed its first-ever year of declining revenues in 2003, Switzerland's sector showed some surprising growth.

Some attribute its success to a lack of government support.

<http://www.nature.com/news/2004/040621/full/bioent816.html>

America's Biotech Heartland

Randall C. Willis, Modern Drug Discovery (01-Jun-04)

Reports that the success of Wisconsin's biotech initiatives is a result of its academic institutions and their desire to license technologies developed at the schools to local companies.

http://pubs.acs.org/subscribe/journals/mdd/v07/i06/html/604feature_willis.html

8) INVESTMENTS/GOV. SUPPORT (1 article)

VENTURE

Venture Well: Biotech Bounty

Andrew Morse, The Daily Deal (20-May-04)

Explores theories trying to explain VCs' new-found risk tolerance to biotech startups, including big pharma's willingness to pay for drug development, cheaper and more reliable testing technology for FDA approvals and higher numbers of successful IPOs.

<http://www.thedeal.com/NASApp/cs/CS?pagename=GM&c=TDDArticle&cid=1083699280022>

9) NOVEL APPLICATIONS (1 article)

DRUG DISCOVERY

'Extremophiles' Prove Their Worth

Wired (25-Jun-04)

Extremophiles live in toxic Superfund cleanup sites, boiling deep-sea rift vents, volcanic craters and polar glaciers. The single-celled creatures owe their hardiness to genes, and that has drawn the attention of a few biotech companies.

http://www.wired.com/news/medtech/0,1286,63993,00.html?tw=wn_6techhead

10) PHARMACEUTICALS (2 articles)

CELL THERAPY

Stem Cells Can Convert to Liver Tissue, Help Restore Damaged Organ

Yoon-Young Jang, Johns Hopkins Medicine (01-Jun-04)

Bone marrow stem cells, when exposed to damaged liver tissue, can quickly convert into healthy liver cells and help repair the damaged organ, according to new research.

http://www.hopkinsmedicine.org/Press_releases/2004/06_01_04.html

PHARMACOGENOMICS

Pharmacogenomics Could Replace 'Trial-and-Error' With Science From The Human Genome

St. Jude Children's Research Hospital, Science Daily (31-May-04)

Researchers say the future use of pharmacogenomics could lower the cost of health care by decreasing the occurrence of adverse drug effects and increasing the probability of successful therapy.

<http://www.sciencedaily.com/releases/2004/05/040527234745.htm>

11) PLATFORM TECHNOLOGIES (28 articles)

ASSAY SYSTEMS

Microarray Analysis Reaches the Desktop

Robert M. Frederickson. Bio-IT World (17-Jun-04)

Reviews various commercial desktop DNA microarray solutions designed for individual research labs. Notes that a key factor in desktop systems is integration of data analysis with gene ontology databases.

<http://www.bio-itworld.com/archive/061704/equipped.html>

CELL THERAPY

Mutant Human Stem Cell Lines Created

Shaoni Bhattacharya, New Scientist (11-Jun-04)

Human stem cell lines from genetically flawed human embryos have been created. Scientists believe the cell lines will help shed light on genetic diseases and could be used to test new treatments.

<http://www.newscientist.com/news/news.jsp?id=ns99996005>

CLONING TECHNIQUES

Why Does Cloning Create Abnormalities?

European Society for Human Reproduction and Embryology, Bio.com (30-Jun-04)

Researchers say they found "significantly impaired development in the cloned embryos compared with those derived from more conventional ART techniques." The most prominent abnormality is

Beckwith-Wiedemann syndrome: children born larger than normal.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=1100001

Cloning the Clone of a Famed Japanese Bull

Nancy Touchette, Genome News Network (26-May-04)

Researchers have successfully produced a genetic clone of a bull they cloned several years ago. The bull calf was born in Japan more than four years ago, but the birth was kept a secret because the researchers wanted to be sure the calf was healthy.

<http://www.genomenewsnetwork.org/articles/2004/05/26/bullclone.php>

DATA INTEGRATION

Systems Biology - Now Leaving on Track 1

John Russell, Bio-IT World (17-Jun-04)

Discusses a systems biology approach which uses proprietary in silico methodologies and technologies, computational capability, engineering, life science, mathematics, and others to deliver a predictive biosimulation platform.

http://www.bioitworld.com/archive/061704/horizons_track.html

DRUG DISCOVERY

How to Spell Discovery

Mark D. Uehling, Bio-IT World (17-Jun-04)

Describes Johnson & Johnson's multidisciplinary ABCD platform for drug discovery. With four generic chemical scaffolds as a starting point, a laptop is used to generate more than 308 million new molecules...in 7 seconds.

<http://www.bioitworld.com/archive/061704/discovery.html>

Are Bacteria Turning Our Own Weapons Against Us?

A. Budd, European Molecular Biology Laboratory (26-May-04)

Researchers reveal that microbes that cause diseases such as pneumonia, whooping cough and plague are using our own gene against us. The information could be used to develop antibodies to block the activity of these weapons.

<http://emblorg.embl.de/aboutus/news/press/2004/press26may04.html>

A Bet on Biomarkers

Michael A. Greeley, Bio-IT World (17-Jun-04)

Experts say aging demographics, pressures to reduce healthcare costs, and demands to increase drug discovery productivity support the need for diagnostic assays based on biomarkers. However, the timetable for development depends on the FDA.

<http://www.bio-itworld.com/archive/061704/ventured.html>

Carnegie Mellon U Biologists Identify Critical Player In Yeast Ribosome Assembly

Carnegie Mellon University, Science Daily (08-Jun-04)

Minor changes in the tail of one protein cripple yeast's ability to assemble ribosomes. Understanding the molecular basis of ribosome assembly offers a rational scheme for designing drugs to interfere with that process.

<http://www.sciencedaily.com/releases/2004/06/040608065258.htm>

EPIGENETICS

Silence Of The Genes: Researchers Provide Unique View Of Inherited Disorders And Cancer

University Of Southern California, Science Daily (01-Jun-04)

Discusses an entirely new approach to the treatment of aging, inherited diseases and cancer: epigenetics--the study of changes in gene silencing that occur without changes in the genes themselves.

<http://www.sciencedaily.com/releases/2004/05/040531214232.htm>

How Genes Get Us Wired

Bio.com (15-Jun-04)

Reports study indicating that genes involved in embryo development must work at both ends of a nerve before the nerve is able to link the brain to each body part it controls.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900077

GENE THERAPY

RNAI Interference - RNAi Races Toward Clinic

Malorye A. Branca, Bio-IT World (17-Jun-04)

RNAi development continues its rapid pace as Alnylam, Atugen, and Benitec vie to be first with a drug based on the new gene-silencing technique.

http://www.bio-itworld.com/news/061704_report5386.html

GENOME SEQUENCE

Parting Genomes: UA Biologists Discover Seeds of Speciation

Paul Muhlrad, University of Arizona (07-Jun-04)

Reports that new findings by observing breeding patterns of fruit flies could help biologists identify and understand the precise genetic changes that lead one species to evolve into two separate species.

<http://uanews.org/cgi-bin/WebObjects/UANews.woa/wa/MainStoryDetails?ArticleID=9269>

GENOMICS

"Noisy" Genes Can Have Big Impact

Erin K. O'Shea, Howard Hughes Medical Institute (27-May-04)

Researchers have revealed it might be possible for randomness in gene expression to lead to differences in cells or people that are genetically identical. Explains how randomness could be both advantageous and deleterious.

<http://www.hhmi.org/news/oshea.html>

Junk DNA Yields New Kind of Gene

Joseph Martens, Harvard Medical School (04-Jun-04)

Researchers have discovered a new class of gene. By switching on the new gene, they could stop the neighboring structural gene from being expressed. As junk DNA makes up 95% of chromosomes, the mechanism could be fairly common.

http://www.hms.harvard.edu/news/releases/6_04Winston.html

A Hip Approach to Gene Hunting

Michael A. Goldman, Bio-IT World (17-Jun-04)

Explains GenomeHIP (Genome Hybrid Identity Profiling) searches for all regions that are identical between the genomes of as few as two relatives infected by specific diseases, rather than multigenerational families.

http://www.bioitworld.com/archive/061704/horizons_hip.html

Life Goes on without 'vital' DNA

Sylvia Pagán Westphal, New Scientist (03-Jun-04)

Researchers revealed that they had deleted huge chunks of the genome of mice without it making any discernable difference to the animals.

<http://www.newscientist.com/news/news.jsp?id=ns99995063>

LAB-ON-A-CHIP/ DNA CHIPS/ MICROARRAY

Arrays and the FDA

David Filmore, Modern Drug Discovery (01-Jun-04)

Reports that the "world's first pharmacogenomics microarray for clinical applications" highlighted that genomics is moving from the research lab to the clinic as well as uncertainties over the FDA's role in regulating products such as microarrays.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i06/pdf/604rules.pdf>

MISCELLANEOUS

UW-Madison Scientists Find a Key to Cell Division

Ahna Skop, UW Medicine (27-May-04)

A cellular structure discovered 125 years ago has been found to play a key role in the process of cytokinesis, or cell division. This information can help develop new drugs to prevent cancer and birth defects and other therapies.

<http://www.news.wisc.edu/9858.html>

Yale Scientists Visualize Molecular Detail of RNA Splicing Complex

Scott Strobel, Yale (02-Jun-04)

Scientists reveal the crystal structure of the first described enzymatic RNA - what it looks like and how it reacts. The structure reveals how RNA is able to use metal ions to achieve a very similar reaction mechanism.

<http://www.yale.edu/opa/newsr/04-06-02-02.all.html>

NANOTECHNOLOGY

Nano Killers Aim at Mini Tumors

Kristen Philipkoski, Wired (22-Jun-04)

Reports on a pair of nanotechnologies to identify tumors that measure just 1 mm in diameter, then kill them with a tiny, precise amount of a chemotherapy drug. The diagnostic tool will enter human trials in 2005, the therapeutic tool 6 months later.

http://www.wired.com/news/medtech/0,1286,63933,00.html?tw=wn_15techhead

PROTEOMICS

Turning a PAGE on Protein Dynamics

Jason Socrates Bardi, Bio.com (07-Jun-04)

Reports the individual steps of the maturation of a virus called bacteriophage HK97, which was elucidated with a highly unusual application of a routine laboratory technique called SDS PAGE (sodium dodecyl sulfate polyacrylamide gel electrophoresis).

http://www.bio.com/newsfeatures/newsfeatures_features.jhtml?cid=900074

Mutant Biological Machine Makes Proteins but Can't Let go

Rachel Green, Johns Hopkins Medicine (27-May-04)

Researchers report that four critical components of cells' protein-building machine - RNA building blocks, or nucleotides - don't do what scientists had long assumed, which is building protein, but rather help release the finished product.

http://www.hopkinsmedicine.org/Press_releases/2004/05_27b_04.html

Unexpected Similarities Between Raindrops And Proteins

Swedish Research Council, Science Daily (27-May-04)

The principle behind the formation of raindrops is very similar to how proteins fold, helping our understanding of neurodegenerative diseases like ALS.

<http://www.sciencedaily.com/releases/2004/05/040527075823.htm>

TISSUE ENGINEERING

Research 'Could End Animal Tests'

BBC News (07-Jun-04)

Development of a new procedure could reduce the number of drug tests carried out on animals. If liver cells from stem cells it would remove the need to carry out liver damage tests on animals. The liver is responsible for about 60% of drug test problems.

<http://news.bbc.co.uk/1/hi/scotland/3783421.stm>

MIT Technology Jump-starts Human Embryonic Stem Cell Work

Massachusetts Institute of Technology (14-Jun-04)

Reports on a robotic technology that allows scientists to test hundreds to thousands of different materials at the same time. The technique can be used for developing replacement organs and a variety of other tissue engineering applications.

<http://web.mit.edu/newsoffice/2004/celltest.html>

VIROLOGY

Targeting Genes with Viruses to Select Populations of Nerve Cells

Prabhat Ghosh, Yale University (27-May-04)

Reports findings that viruses with altered genetic codes have value for the potential treatment of a number of neurological diseases where a gene could be selectively targeted to one defective cell type.

<http://www.yale.edu/opa/newsr/04-05-27-02.all.html>

12) RESEARCH TOOLS (14 articles)

ASSAY SYSTEMS

Speeding Up Your Assays With An LC/MS System

Biocompare (01-Jun-04)

Reviews a number of LC/MS systems, some of which are best suited for preparative applications, while others having been designed with automation in mind.

<http://www.biocompare.com/spotlight.asp?id=218>

BIOINFORMATICS

Access to New Cancer Microarray Database Used in Study Is Free to All University Researchers

Daniel Rhodes, University of Michigan (08-Jun-04)

Of the approximately 35,000 genes in the human genome, scientists have found that activity from just 67 is required to change normal human cells into cancer. These 67 genes constitute cancer's meta-signature.

<http://www.med.umich.edu/opm/newspage/2004/67genes.htm>

DRUG DISCOVERY

NIH Launches First Center In Nationwide Chemical Genomics Network

Geoff Spencer, NIH News (09-Jun-04)

Announces the first component of a nationwide network that will produce innovative chemical "tools" for use in biological research and drug development.

<http://www.genome.gov/12510508>

BU Chemists Debut Online Resource For Researchers Seeking To Build New Bioactive Compounds

Bio.com (10-Jun-04)

Reports on a new portal that promises to change the way scientists share information on how to synthesize natural-product-like compounds important to new drug development and other advances in biomedical science.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900057

EVOLUTION RESEARCH

Earliest Evidence Of Hereditary Genetic Disorder Discovered

Hebrew University of Jerusalem, Bio.com (28-Jun-04)

Researchers announced the discovery of what is believed to be the oldest evidence yet found of a human hereditary genetic disorder: amelogenesis

imperfecta in the teeth of a 1.5 million year old fossil from a two-year-old Homo erectus child.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=1000013

Bioinformatics Research - Sequences Set in Stone

Kevin Davies, Bio-IT World (17-Jun-04)

Bioinformatics researchers have discovered hundreds of sizeable tracts of DNA in the human genome that are 100% identical in mice and rats, as if frozen across hundreds of millions of years of evolution.

http://www.bio-itworld.com/news/061704_report5382.html

GENOME SEQUENCE

Kangaroo Genome Bounds Ahead

Kate Ruder, Genome News Network (10-Jun-04)

Reports that scientists sequence the genome of a small kangaroo called the tamar wallaby. Comparing human and marsupial genomes could reveal aspects of human ancestry and evolution.

<http://www.genomenewsnetwork.org/articles/2004/06/10/kangaroo.php>

Human Chromosomes 9 and 10 Are Complete

Kate Ruder, Genome News Network (26-May-04)

Scientists have completed the DNA sequences of human chromosomes 9 and 10. Chromosome 9 has nearly 100 genes linked to human diseases and chromosome 10 carries genes linked to cancer and epilepsy, among other diseases.

<http://www.genomenewsnetwork.org/articles/2004/05/26/chromosomes.php>

Chromosomes Reveal Surprise Human-chimp Differences

Bob Holmes, New Scientist (26-May-04)

A team of researchers has sequenced a single chimpanzee chromosome in unprecedented detail. Findings indicate that humans and their closest relatives, chimpanzees, may be more different than geneticists have realised.

<http://www.newscientist.com/news/news.jsp?id=ns99995044>

Purebred Dogs Could Be Doctor's Best Friend

Philip Cohen, New Scientist (20-May-04)

A study of 414 pedigree dogs from 85 breeds has uncovered some genetic surprises which could boost efforts to track down human disease genes for illnesses such as cancer, heart disease and diabetes.

<http://www.newscientist.com/news/news.jsp?id=ns99995020>

IMAGING

Medical Imaging in Drug Discovery, Part III

Anthony J. Sinskey, et al., Pharmacogenomics Online (01-Jun-04)

Looks at how molecular imaging in small animals, even humans, is helping advance and streamline the drug development process. Thus, human studies can be carried out even before the drug is entered into Phase I trials.

<http://www.pharmagenomicsonline.com/pharmagenomics/article/articleDetail.jsp?id=97309>

MISCELLANEOUS

Genes Promoting Nerve, Other Cell Communications May Have Come From Bacteria

Lakshminarayan Iyer, Ph.D., NIH News (01-Jun-04)

Cell-signaling molecules play a role in learning, memory, mental alertness, sleep patterns, and allergic responses. Reports on study of bacterial enzymes which make those molecules.

<http://www.nichd.nih.gov/new/releases/genes.cfm>

The PDA: Making Headway into a New Frontier

Kimberly S. Cleaves, Modern Drug Discovery (01-Jun-04)

Experts say mobile computing in drug discovery is just beginning to be explored. Cleaves looks at various uses by both industry and academia.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i06/pdf/604sites.pdf>

Automating R&D

Kimberly S. Cleaves, Modern Drug Discovery (01-Jun-04)

Automated instrumentation, experimentation, and analysis are vital tools for modern drug discovery. Discusses applications with links to users.

Table of vendors involved in robotics and laboratory automation.

http://pubs.acs.org/subscribe/journals/mdd/v07/i06/html/604feature_cleaves.html

13) THERAPEUTIC CATEGORY (39 articles)

BIOTERRORISM

Deaths Blamed on Mysterious Microbe with Anthrax Genes

Kate Ruder, Genome News Network (04-Jun-04)

Reports cases in which anthrax genes have been discovered in an organism other than *B. anthracis*, and the findings raise concerns about the prevalence of the previously unknown pathogen and preparedness to detect and respond to it.

http://www.genomenewsnetwork.org/articles/2004/06/04/anthrax_genes.php

Wanted: Drugs to Fight Bioterror

Randy Dotinga, Wired (02-Jun-04)

The U.S. government is preparing to spend billions to coax pharmaceutical companies to develop drugs to fend off a biological or chemical attack.

http://www.wired.com/news/medtech/0,1286,63655,00.html?tw=wn_tophead_1

CARDIOLOGY/ VASCULAR DISEASES

Silencing "Syndrome X"

Matthew Herper, Forbes.com (21-Jun-04)

Reports drugs in late-stage trials showing promise for Syndrome X, also known as metabolic syndrome. They take aim at one or more of three emerging targets: peroxisome proliferator-activated receptors (PPARs).

<http://www.forbes.com/business/forbes/2004/0621/162.html>

GERIATRICS

The Skinny on Fat: MIT Researchers Establish First Link Between Eating and Aging

Denise Brehm, Massachusetts Institute of Technology (02-Jun-04)

Discusses how a mammalian gene promotes fat mobilization in mice. It is released from or metabolized by the body, rather than stored, when the Sirt1 protein senses short-term famine, turning off the receptors that normally keep fat stored in fat cells.

<http://web.mit.edu/newsoffice/2004/aging.html>

Researchers Discover Protein That Dissolves Amyloid Fibers

David Cameron, Whitehead Institute (20-May-04)

Reports on a natural biological process by which yeast cells dismantle amyloid fibers, clumps of plaque-like proteins that clog up the brains of Alzheimer's patients.

http://www.wi.mit.edu/nap/features/nap_feature_hsp104.html

Gene Loss Linked to Alzheimer's

BBC News (12-Jun-04)

Compared with the gene patterns of young brains, those of people aged from 40 to 70 are found to be much more variable. Researchers believe brain genes are particularly vulnerable to toxins in the environment, and to free radicals.

<http://news.bbc.co.uk/1/hi/health/3791947.stm>

IMMUNOLOGY/ INFECTIOUS DISEASES

To Understand Innate Immunity, Silence The Genome

Public Library of Science, Bio.com (22-Jun-04)

Researchers have demonstrated that a global genome silencing approach

is feasible for elucidating complex molecular signaling systems, adding to understanding of the highly conserved innate immune system.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900138

Genetic Marker Responsible For Two-Fold Increase In Risk Of Rheumatoid Arthritis

North Shore-Long Island Jewish Health System, Bio.com (24-Jun-04)

Researchers have discovered a genetic variation that doubles the risk for rheumatoid arthritis (RA). It is not an abnormal gene and may, in fact, help defend against infection.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900159

Stanford Researchers Explore Gene Treatment To Obliterate HIV Before It Does Damage

Thomas Merigan, Stanford School of Medicine (25-May-04)

Reports process involving removing the patient's stem cells – the ones in the bloodstream that form the different immune system cell types that HIV infects, such as T cells and macrophages – and inserting a gene that produces an HIV-obliterating enzyme.

<http://mednews.stanford.edu/releases/2004/may/AIDS.htm>

Key Immune System Cell Reduces Secretion of Defense Protein in HIV-associated Dementia Patients

Joan Aragone, University of California San Francisco (18-May-04)

Reports findings that an important protein normally secreted by macrophages, the scavenger cells of the immune system, is secreted at significantly reduced levels in patients with HIV-related dementia.

<http://pub.ucsf.edu/newsservices/releases/200405192/>

METABOLISM/OBESITY

To Approve Human Cell Clones'

BBC News (13-Jun-04)

Reports that scientists look set to get approval to create Britain's first cloned human embryo. If the project goes ahead, stem cells from the cloned embryos will initially be used to treat diabetes patients.

<http://news.bbc.co.uk/1/hi/health/3802055.stm>

Diabetes Blocked at Early Stage

BBC News (07-Jun-04)

Scientists are developing a potential way to block the development of Type 1 diabetes by preventing the immune system from destroying cells in the pancreas which control the production of the key hormone insulin.

<http://news.bbc.co.uk/1/hi/health/3783417.stm>

Gene Alteration Points To Longevity, Thinness

Toni Baker, Medical College of Georgia (02-Jun-04)

Researchers are using a tiny worm called *C. elegans* to transform the vision into reality that by altering the function of a single gene, you could live longer, be thinner and have lower cholesterol and fat levels in your blood.

<http://www.mcg.edu/news/2004NewsRel/fei.html>

Basic RNA Enzyme Research Promises Single-Molecule Biosensors

Nancy Ross-Flanigan, University of Michigan (29-Jun-04)

Research aimed at teasing apart the workings of RNA enzymes eventually may lead to ways of monitoring fat metabolism and might even assist in the search for signs of life on Mars, according to scientist.

http://www.umich.edu/~urecord/0304/July19_04/27.shtml

MUSCULOSKELETAL

"Mighty Mouse" Gene Works The Same Way In People

Johns Hopkins Medicine, Bio.com (23-Jun-04)

By studying the genes of a German child born with unusually well developed muscles, researchers have discovered the first evidence that the gene whose loss makes "mighty mice" also controls muscle growth in people.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=1000008

Fibroid Tumors Lack Crucial Structural Protein

William Catherino, NIH News (02-Jun-04)

Researchers have found that fibroid tumors have low levels of dermatopontin, a key protein that plays a role in holding tissues together.

http://www.nichd.nih.gov/new/releases/fibroid_tumors.cfm

NEUROLOGY

Genes Explain Why the Brain Falts After 40

Jennifer Warner, webMD (09-Jun-04)

Researchers have isolated a set of genes in the human brain that don't quite work as well after age 40 as they used to and may help explain the natural mental decline that occurs with age.

http://my.webmd.com/content/article/88/99942.htm?z=1728_00000_1000_nb_01

Loss Of Circadian Genes Results In Epilepsy

Cold Spring Harbor Laboratory, Science Daily (08-Jun-04)

Reports discovery that the combined deletion of three circadian genes results in accelerated aging and severe epilepsy in mice. Mutations of the transcription factors may also underlie some forms of human epilepsy.

<http://www.sciencedaily.com/releases/2004/06/040608065742.htm>

Antibody Detection In Alzheimer's May Improve Diagnosis, Treatment

Toni Baker, Medical College of Georgia (07-Jun-04)

People with Alzheimer's disease have three to four times more antibodies to two major players in the destructive disease than their healthy counterparts, researchers have found.

<http://www.mcg.edu/news/2004NewsRel/buccafusco.html>

Treatment Hope for Nerve Disease

Oxford BioMedica, BBC News (27-May-04)

Gene therapy tests on mice resulted in slowed onset and progression of Amyotrophic Lateral Sclerosis (ALS). It also extended life expectancy by 30%.

<http://news.bbc.co.uk/1/hi/health/3750125.stm>

Yerkes and CBN Researchers Make Promiscuous Animals Monogamous by Manipulating Genes

Emory University (16-Jun-04)

Research findings may help better explain the neurobiology of romantic love as well as disorders of the ability to form social bonds, such as autism, and perhaps drug addiction..

http://www.whsc.emory.edu/press_releases2.cfm?announcement_id_seq=1020

ONCOLOGY

Faulty Gene Fuels Bladder Cancer

BBC News (23-May-04)

Scientists have identified a gene that may play a key role in the development of bladder cancer. The gene, called E2F3, produces a protein which helps the disease to spread.

<http://news.bbc.co.uk/1/hi/health/3486580.stm>

Researchers Identify New Target of Protein Involved in Cancerous Cell Growth

Andrew K. Sobering and Martin J. Romeo, Johns Hopkins Bloomberg School of Public Health (27-May-04)

New avenues of research in the development of treatments for cancers and parasitic infections could be opened up from findings of a new target of a cancer-causing gene.

http://www.jhsph.edu/Press_Room/Press_Releases/PR_2004/Levin_ras.html

Tumor Suppressor Gene Family May Be Key to New Colon Cancer Drugs

Wang, Zhenghe, Johns Hopkins Medicine (20-May-04)

Scientists have discovered mutations in a family of genes linked to more

than a quarter of colon cancers. Research reveals more options for creating personalized therapies tailored to counteract mutated gene pathways present in individual tumors.

http://www.hopkinsmedicine.org/Press_releases/2004/05_20_04.html

Genetically-modified Virus Explodes Cancer Cells

Shaoni Bhattacharya, New Scientist (01-Jun-04)

New study reveals that deleting a key gene from the virus enabled it to infect and burst cancer cells while leaving normal tissues unharmed. The virus could also be armed with additional anti-cancer weapons in the form of genes producing toxic compounds.

<http://www.newscientist.com/news/news.jsp?id=ns99995056>

UNC Scientists Block Cellular Enzyme Activity Involved in Cancer Progression

Stuart Shumway, University of North Carolina at Chapel Hill (02-Jun-04)

Researchers have found an unexpected way to turn off a cellular enzyme, focal adhesion kinase (FAK). This discovery raises the possibility that drugs designed to mimic this modification could allow doctors to turn off FAK in cancer patients

<http://www.unc.edu/news/newsserv/archives/jun04/ferm060204.html>

Variations in DNA Repair Genes May Predict Survival in Non-Small Cell Lung Cancer Patients

Carrie Housman, American Association of Clinical Oncology (01-Jun-04)

A new study shows that genetic variations in an individual's ability to repair DNA damage may help predict survival in lung cancer patients treated with the common chemotherapy drugs cisplatin or carboplatin.

http://www.asco.org/ac/1,1003,12-002112-00_15-002104-00_18-0034139-00_19-0034218-00_20-001,00.asp

Predicting Resistance to the Breast Cancer Drug Tamoxifen

Nancy Touchette, Genome News Network (10-Jun-04)

Tamoxifen resistance develops when the gene HOXB13 is highly active and the gene IL17BR is inactive. By comparing the ratio of activity of the two genes in tumor samples, researchers were able predict tumor recurrence with more than 80% accuracy.

<http://www.genomenewsnetwork.org/articles/2004/06/10/breastcancerdrug.php>

Cell Growth And Death Controlled By Single Pathway In Lymphoma Cancer Model

Arnold J. Levine, Rockefeller University (31-May-04)

New cell culture study showing molecules involved in a signaling pathway also control the function of the p53 tumor suppressor protein, helping to explain why some people do not respond to chemotherapy and offers a

possible solution.

<http://www.rockefeller.edu/pubinfo/053104.php>

New Therapy Disguises Cancer Cells as Viruses

Bio.com (15-Jun-04)

A novel new cancer treatment causes anti-viral T cells -- white blood cells that play a large role in the body's immune response -- to recognize tumors as virus-infected cells, and thus attack them.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900086

Gene Expression Ratio Identifies Risk of Recurrence in Breast Cancer Patients Receiving Tamoxifen

Xiao-Jun Ma, Massachusetts General Hospital (03-Jun-04)

A simple measurement of the expression levels of two genes in breast cancer tissue appears to identify tumors that are more likely to recur in women treated with tamoxifen for early-stage disease, indicating which patients need alternative treatment

<http://www.massgeneral.org/news/releases/060304sgroi.html>

Prostate Cancer Gene Identified

BBC News (08-Jun-04)

Scientists have identified a gene which could identify how aggressive a man's prostate cancer will be. The higher the level of the protein produced by the E2F3 gene, the more aggressive the cancer.

<http://news.bbc.co.uk/2/hi/health/3787033.stm>

Microchip Tracks Genetic Signature of Cancer and Normal Tissue

Bio.com (22-Jun-04)

Explains technique that allows researchers to find which miRNA genes are expressed - and how - in both cancerous and normal tissue. Each tissue tested had its own characteristic pattern of miRNA gene expression.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900130

Gene Therapy to Treat Deadly Cancer

Shaoni Bhattacharya, New Scientist (04-Jun-04)

The world's first gene therapy trial to treat patients with pancreatic cancer uses a "Trojan horse" technique to hit cancer cells with large doses of toxic drugs.

<http://www.newscientist.com/news/news.jsp?id=ns99995067>

PSYCHIATRY/PSYCHOLOGY

Gene Linked To Alcoholism

University Of Illinois At Chicago, Science Daily (26-May-04)

Alcoholism tends to run in families, suggesting that addiction, at least in

part, has an underlying genetic cause. The gene manufactures a protein called CREB, or cyclic AMP responsive element binding protein
<http://www.sciencedaily.com/releases/2004/05/040526063645.htm>

Drunken Worms Reveal A Genetic Basis Of Alcohol Response

Cell Press, Science Daily (10-Jun-04)

Researchers have identified one gene that affects alcohol sensitivity by exposing populations of the roundworm *C. elegans* to alcohol and pinpointing subtle genetic differences among strains that respond differently.

<http://www.sciencedaily.com/releases/2004/06/040610080337.htm>

PULMONARY/ RESPIRATORY DISEASES

New Technique Images Gene Expression In Mice

Society of Nuclear Medicine, Bio.com (21-Jun-04)

Identifying genetic flaws has proved easier than getting corrected genes to work in the cells that need them. Reports on new technique for correcting the genetic defect that causes cystic fibrosis.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=900119

REPRODUCTION

Researchers Identify Gene Linked To Sperm-producing Stem Cells In Mammals

Walter Neary, US Medicine (24-May-04)

Researchers have identified the first gene linked to the productivity of the stem cells that produce sperm in mammals. The findings could have implications for infertility, contraception, and stem cell transplantation therapy.

<http://www.uwmedicine.org/Global/NewsAndEvents/PressReleases/2004/052404.htm>

Low Sperm Counts Linked to Gene Control Flaw

Shaoni Bhattacharya, New Scientist (21-May-04)

New study shows nearly a quarter of men with low sperm counts showed problems with the on/off switch - or imprint - governing a crucial gene.

<http://www.newscientist.com/news/news.jsp?id=ns99995023>

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