



BioTechCircle News®

April, 2004

In this issue:

- Links to 90 Web articles of interest to the biotech community: technology, markets and business. NOTE: if links do not work automatically, simply highlight the entire link address and paste into your browser.
 - Biotech Patent Watch for discovering licensing or work opportunities (in 2 separate files): 74 gene-related patents issued and 171 patent applications posted in March, 2004.
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Links to 90 Web articles in 12 categories:

- 1) Agri-biotech (4 articles)
 - 2) Biobusiness Management (6 articles)
 - 3) Clinical Trials (1 article)
 - 4) Contract Services (4 articles)
 - 5) Drug Delivery (2 articles)
 - 6) Industry (4 articles)
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 - 12) Therapeutic Category (31 articles)
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1) AGRIBIOTECH (4 articles)

CROPS

Waiter, There's a Drug in My Rice

Kristen Philipkoski, Wired (March 30, 2004)

Reports that the California Rice Commission has approved a biotech company's request to grow the state's first crop genetically modified to

contain a drug, in this case lactoferrin and lysozyme to fight infection.
http://www.wired.com/news/medtech/0,1286,62860,00.html?tw=wn_tophead_2

ENVIRONMENTAL

Scotts Testing Genetically Modified Grass

New York Times (April 10, 2004)

Reports controversy surrounding a genetically modified version of the creeping bentgrass popular on golf course greens and fairways. Tested by Scotts Co., the grass is intended to be resistant to a common weed-killing chemical.

<http://www.nytimes.com/aponline/science/AP-Bioengineered-Grass.html>

FOOD

Kangaroo Genes Could Boost Milk

Becky McCall, BBC News (April 6, 2004)

Scientist says studying the kangaroo genome might help scientists modify genes in cows so that they produce highly nutritious milk.

<http://news.bbc.co.uk/2/hi/science/nature/3604045.stm>

Nations to Enforce Biotech Food Labeling

Paul Geitner, Washington Post (April 16, 2004)

Discusses commercial reaction to the world's strictest rules, in Europe, on labeling genetically modified foods. Free registration required to read article.

<http://www.washingtonpost.com/wp-dyn/articles/A17530-2004Apr16.html>

2) BIOBUSINESS MANAGEMENT (6 articles)

DATA INTEGRATION

Documents Under New Management

Salvatore Salamone, Bio-IT World (April 16, 2004)

Life science companies are turning to document or content management systems with workflow features to run more efficient organizations.

Discusses benefits to be gained by applying the same document-handling procedures throughout a company.

<http://www.bioitworld.com/archive/041604/documents.html>

DRUG DISCOVERY

Targeting the Transcriptome

Jeffrey Augen, Modern Drug Discovery (April 1, 2004)

Says the fact that researchers tend to depend too heavily on a single technique has a real impact on the economics of drug discovery and the genome-centric view of molecular biology is slowly being replaced by a more comprehensive systems view.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i04/html/404augen.html>

GOVERNMENT/ APPROVALS

Final Word: BIO's Departing President Outlines Industry's Ongoing Challenges: FDA, Reimbursement, and Ethics

Carl B. Feldbaum, BioPharm International (April 1, 2004)

Discusses issues the Biotechnology Industry Organization (BIO) association is such as FDA regulatory issues, pricing, reimportation, bioethics and social responsibility.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=90246>

The Discovery Doldrums

Jürgen Drews, Modern Drug Discovery (April 1, 2004)

Discusses the reasons for the gap between the expected number of NCEs that should be produced by current drug discovery initiatives and the actual number being approved by regulatory agencies such as the FDA.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i04/pdf/404people.pdf>

MISCELLANEOUS

Five Tips for Better Biotechnology Writing

Gary Blake, BioPharm International (April 1, 2004)

Your company can be more productive and more profitable if you place value on the quality of written documents. For example, a 1-month delay in getting FDA approval, due to ambiguous writing, can cost a company millions of dollars.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=90967>

PRIVACY/ RECORDS MANAGEMENT

Using Macros and Spreadsheets in a Regulated Environment

Ludwig Huber and Wolfgang Winter, BioPharm International (April 1, 2004)

As spreadsheet programs are not designed for regulated environments, special steps must be taken to maintain compliance. Warns that records produced by macros and spreadsheet calculations must comply with 21 CFR Part 11.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=90851>

3) CLINICAL TRIALS (1 article)

MISCELLANEOUS

PDA's and Clinical Trials

Mark D. Uehling, Bio-IT World (April 16, 2004)

With histories of patients not recording their experiences accurately with paper diaries, the sponsors of clinical trials are turning to handheld electronic devices. Explains why clinical trials are driving sales of handheld devices.

http://www.bioitworld.com/archive/041604/horizons_pda.html

4) CONTRACT SERVICES (4 articles)

BIOMANUFACTURING

Outsourcing Report: Contract Biomanufacturers Turn Conservative, but New Players Add Options

Jim Miller, BioPharm International (April 1, 2004)

Reports that some companies are scaling back their biomanufacturing investment plans, based on risk version, coupled with constrained financial capacity and the desire to fully utilize current assets.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=90242>

CLINICAL TRIALS

Taking the Trial Out of Clinical Outsourcing

Joel Hoffman, Bio-IT World (April 16, 2004)

Advises to make sure the vendor's standard operating procedures will mesh with your own, and then tirelessly work toward systems integration.

http://www.bioitworld.com/archive/041604/strategic_trial.html

INDUSTRY, GENERAL

Spotlight on Business Risk

Jim Miller, Pharmaceutical Technology (April 1, 2004)

Looks at recent events in the pharmaceutical outsourcing industry which highlight the importance of ongoing attention to contractors' financial situations and their strategic intent.

<http://www.pharmtech.com/pharmtech/data/articlestandard/pharmtech/152004/91090/article.pdf>

MISCELLANEOUS

Cinching Synergy with a Contract Lab

Elizabeth Fowler and Carolyn Cardin, Bio-IT World (April 16, 2004)

The keys to developing a synergistic relationship are identifying the right partner, clearly defining expectations, and communicating regularly and honestly. Advises thoroughly examining internal needs, not just testing needs.

http://www.bioitworld.com/archive/041604/strategic_synergy.html

5) DRUG DELIVERY (2 articles)

MISCELLANEOUS

UF Researchers Use Gel to Deliver Gene Therapy to Diaphragm Muscle

Denise Trunk, University of Florida (April 6, 2004)

A glycerin-based polymer gel modified to contain corrective copies of a mutated gene could eventually lead to a method to correct genetic conditions in humans that cause diaphragm weakness and respiratory failure.

<http://www.napa.ufl.edu/2004news/mdgenetherapy.htm>

New Biotechnological Applications of Coconuts

José O. Bustamante, Electronic Journal of Biotechnology (April 15, 2004)

Coconut is a major crop of many poor nations. Since natural coconut water is sterile, this heat-stable delivery system may be a good option for the dissemination of food supplements and pharmaceuticals in poor nations.

<http://www.ejbiotechnology.info/content/vol7/issue1/issues/1/index.html>

6) INDUSTRY (4 articles)

GENERAL

Glossary of Terms

Gil Y. Roth, Contract Pharma (April 10, 2004)

A one-stop reference to the terminology of the pharma and biopharma industry. Covers 21 CFR Part 11 and Abbreviated New Drug Application (ANDA) to X-ray crystallography.

<http://www.contractpharma.com/images/Glossary.pdf>

Pushing the Frontiers of Diagnosis

Randall C. Willis, Modern Drug Discovery (April 1, 2004)

Discusses the reasons behind estimates that the clinical diagnostics market will continue to expand at almost a 7% average annual growth rate through 2007.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i04/html/404willis2.html>

GEOGRAPHIC FOCUS

Canadians Receive \$123 Million for Genome Research

CBC News (April 13, 2004)

Reports on the launch of 14 new large-scale projects across Canada, aiming to develop tools to improve the prediction, prevention and treatment of human disease

<http://www.cbc.ca/stories/2004/04/13/sci-tech/genome040413>

Beyond Dolly - Scotland's Life Sciences Industry Moves into the 21st Century

Lorna Jack, BioPharm International (April 1, 2004)

Scotland's biotechnology sector grew 20% annually over the last 5 years. Reports that Scotland's biotechnology industry has become one of the most successful in the world and one of the most concentrated biotechnology clusters in Europe.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=90963>

7) NOVEL APPLICATIONS (3 articles)

ENVIRONMENT

Snakes Help with the Laundry

Nature (March 30, 2004)

Enzymes in the Florida Cottonmouth's spit dislodge blood-stains from clothes, making the venom a new source for a useful detergent.

<http://www.nature.com/nsu/040329/040329-1.html>

Got a Toxic Mess? Call in the Microbes

Kate Ruder, Genome News Network (April 2, 2004)

Tells how environmentally friendly microbes were discovered by industry, government, and academia, and have now become one of the few microbes that are being used to clean up toxic waste sites contaminated with chlorinated solvents.

http://www.genomenewsnetwork.com/articles/2004/04/02/toxic_microbe.php

Biosorption of Heavy Metals from Waste Water Using Pseudomonas Sp.

Hany Hussein, Electronic Journal of Biotechnology (April 15, 2004)

Presents results of biosorption experiments for Cr(VI), Cu(II), Cd(II) and Ni(II) using nonliving biomass of different Pseudomonas species.

<http://www.ejbiotechnology.info/content/vol7/issue1/full/2/index.html>

8) ORGANIZATIONS (4 articles)

BIG PHARMA

Standing Out, Fitting In

Elaine Paoloni, PharmExec.com (April 1, 2004)

Presents the collaborative philosophy of Johnson & Johnson's worldwide chairman of its \$17 billion medicines and nutritionals business.

<http://www.pharmexec.com/pharmexec/article/articleDetail.jsp?id=91142>

BIO PHARMA

Angiotech's Drug-Coated Pipeline

Amy Tsao, Business Week (March 26, 2004)

Discusses success of angiotech, an early pioneer in the field of drug-coated stents, noting that it is increasingly common for the relatively low-tech business of medical devices to turn to drugs for a boost.

http://www.businessweek.com/technology/content/mar2004/tc20040326_8971_tc122.htm

Amgen Opens The Secret Curtain

Business Week (March 22, 2004)

Looks at the biotech leader's broad pipeline, which includes a protein, GDNF, that is now in Phase 2 trials to treat Parkinson's disease and the likelihood of starting trials for a drug to treat neuropathic pain.

http://www.businessweek.com/magazine/content/04_12/b3875072.htm

MISC. DRUGS

Forest Labs: A Little Giant Rises

Amy Tsao, Business Week (April 5, 2004)

The drugmaker has two potential blockbusters, and analysts say its smaller size makes it hungrier for success. "It's by far the best-run company among its peer group, and it's the best in the business, even next to Pfizer" says an analyst.

http://www.businessweek.com/magazine/content/04_14/b3877629_mz073.htm

9) PLATFORM TECHNOLOGIES (4 articles)

ASSAY SYSTEMS

Gene Expression Learned

David Filmore, Modern Drug Discovery (April 1, 2004)

“Supervised” statistical techniques are gaining popularity for microarray analysis to profile disease or drug activity, or, conversely, to classify genes based on shared functions or regulations.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i04/pdf/404sites.pdf>

BIOINFORMATICS

New Consortium Will Develop Computer Systems To Connect Genomic Data With Disease

Duke University Medical Center, Science Daily (April 13, 2004)

Discusses a new project to develop the powerful computing systems and analyses to trace the origins of neurologic disease from alterations in the basic structural information of the human genome to the diseases they produce.

<http://www.sciencedaily.com/releases/2004/04/040412015930.htm>

BIOMANUFACTURING

Immune Cells Grown in a Dish

Helen Pearson, Nature (March 22, 2004)

Describes a Canadian team's success in growing potentially limitless T cells in the laboratory. The technique could lead to growing a bountiful supply of disease-fighting cells that might one day boost therapy for cancer and HIV.

<http://www.nature.com/nsu/040315/040315-16.html>

CELL THERAPY

Genetic Trick Adapted From Viruses Makes Gene Therapy Vectors More Versatile

St. Jude Children's Research Hospital, Science Daily (April 7, 2004)

A genetic trick used by viruses to replicate themselves has been adapted for laboratory use to build complex protein structures required by immune system cells. This approach could also be used to develop new gene therapy vectors

<http://www.sciencedaily.com/releases/2004/04/040406084609.htm>

CLONING TECHNIQUES

Scientists Develop New Cloning Technique That Dramatically Shortens The Search For Genes

Stanford University, Science Daily (March 31, 2004)

Discusses a technique, known as transcript-based cloning, that dramatically streamlines the process for identifying specific genes in a matter of months, not years. for certain kinds of genes.

<http://www.sciencedaily.com/releases/2004/03/040331002910.htm>

DIAGNOSTIC TEST SYSTEMS

Portraits in Proteomics

Deborah Janssen, Bio-IT World (April 16, 2004)

Dramatic advances in identifying protein biomarkers are spurring new hope in cancer diagnostics, expediting detection and easing testing through diagnostic tests that are simple, non-invasive, and cost-effective to the patient.

<http://www.bioitworld.com/archive/041604/portraits.html>

DRUG DISCOVERY

'Crystal Engineering' Helps Scientists Solve 3-D Protein Structures Research Aids Drug Design; Sheds Light on Plague and Other Diseases

Dan Hogan, National Institute of General Medical Sciences (April 6, 2004)

Reports on a technique that promises to help pharmaceutical companies develop more effective drugs to treat various diseases by tailor-making molecules to "fit" a protein's shape.

http://www.nigms.nih.gov/news/releases/crystal_eng.html

Gene That Plays Key Role in Replicating Pox Viruses Also Halts Inflammation

Jim Barlow, University of Illinois at Urbana-Champaign (April 6, 2004)

Reports findings of a gene that plays a key role in turning off inflammation, a crucial anti-viral immune response of host cells. The discovery helps understand how all poxviruses cause disease.

<http://www.news.uiuc.edu/news/04/0406poxgene.html>

RNAi: What's All the Noise About Gene Silencing?

Ernie Hood, Medscape (April 2, 2004)

The ability to selectively silence genes is one of the hottest topics in biology today. Gene silencing (now known as RNA interference (RNAi) is on the verge of spawning an entirely new class of drugs to treat human diseases with a genetic component.

<http://www.medscape.com/viewarticle/472595?src=search>

GENE THERAPY

Hope for Gene Transplants in Womb

BBC News, March 30, 2004)

Scientists are working towards gene transplant surgery on unborn children, hoping the technique could help cure inherited diseases such as haemophilia.

<http://news.bbc.co.uk/1/hi/health/3581727.stm>

GENOMICS

New RNA Libraries Can Inactivate Human Genes Selectively

Stephen J. Elledge, Howard Hughes Medical Institute (March 25, 2004)

Researchers have produced vast libraries of short segments of ribonucleic acid (RNA) that can be used to turn off individual genes to study their function. The libraries are expected to become a powerful research tool for gene analysis and discovery.

<http://www.hhmi.org/news/elledge3.html>

Molecular Midwives Hold Clues To The Origin Of Life

Georgia Institute Of Technology, Science Daily (April 2, 2004)

Adding a small "molecular midwife" molecule increased the rate of DNA formation in a chemical reaction 1,000 fold over a similar reaction lacking a midwife. The discovery may help trace the evolution of life to the earliest self-replicating molecules.

<http://www.sciencedaily.com/releases/2004/04/040401081143.htm>

New Light Shed on Chimp Genome

Becky McCall, BBC News (April 5, 2004)

A comparison of the chimp and human genomes casts new light on why the two species are so different despite having very similar genetic code: the process that orchestrates the genes as the chimpanzee is developing.

<http://news.bbc.co.uk/2/hi/science/nature/3594937.stm>

GENOTYPING

Early Humans Swapped Bite for Brain

Anil Ananthaswamy, New Scientist (March 24, 2004)

A new study suggests that humans owe their big brains and sophisticated culture to a single genetic mutation that weakened our jaw muscles about 2.4 million years ago.

<http://www.newscientist.com/news/news.jsp?id=ns99994817>

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

Good Vibrations for Lab-on-a-chip

Jim Giles, Nature (March 25, 2004)

Describes a new technique of using sound to guide the movement of cells. The technique could help create a lab-on-a-chip: a device the size of a postage stamp that is capable of running biology or chemistry experiments.

<http://www.nature.com/nsu/040322/040322-8.html>

Trial Separations

Julia Boguslavsky, Bio-IT World (April 16, 2004)

Describes advances in 2-D gel electrophoresis (2DGE) and the

development of increasingly high-throughput modalities. These include a digital ProteomeChip and the Chemical Inkjet Printer (ChIP).

<http://www.bio-itworld.com/archive/041604/equipped.html>

Protein Microarray Manufacturing

Todd Martinsky, Pharmacogenomics Online (March 1, 2004)

Discusses specific technologies and highlights the key variables in the microarray manufacturing process that can affect the successful implementation of protein microarrays.

<http://www.pharmagenomicsonline.com/pharmagenomics/data/articlestandard/pharmagenomics/142004/90377/article.pdf>

NANOTECHNOLOGY

Cornell Researchers Move Beyond 'Nano' to 'Atto' to Build a Scale Sensitive Enough to Weigh a Virus

Bill Steele, Cornell University (April 2, 2004)

Reports the use of tiny oscillating cantilevers to detect masses as small as 6 attograms by noting the change an added mass produces in the frequency of vibration. The mass of a small virus, for example, is about 10 attograms.

<http://www.news.cornell.edu/releases/April04/attograms.ws.html>

"Nanopore Detection: Threading DNA Through a Tiny Hole"

Tom A. van de Goor, Pharmacogenomics Online (March 1, 2004)

Looks at how a tiny hole called a nanopore could be an enabling breakthrough in identifying differences in the sequence of individuals that could lead to a personalized genome ID.

<http://www.pharmagenomicsonline.com/pharmagenomics/data/articlestandard/pharmagenomics/142004/90380/article.pdf>

PROTEOMICS

Movie Captures Genome in Action

Nancy Touchette, Genome News Network (March 19, 2004)

For the first time ever, researchers have captured on film how a gene goes about the business of directing a cell to make a protein. A sequence of events could be directly visualized by labeling DNA, RNA, and protein different colors in living cells.

http://www.genomenewsnetwork.com/articles/2004/03/19/genome_movie.php

Tying up Loose Ends

Stu Borman, Chemical & Engineering News (April 19, 2004)

Looks at circular and knotted peptides and proteins, which have enhanced stability and degradation resistance. This enhanced stability suggests that

cyclized proteins could prove to have a range of new applications as drugs and agricultural agents.

<http://pubs.acs.org/cen/nlw/8216sci2.html>

TISSUE ENGINEERING

Self-assembling Proteins Could Help Repair Human Tissue

Johns Hopkins University, Science Daily (March 29, 2004)

A new class of artificial proteins has been created that can assemble themselves into a gel and encourage the growth of selected cell types. The biomaterial is expected to help scientists developing new ways to repair injured or diseased body parts.

<http://www.sciencedaily.com/releases/2004/03/040329080558.htm>

10) RESEARCH TOOLS (8 articles)

COLLABORATION

FDA Targets Development Pinch Points

Malorye A. Branca, Bio-IT World (April 16, 2004)

Discusses the U.S. Food and Drug Administration's (FDA) plans to push for collaborations to help solve technological deficits that are slowing progress in applications and product approvals.

http://www.bio-itworld.com/news/041604_report4891.html

GENOME SEQUENCES

Consortium Completes Gene Sequencing of Laboratory Rat

Washington University in St. Louis, (March 31, 2004)

The sequencing of the rat genome constitutes another major milestone in the effort to expand our knowledge of the human genome, to understand the complex genomic components involved in human health and disease.

<http://news-info.wustl.edu/news/page/normal/819.html>

Gene-Rich Human Chromosome 19 Sequence Completed

David Gilbert, Doe Joint Genome Institute (March 31, 2004)

Chromosome 19 features nearly 1,500 genes. They include genes that code for such diseases as insulin-dependent diabetes, myotonic dystrophy, migraines, and familial hypercholesterolemia.

http://www.jgi.doe.gov/News/news_3_31_04.html

Two More Human Chromosomes Are Complete

Edward R. Winstead, Genome News Network (March 31, 2004)

Reports that the newly sequenced chromosomes, 13 and 19, are available

online. nearly 100 genes on chromosome 19 have been linked to genetic traits or diseases, including insulin-resistant diabetes.

<http://www.genomenewsnetwork.com/articles/2004/03/31/chromosomes.php>

Deadly Human Parasite Sequenced

Kate Ruder, Genome News Network (April 2, 2004)

The genome of a parasite that infects people's intestines and can be deadly has been sequenced. The genome sequence reveals that the parasite lacks some of the key structures that similar parasites carry, which could explain why many drugs have failed.

<http://www.genomenewsnetwork.com/articles/2004/04/02/crypto.php>

Venter Makes Waves – Again

John Russell, Bio-IT World (April 16, 2004)

Describes an ambitious voyage to sample microbial genomes found in the world's oceans. Observers say the effort increases the awareness of the vast genetic diversity and complexity present in contemporary oceans.

http://www.bio-itworld.com/news/041604_report4889.html

MISCELLANEOUS

Best of the Best, Sir

John Russell, Bio-IT World (April 16, 2004)

Discusses the U.S. Food and Drug Administration's (FDA) plans to create a new product development toolkit containing powerful new scientific and technical methods to improve predictability and efficiency from laboratory concept to commercial product.

<http://www.bio-itworld.com/archive/041604/russell.html>

REAGENTS

HPLC Standard Controls as a Requirement in Proteomics

Karen M. Gooding, et al., LC/GC North America (April 1, 2004)

The complexity of proteomics measurements makes it difficult to achieve or verify method control. The authors show how the use of peptide standards can indicate control, as well as provide guidelines for method development.

<http://www.lcgcmag.com/lcgcm/data/articlecolumn/lcgcm/142004/90847/article.pdf>

11) STRATEGIC RELATIONSHIPS (1 article)

COLLABORATION

The Licensing-Go-Round

Jennifer Van Brunt, Signals (April 2, 2004)

Explores the multiple partnerships formed around some of today's most exciting drug candidates and tracks the change in the value proposition as each therapeutic makes its way down the development path.

<http://www.signalsmag.com/signalsmag.nsf/0/ED301EAD6F298EDC88256E6A006D83AE?Open>

12) THERAPEUTIC CATEGORY (31 articles)

CARDIOLOGY/ VASCULAR DISEASES

Mayo Clinic Researchers Discover Gene Mutations That 'Ignore' Stress, Lead To Heart Failure

Mayo Clinic, Science Daily (March 30, 2004)

Discusses significance of findings in the communication pathways of stress-management systems rather than the usual viewpoint of identifying defects in proteins involved in the mechanics of cardiac pumping.

<http://www.sciencedaily.com/releases/2004/03/040330084946.htm>

Jefferson Scientists Use Gene Therapy To Restore Function Of Damaged Heart Cells In Lab

Thomas Jefferson University, Science Daily (April 6, 2004)

Tells of scientists using a virus to carry a gene into the heart cells of individuals who had suffered from congestive heart failure. The gene introduced into these heart cells blocks the activity of an enzyme that is increased in failing human hearts.

<http://www.sciencedaily.com/releases/2004/04/040406085923.htm>

Biosensor-regulated Gene Therapy Reduces Heart Attack Damage In Mice

University Of South Florida Health Sciences Center, Science Daily (April 7, 2004)

Reports on a novel gene therapy that responds specifically to oxygen-starved heart muscle may protect against further injury following a heart attack.

<http://www.sciencedaily.com/releases/2004/04/040407084149.htm>

DISEASE PREVENTION

Evolution's Twist

Gilien Silsby and Gia Scafidi, University of Southern California (March 19, 2004)

Meat-tolerant genes offset high cholesterol and chronic diseases in human ancestors, according to a new USC study. Without them, researchers say, the species could have been 'wiped out' millions of years ago.

<http://www.usc.edu/uscnnews/story.php?id=9985>

GASTROENTEROLOGY

Scientists Crack Genome Sequence Of A Major Parasitic Pathogen

University Of Minnesota, Science Daily (March 25, 2004)

Researchers have completed sequencing the genome of an intestinal parasite that affects healthy humans and animals and that can be fatal to those with compromised immune systems.

<http://www.sciencedaily.com/releases/2004/03/040326072654.htm>

University Of Toronto Researchers Isolate Gene For Crohn's Disease

University Of Toronto, Science Daily (April 12, 2004)

Describes the isolation of a gene that predisposes people to Crohn's disease, an inflammatory bowel disease. Scientists call it a critical step towards improved diagnosis of this disease and developing better therapies for Crohn's sufferers.

<http://www.sciencedaily.com/releases/2004/04/040412012641.htm>

IMMUNOLOGY/ INFECTIOUS DISEASES

Slaying 'Superbugs'

Robert Preidt, HealthDay (March 29, 2004)

A newly discovered class of enzymes, called RNA interferases, may prove a major advance in helping scientists understand more about how bacterial cells self-destruct when they're under stress.

<http://www.healthday.com/view.cfm?id=518088>

Scientists Create Mice With Human Immune Systems

Steven Reinberg, HealthDay (4/1/2004)

Report says that mice with human immune systems make it possible to study diseases that attack humans without using people as subjects.

Finding could lead to research for new treatments for viral infections such as HIV

<http://www.healthday.com/view.cfm?id=518212>

Cell Research Uncovers Intriguing Clues To 'Trojan Horse' Gene In HIV Infection

Children's Hospital Of Philadelphia, Science Daily (April 7, 2004)

Researchers have identified cellular proteins expressed during HIV infection that enable HIV-infected cells to avoid apoptosis, a common cell suicide event. This survival mechanism allows the virus to maintain the infection within the compromised cells.

<http://www.sciencedaily.com/releases/2004/04/040407084448.htm>

METABOLISM: OBESITY, DIABETES

Canadian Scientists Use Plant Protein to Help Prevent Type I Diabetes

Jayne Graham, Lawson Health Research Institute (April 23, 2004)

Clinically useful amounts of certain proteins have been produced in a novel way using genetically altered non-nicotine tobacco. Feeding the mice the transgenic plant leaf tissue prevented diabetes in mice that normally develop Type I Diabetes like humans.

http://www.lhrionhealth.ca/LHRI/news/news_03_29_04.htm

Compound Shows Promise As Vaccine-like Drug For Preventing Type 1 Diabetes

American Chemical Society, Science Daily (March 31, 2004)

Researchers have identified a compound that shows promise of becoming the first effective drug for the prevention of type 1 diabetes. The synthetic compound, called ISO-1, appears to work by blocking a pathway involved in inflammation.

<http://www.sciencedaily.com/releases/2004/03/040331005610.htm>

Diabetes Susceptibility Gene Discovered

Nancy Touchette, Genome News Network (April 2, 2004)

Reviews studies showing that diabetes can now be traced, at least in part, to common variations near the same gene which serves as a master switch that controls many genes that are active in both the pancreas and liver.

<http://www.genomenewsnetwork.com/articles/2004/04/02/diabetes.php>

NEUROLOGY

Parkinson's Disease Gene Is Found

BBC News (April 16, 2004)

Scientists have identified a gene which causes some cases of Parkinson's Disease, potentially opening up new avenues of research into other genetic factors which cause or predispose people to develop the disease.

<http://news.bbc.co.uk/1/hi/health/3630245.stm>

ONCOLOGY

Genetic Connection In Link Between Permanent Hair Dye Use And Bladder Cancer Risk

University Of Southern California, Science Daily (April 10, 2004)

Describes results of study showing that certain women may be more susceptible to bladder cancer associated with the use of permanent hair dyes than other women, based on their genetic makeup.

<http://www.sciencedaily.com/releases/2002/04/020410075652.htm>

Jefferson Researchers Discover Novel Gene Profile That May Identify Colon Stem Cells

Thomas Jefferson University, Science Daily (March 30, 2004)

By identifying patterns of gene expression in the stem cell-rich bottom of tiny "crypts" in the tissue lining the colon, scientists hope to be able to identify mechanisms through which stem cells contribute to the development of colon cancer.

<http://www.sciencedaily.com/releases/2004/03/040330084254.htm>

New Insight on Cell Growth Could Lead to Method for Stopping Cancer

Chad Boutin, Purdue News (March 29, 2004)

By investigating a single molecule, known as Icmt, that influences cell growth, researchers have gained new insight into the chain of events that make some cancer cells divide uncontrollably, possibly leading to a way to break that chain.

<http://news.uns.purdue.edu/UNS/html4ever/2004/040328.Henriksen.ras.html>

Monkey Virus Link to Human Cancers

Maggie McKee, New Scientist (March 30, 2004)

New evidence strengthens a link between a monkey virus and some human cancers, say US researchers. More than half of the non-Hodgkin's lymphoma patients harboured DNA from the virus.

<http://www.newscientist.com/news/news.jsp?id=ns99994830>

Smoking Significantly Alters Genes in Mice

Karen Pallarito, HealthDay (March 31, 2004)

Discusses discovery pointing to a possible link between changes in that hormone and lung cancer: a genetic alteration that occurred up to 13 times more frequently in the lung tissue of mice exposed to tobacco smoke than those in a control group.

<http://www.healthday.com/view.cfm?id=518136>

Soy Consumption Could Help Prevent Prostate Cancer And Male Pattern Baldness

Children's Hospital Medical Center Of Cincinnati, Science Daily (March 30, 2004)

A team of scientists has discovered that a little-known molecule created in the intestine when soy is digested is a natural and powerful blocker of a potent male hormone involved in prostate cancer and male pattern baldness.

<http://www.sciencedaily.com/releases/2004/03/040330090046.htm>

Mayo Clinic Researchers Discover Green Tea Component Helps Kill Leukemia Cells

Mayo Clinic, Science Daily (April 2, 2004)

Reports that a component of green tea helps kill leukemia cells by interrupting the communication signals they need to survive. The findings may help researchers find therapeutic agents that are nontoxic to the patient but kill cancer cells.

<http://www.sciencedaily.com/releases/2004/04/040401075242.htm>

UIC Researchers Discover Gene That Causes Liver Cancer in Animals

Sharon Butler, University of Illinois at Chicago (April 1, 2004)

Reports on discovery of a gene that spurs the growth of liver cancer. The scientists also created a prototype for a drug that would starve tumor cells of a protein that the gene manufactures, thus preventing tumor cell multiplication.

<http://tigger.uic.edu/htbin/cgiwrap/bin/newsbureau/cgi-bin/index.cgi?from=Releases&to=Release&id=744&fromhome=1>

A New Genetic Cause for Cancer: Study

Nine MSN (April 5, 2004)

In the past, scientists have not been able to determine why multiple cancers arise in some people with no obvious gene changes. A new discovery shows that cancer can be caused by a defect in the way our genes function.

http://news.ninemsn.com.au/nnhwatch/story_55881.asp

Scripps Research Scientists Find Deafness Gene's Function

Scripps Research Institute, Science Daily (March 29, 2004)

A protein called cadherin 23 is part of a complex of proteins called "tip links" that are on hair cells in the inner ear. The tip link is believed to have a central function in the conversion of physical cues into electrochemical signals.

<http://www.sciencedaily.com/releases/2004/03/040329075604.htm>

OTOLARYNGOLOGY

Major Differences Found Between the Genomes of Oral Pathogen Treponema denticola and Related Spiral-Shaped Bacteria that Cause Syphilis and Lyme Disease

Robert Koenig, The Institute for Genomic Research (March 29, 2004)

Reports how comparative genomics helps understand how related pathogens can cause completely different diseases. Having the complete genomes of both microbes can provide molecular clues to find targets for drugs to treat gum disease.

http://www.tigr.org/new/press_release_03-29-04.shtml

PSYCHIATRY/ PSYCHOLOGY

Researchers Identify First Gene Variant That Appears To Increase Risk Of Autism In Significant Portion Of The Population

Mount Sinai Hospital / Mount Sinai School Of Medicine, Science Daily (April 1, 2004)

While no single gene produces autism or autistic disorder, the commonly accepted model states that it is a result of the accumulation of 5-10 genetic mutations. Discusses findings of the gene which codes for a protein that is involved in production of ATP

<http://www.sciencedaily.com/releases/2004/04/040401075108.htm>

Study to Probe Genetics of Depression

Helen R. Pilcher, Nature (April 8, 2004)

Reports on the launch of a massive project to probe the genetics of depression, which aims to aid the development of novel drugs against the condition.

<http://www.nature.com/nsu/040405/040405-7.html>

Surprises Found In Gene Variation Associated With Schizophrenia

University Of Iowa, Science Daily (April 12, 2004)

Approximately 2% of Caucasians have a gene segment variation, called polymorphism, that can cause a certain form of schizophrenia. The findings have implications for finding better ways to treat this particular type of schizophrenia.

<http://www.sciencedaily.com/releases/2004/04/040412012037.htm>

PULMONARY/ RESPIRATORY DISEASES

Researchers Identify the Pattern of Gene-expression Changes for Tuberculosis in a Living Host

Steve O'Brien, EurekAlert! (March 22, 2004)

For the first time, researchers have adapted gene-chip technology to carry out genomic analysis of gene expression during the course of infection not only for M. tuberculosis, but for any pathogen.

http://www.eurekalert.org/pub_releases/2004-03/uots-rit031904.php

Genetic Mutation Linked to Infant Lung Disease

Sergey Shulenin, Johns Hopkins Medicine (March 24, 2004)

Reports that mutations in the ABCA3 gene lead to a serious lack of surfactant, a mixture of fats and proteins that enables lung expansion and contraction and maintains the low surface tension needed to prevent lung collapse.

http://www.hopkinsmedicine.org/Press_releases/2004/03_24a_04.html

Two New Asthma Genes Discovered

BBC News (April 8, 2004)

Scientists have discovered two new genes which they say have strong links to asthma, possibly leading to new drugs.

<http://news.bbc.co.uk/1/hi/health/3611505.stm>

WOUND/TISSUE REPAIR

Matrix-Immobilized Growth Factor Gene Therapy Enhances Tissue Repair

Dan-Ling Gu, Medscape (March 17, 2004)

Describes a matrix-immobilized gene therapy approach to overcome the limitations of protein therapy for the treatment of chronic wounds.

<http://www.medscape.com/viewarticle/470254?src=search>

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