



BioTechCircle News®

May, 2004

In this issue:

- Links to 98 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 98 Web articles in 12 categories:

- 1) Agri-biotech (5 articles)
 - 2) Biobusiness Management (2 articles)
 - 3) Clinical Trials (4 articles)
 - 4) Drug Delivery (1 article)
 - 5) Industry (11 articles)
 - 6) Novel Applications (1 article)
 - 7) Organizations (5 articles)
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 - 10) Research Tools (7 articles)
 - 11) Strategic Relationships (1 article)
 - 12) Therapeutic Category (44 articles)
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1) AGRIBIOTECH (5 articles)

CROPS

'Medicinal' GM Crops Produced

Richard Black, BBC News (May 17, 2004)

Scientists have genetically engineered plants to produce health-promoting substances usually found in fish. This could lead to a new generation of

food crops able to reduce the risk of heart disease and other medical conditions.

<http://news.bbc.co.uk/1/hi/sci/tech/3714475.stm>

Monsanto Scrubs Transgenic Wheat

Michael Hopkin, Nature (May 11, 2004)

The biotechnology giant Monsanto has abandoned plans to launch genetically modified wheat strains onto the world market. The company says the decision is a response to resistance to the technology among North American wheat farmers.

<http://www.nature.com/nsu/040510/040510-3.html>

Super Organics

Richard Manning, Wired (May 1, 2004)

Reviews the evolution of genetically modified food plant technology and a process that's both more sophisticated and far less controversial, and mostly unpatentable: smart breeding.

<http://www.wired.com/wired/archive/12.05/food.html>

ENERGY/FUEL

Biofuels Have Arrived

Biotechnology Industry Organization, Bio.com (April 22, 2004)

Reports on a major milestone in industrial biotechnology has been achieved with the first commercial shipment of bioethanol from cellulosic biomass.

<http://www.bio.com/realm/industry.jhtml?realmId=5&cid=200007>

FOOD

Corn Cuts the Carbs

Helen Pilcher, Nature (May 11, 2004)

A genetically engineered breed of corn with half the usual amount of carbohydrates but double the fat and protein has been created. The low-sugar, high-protein maize may help the malnourished.

<http://www.nature.com/nsu/040510/040510-1.html>

2) BIOBUSINESS MANAGEMENT (2 articles)

DATA INTEGRATION

Hard Choices About the Soft Side of Informatics

Gordon K. Logan, Pharmacogenomics Online (May 1, 2004)

Logan cautions that managers should be sure to consider the 'soft side'

elements of an informatics deployment, such as service and support, and supplier relations, which play an increasingly important part in system selection.

<http://www.pharmagenomicsonline.com/pharmagenomics/data/articlestandard/pharmagenomics/182004/93443/article.pdf>

PATENT/INTELLECTUAL PROPERTY ISSUES

Europe Revokes Controversial Gene Patent

Andy Coghlan, New Scientist (May 19, 2004)

A controversial patent on a breast cancer gene has been revoked by the European Patent Office, reflecting the transatlantic disparities that make gene patents much tougher to uphold in Europe than in the US.

<http://www.newscientist.com/news/news.jsp?id=ns99995016>

3) CLINICAL TRIALS (4 articles)

SUBJECT ENROLLMENT/MANAGEMENT

Informed Consent: Reading and Understanding Are Not the Same

Mark Hochhauser, Applied Clinical Trials (April 1, 2004)

Discusses readability issues of consent forms to be signed by subjects agreeing to participate in clinical trials and requirements by the U.S. FDA eight basic elements and six "when appropriate" elements for informed consent.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=90594>

Subject Recruitment and Retention: Barriers to Success

Jean Sullivan, Applied Clinical Trials (April 1, 2004)

Discusses the barriers to recruitment and retention of subjects for clinical trials. Barriers are classified into 4 broad groups: 1) subject-related barriers, 2) investigator-related barriers, 3) protocol-related barriers, and 4) "other" barriers.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=89608>

Good Recruitment Practice: Working to Create the Bond Between Study and Subject

Joan F. Bachenheimer, Applied Clinical Trials (April 1, 2004)

Advises that successful recruitment, better compliance, and retention can be accomplished by including GRP (good recruitment practice) principles early on in the clinical trial process.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=896>
26

Reconsidering Third-Party Companies for Subject Enrollment

Mary Anne Sabogal, Applied Clinical Trials (April 1, 2004)

Describes the benefits of central call centers: they can relieve sites of tedious scheduling and record keeping, freeing them to focus on physical exams and other core tasks.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=898>
08

4) DRUG DELIVERY (1 article)

GM Bacteria Used to Fight Cancer

BBC News (April 22, 2004)

A genetically altered version of the food poisoning bug E.coli could be used to destroy cancer cells, say scientists. In tests, over 90% of cancer cells were destroyed.

<http://news.bbc.co.uk/1/hi/health/3646745.stm>

5) INDUSTRY (11 articles)

GENERAL

Gene-Based Therapy: Back To The Couch

John Carey, Business Week (April 23, 2004)

Suggests that recent setbacks show that biotech needs more patience and less over-excitement of new discoveries. While new drugs are emerging from the biotech industry, experts say the quest for cures to cancer and other diseases has hit roadblocks.

http://www.businessweek.com/technology/content/apr2004/tc2004045_1913.htm

Biotech Key: Breakthroughs

Gloria Lau, Yahoo (April 19, 2004)

Chief Executive of Amgen discusses outlook for the biotech industry, speaks of science and medicine moving in 10-year increments.

http://biz.yahoo.com/ibd/040419/general01_1.html

Biopharmaceuticals

Rick Mullen, Chemical & Engineering News (May 10, 2004)

Discusses the tradition of "big pharma" research focus on small molecules and the move toward weaving biotech into its research regime, developing multiple therapeutic indications for protein drugs.

<http://pubs.acs.org/cen/coverstory/8219/8219biopharma.html>

Genomics Is not Genetics

Ann M. Thayer, Modern Drug Discovery (May 1, 2004)

The outgoing CEO of Human Genome Sciences reflects on the biotech field. "Genomics in and of itself can't solve all the problems with drug R&D, but it has been successful in increasing our opportunities to solve major unmet medical needs.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i05/pdf/504people1.pdf>

Biotech Industry Outlook Brightens

Ann M. Thayer, Modern Drug Discovery (May 1, 2004)

Reports study showing that the 2003 recovery in the biotechnology industry predicts a very strong 2004. Indicators include new FDA drug approvals, investments and acquisition transactions.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i05/pdf/504business3.pdf>

Biotech Firms Nearing Profit; Industry Could Reach Aggregate Goal in 2008

Bernadette Tansey, San Francisco Chronicle (May 13, 2004)

The prediction that publicly traded U.S. biotechnology companies could reach a significant milestone as early as 2008 assumes that government agencies will refrain from imposing price controls on drugs.

<http://sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2004/05/13/BUGJK6KD431.DTL&type=business>

GEOGRAPHIC FOCUS

The Top Ten U.S. Biotech Clusters

Kerry A. Dolan, Forbes.com (June 7, 2004)

Gives highlights of a report about the country's top biotechnology centers, which states that only several of metropolitan areas have created sustainable, successful biotech centers. Using 44 measurements, San Diego ranked first, followed by Boston.

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

Are Biotech Jobs next to Go? Stronghold of Bay Area Economy Not Immune to Trend

Bernadette Tansey, San Francisco Chronicle (April 18, 2004)

There are signs that the nation's biotech industry may be on the verge of an offshoring wave of its own. Biotech companies in the Bay area are already testing the offshore waters in Shanghai, Spain, India and elsewhere.

<http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2004/04/18/MNGBM672L01.DTL>

Georgia Named Eighth Largest Life Sciences Community In U.S. By Ernst &

Young

Anne O'Neill, Biospace (May 13, 2004)

More than 120 bioscience research and development companies, 8 research universities and a broad spectrum of resources for clinical research are in the state of Georgia, employing more than 13,000 people..

http://www.biospace.com/news_story.cfm?StoryID=16146320&full=1

PRIVACY/ RECORDS MANAGEMENT

Keeping Snoops Out of Your Genes

Jane Black, Business Week (April 1, 2004)

Discusses genetic privacy as an important issue, noting that 1) genetic information is not diagnostic, it's probabilistic and can be used against you by employers and insurers and 2) the information contained in DNA never disappears.

http://www.businessweek.com/technology/content/apr2004/tc2004041_1348_tc073.htm

VENTURE CAPITALISTS

Biotech's Tough New Taskmasters

Arlene Weintraub, Business Week (June 3, 2004)

Despite the renewed flow of venture capital, a look at some recent deals suggests VCs are demanding deeply refined plans for developing potential blockbusters likely to hit the market quickly. The approach is called "NRDO": No Research - Development Only.

http://www.businessweek.com/bwdaily/dnflash/jun2004/nf2004063_4043_db016.htm

6) NOVEL APPLICATIONS (1 article)

MISCELLANEOUS

Hip Hair from a Hot Microbe

Kate Ruder, Genome News Network (April 16, 2004)

Scientists have sequenced the genome of a bacterium used in DNA research and also to make cosmetic lotion and hair goop. By looking at its genome, the scientists discovered a host of potential new uses for the microbe, including as a source of vitamin B.

<http://www.genomenewsnetwork.com/articles/2004/04/16/microbe.php>

7) ORGANIZATIONS (5 articles)

BIG PHARMA

Big Pharma Could Hog Biotech's Spotlight

Matthew Herper, Forbes.com (June 3, 2004)

Presents the possibility of big companies such as Pfizer, Eli Lilly, Norvartis and Aventis playing a larger role in targeted cancer drugs.

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

BIO PHARMA

The Dr. Is in at Genentech

Catherine Arnst, Business Week (May 12, 2004)

Part of a special report on women in technology, briefly describes the career path of Susan Desmond-Hellmann who is president for product development at Genentech. Notes that 3 important products were approved in the past 12 months.

http://www.businessweek.com/technology/content/may2004/tc20040512_6822_tc147.htm

MISC. DRUGS

The Next Tidal Wave?

Jennifer Van Brunt, Signals (May 4, 2004)

Explains the business model used by specialty pharmas, which concentrate on the downstream end of drug development, picking up Phase II or Phase III drug candidates as well as therapies already on the market. Graphic of industry positioning.

<http://www.signalsmag.com/signalsmag.nsf/0/B3B6ECDA4AB1978688256E8700788F3D>

RESEARCH CENTERS/ PARKS

New Science Museum Melds Science and Public Policy

Cheryl Simon Silver, Genome News Network (April 23, 2004)

Describes a National Academy of Sciences museum that features 2 exhibits on topics likely to be of general interest, global warming and DNA science. The exhibits will eventually travel to other locations and be replaced by new ones.

<http://www.genomenewsnetwork.org/articles/2004/04/23/museum.php>

RESEARCH LABS

Building a Biotech Business Family-style

Leslie Mladinich, East Bay Business Times (April 23, 2004)

Presents background on Bio-Rad Laboratories Inc., 5,000-employee

business with 500 labs in 25 different countries.
<http://www.bizjournals.com/eastbay/stories/2004/04/26/smallb1.html>

8) PHARMACEUTICALS (1 article)

BIOINFORMATICS

Genome-wide Screen Reveals New Tricks of Old Genes

Joanna Downer, Johns Hopkins Medicine (April 22, 2004)

Data created from new genome-scanning techniques can be overwhelming. Combining two genome-wide screens, allowed researchers to narrow down the dozens of genes identified by the first screen to just 17 that made both cut-offs.

http://www.hopkinsmedicine.org/Press_releases/2004/04_22_04.html

9) PLATFORM TECHNOLOGIES (16 articles)

CELL THERAPY

Repairing The Engines Of Life

Arlene Weintraub, Business Week (April 24, 2004)

While most living creatures are hard-wired for healing, when it comes to regrowing entire body parts, humans are curiously deficient. Discusses the young field of regenerative medicine which seeks to reprogram the human body to heal itself.

http://www.businessweek.com/magazine/content/04_21/b3884001_mz001.htm

Bone Marrow Cells Can Become Brain Stem Cells

E.J. Mundell, HealthDay (May 1, 2004)

Researchers report that cells found in a patient's own bone marrow, stromal cells, might someday be a safe, ethical source for replacing brain cells lost to Alzheimer's, Parkinson's and other neurological conditions.

<http://www.healthday.com/view.cfm?id=518652>

Michael J. Fox's Take on Stem Cells

Arlene Weintraub, Business Week (May 24, 2004)

Opposition to this research is "ridiculous," says the actor, who has Parkinson's Disease. Discusses the highly versatile, but controversial, cells that many scientists believe may someday be used to cure diseases such as Parkinson's and Alzheimer's.

http://www.businessweek.com/magazine/content/04_21/b3884010_mz001.htm

University of Pittsburgh Researchers Identify Molecular Mechanism That

May Impact the Ability of Stem Cells to Fight Disease

Clare Collins, University of Pittsburgh (May 3, 2004)

Adult stem cell transplantation offers great therapeutic potential due to their ability to replenish diseased cells and tissue. Researchers found that blood stem cells from mice missing a specific gene were much better able to multiply and grow.

<http://newsbureau.upmc.com/UPCI/ChengStemCellStudy.htm>

Stem Cells Toward Sperm Cells and Back Again: Experiments Reverse Cells' Developmental Course

Johns Hopkins Medicine (May 18, 2004)

In experiments with fruit flies, scientists have restored the insect's sperm-making stem cells by triggering cells on the way to becoming sperm to reverse course, helping scientists figure out how to use stem cells to regenerate lost or injured tissue.

http://www.hopkinsmedicine.org/Press_releases/2004/05_18_04.html

GENE SEQUENCES

'Junk' DNA Reveals Vital Role

Helen Pearson, Nature (May 7, 2004)

Scientists are puzzling over a collection of mystery DNA segments that seem to be essential to the survival of virtually all vertebrates. But their function is completely unknown. Discusses possible functionality.

<http://www.nature.com/nsu/040503/040503-9.html>

GENE THERAPY

When 'Reaper' Gene Comes, Cell Death Follows

Science Daily (May 18, 2004)

Researchers have shown that two "death activator" genes are essential for cell death. The finding opens the possibility that someday death-inducing genes could be unloosed to specifically kill unwanted cells--such as tumors.

<http://www.sciencedaily.com/releases/2004/05/040518073233.htm>

Genomics: "We're Steadily Marching"

John Carey, Business Week (May 6, 2004)

Richard Gibbs, a pioneer in genetic research, explains why progress has been slower than expected but treatments are on the way. "I think we will see this going from genome to bedside in three years."

http://www.businessweek.com/technology/content/may2004/tc2004056_6669_tc168.htm

New Ideas Fuel Next Generation Gene Therapy Research

University of Texas M. D. Anderson Cancer Center, Bio.com (May 6, 2004)

Discusses the evolution and present status of cancer gene therapy, noting the complexity of designing gene therapy due to how a patient's immune system reacts against the therapy, or the genes not finding their way to cancer cells.

<http://www.bio.com/realm/features.jhtml?realmId=4&cid=700007>

GENOMICS

Super-effective 'Jumping Gene' Created

Johns Hopkins Medical Institutions, Science Daily (May 20, 2004)

Scientists have transformed a common "jumping gene" found in the human genome into one that moves hundreds of times more often than normal in mouse and human cells. The research helps in better understanding human health and disease.

<http://www.sciencedaily.com/releases/2004/05/040520065506.htm>

Technique Plucks Rapidly Evolving Genes from Pathogen Genomes

Robert Sanders, UC Berkeley News (April 29, 2004)

A quick new technique able to identify genes that evolve rapidly as well as those that change slowly has pinpointed new targets for researchers developing drugs against tuberculosis and malaria. It could do the same for other infectious diseases.

http://www.berkeley.edu/news/media/releases/2004/04/29_genes.shtml

Researchers Substitute Whole Chromosomes To Speed The Search For Genes In Common Diseases

Case Western Reserve University, Science Daily (April 19, 2004)

Researchers have developed a new method that they believe will revolutionize the search for genes contributing to most common human diseases, such as hypertension and diabetes.

<http://www.sciencedaily.com/releases/2004/04/040416013827.htm>

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

Labs-on-a-chip to Detect Milk Contamination

The Whitaker Foundation (May 13, 2004)

Discusses research on lab-on-a-chip sensors that might guard the nation's food supply better than the current system of tamper-resistant lids and freshness dates.

<http://www.whitaker.org/news/beebe.html>

NANOTECHNOLOGY

DNA Robot Takes its First Steps

Jenny Hogan, New Scientist (May 4, 2004)

A microscopic biped with legs just 10 nanometers long, fashioned from fragments of DNA has taken its first steps. It can "walk" because its DNA-based legs are able to detach themselves from a DNA-based track, move along a bit, then reattach themselves.

<http://www.newscientist.com/news/news.jsp?id=ns99994958>

Could Nanomachines Be Tomorrow's Doctors?

Helen R. Pilcher, Nature (April 29, 2004)

Scientists have built a tiny biological computer that might be able to diagnose and treat certain types of cancer. Researchers hope it will be the precursor of future 'smart drugs' that roam the body, fixing disease on the spot.

<http://www.nature.com/nsu/040426/040426-12.html>

PROTEOMICS

22-Amino Acid Bacterium Created by Scientists at The Scripps Research Institute

Jason S. Bardi, Scripps Research Institute (May 11, 2004)

Incorporating unnatural amino acids into proteins provides a powerful tool for studying and controlling the biological processes that form the basis for some of the most intriguing problems in modern biophysics and cell biology.

<http://www.scripps.edu/news/press/051104.html>

10) RESEARCH TOOLS (7 articles)

GENOME SEQUENCES

Surprising 'Ultra-conserved' Regions Discovered in Human Genome

Tim Stephens, UC Santa Cruz (May 6, 2004)

By scanning the human, rat, and mouse genomes for matching regions of 200 or more DNA bases, researchers found 481 regions that were completely unchanged. These "ultra-conserved elements" were also found in the dog and chicken genomes

http://www.ucsc.edu/news_events/press_releases/text.asp?pid=499

JGI Decodes Wood & Toxic Waste-Degrading Fungus Genome

David Gilbert, Joint Genome Institute (May 2, 2004)

Reports the publication of a high-quality draft genome sequence of the white rot fungus, the only known microbes capable of efficiently degrading the recalcitrant aromatic plant polymer lignin.

http://www.jgi.doe.gov/News/news_5_2_04.html

Scientists Decipher 21,000 Genes

Paul Rincon, BBC News (April 20, 2004)

An international team of 152 scientists has published a detailed map of more than 21,000 human genes. The work is seen as a major advance in the efforts to make sense of the genome sequence, completed in 2003.

<http://news.bbc.co.uk/2/hi/science/nature/3642469.stm>

IMAGING

Medical Imaging in Drug Discovery — Part II

Stan N. Finkelstein, et al., Pharmacogenomics Online (May 1, 2004)

Molecular imaging is beginning to be applied to pre-clinical drug development efforts. The opportunity is attracting new players.

<http://www.pharmacogenomicsonline.com/pharmacogenomics/data/articlestandard/pharmacogenomics/182004/93442/article.pdf>

MISCELLANEOUS

Search Engine Tackles Tricky Lists

New Scientist (May 7, 2004)

Explains the working of KnowItAll, a search engine under development that trawls the web for data and then collates it in the form of a list. The approach is unique because it generates information that probably does not exist on any single web page.

<http://www.newscientist.com/news/news.jsp?id=ns99994961>

MOUSE/ RAT MODELS

Mice Grow Human Breast Tissue

Nancy Touchette, Genome News Network (April 13, 2004)

Scientists have developed a new technique for growing human breast tissues in living mice. The restructured mice may serve as the best experimental model yet for studying human breast cancer.

http://www.genomenewsnetwork.com/articles/2004/04/13/breast_tissue.php

Mice Created without Fathers

Paul Rincon, BBC News (April 21, 2004)

Scientists have created two female mice without fertilizing the eggs they grew from. The phenomenon, called parthenogenesis, never occurs naturally in mammals.

<http://news.bbc.co.uk/2/hi/science/nature/3643847.stm>

11) STRATEGIC RELATIONSHIPS (1 article)

COLLABORATION

Biogen Idec

Babson Insight (May 1, 2004)\

Discusses the impact of alliances in the life science industry, bridging the gap between people on the science and business sides of the company, the characteristics required to succeed and other issues.

<http://www.babsoninsight.com/contentmgr/showdetails.php/id/660>

12) THERAPEUTIC CATEGORY (44 articles)

CARDIOLOGY/ VASCULAR DISEASES

Newly Discovered Gene Controls Levels of "Bad" Cholesterol in Mice

The Rockefeller University (April 26, 2004)

Heart disease researchers have discovered the function of a gene associated with high cholesterol levels in humans. The gene can decrease the number of receptors on liver cells that remove the "bad" LDL cholesterol from the blood.

<http://www.rockefeller.edu/pubinfo/042604.php>

Gene Variant Protects against Heart Attack and Stroke

Nancy Touchette, Genome News Network (May 14, 2004)

People with a common variation in a gene that affects inflammation in the body have been found to produce lower levels of a protein called COX-2 than people with the normal form of the gene.

<http://www.genomenewsnetwork.org/articles/2004/05/14/heart.php>

Gene is Linked to Heart Attacks

BBC News (May 5, 2004)

Scientists have pinpointed a gene which seems to play a crucial role in heart attacks. The key mutation is caused by just one tiny change to the chemical components of DNA. DNA samples from more than 2,600 heart attack patients were analyzed.

<http://news.bbc.co.uk/2/hi/health/3686637.stm>

Bone Marrow Stem Cell Trial Approved for Heart Patients

Nancy Touchette, Genome News Network (April 16, 2004)

Describes study where patients will receive injections of their own bone marrow cells through a special device that maps blood flow throughout the heart and delivers the cells through a catheter.

http://www.genomenewsnetwork.com/articles/2004/04/16/stem_cell_trial.php

Premature Ageing Secret Unlocked

BBC News (May 1, 2004)

Reports on discovery of how a mutated gene, which is responsible for a rare premature ageing disease called Progeria, works. It is hoped the discovery will help treatment for age-related conditions such as stroke and heart disease.

<http://news.bbc.co.uk/1/hi/health/3664453.stm>

Gene Mutation and Stress Linked to Heart Failure

Cheryl Simon Silver, Genome News Network (April 16, 2004)

Researchers have identified a third factor that may increase susceptibility to heart failure, in addition to the heart's pumping or electrical systems: defects in a gene that helps the heart recognize stress signals.

<http://www.genomenewsnetwork.com/articles/2004/04/16/heart.php>

DISEASE PREVENTION

Gene Fault Link to Rare Syndrome

BBC News (May 16, 2004)

Scientists have discovered the gene fault which causes Cornelia de Lange Syndrome, resulting in impaired development, twisted bowels and missing hands and fingers. This information enables genetic testing and design of supplements for at-risk fetuses.

<http://news.bbc.co.uk/1/hi/health/3712397.stm>

IMMUNOLOGY/ INFECTIOUS DISEASES

Mothers' Cells Can Cause Immunity Illness In Children

Mayo Clinic, Science Daily (April 26, 2004)

Reports that certain cells from a mother persist in their children's bodies and can provoke an autoimmune response in the children. This is the opposite situation from known evidence of fetal cells found in women several years after giving birth.

<http://www.sciencedaily.com/releases/2004/04/040426055041.htm>

Study Finds HIV Protein Can Drive Immune Cells Away

Sue McGreevey, Massachusetts General Hospital (May 3, 2004)

Clue to how virus avoids immune system activity may lead to new treatment strategy. Describes finding how a key protein that helps the virus enter its target T helper cells may also keep away the T killer cells that should destroy HIV-infected cells.

<http://www.massgeneral.org/news/releases/050304poznansky.html>

Small Genes May Help "Mono" Virus Hide in Humans

Edward R. Winstead, Genome News Network (April 30, 2004)

Five small genes discovered in the virus that causes mononucleosis may explain the virus's remarkable ability to hide in the human body for decades without being detected by the immune system.

http://www.genomenewsnetwork.org/articles/2004/04/30/epstein_barr.php

Protein May Help Prevent Autoimmune Attacks

Michael C. Purdy, Washington University in St. Louis (April 20, 2004)

Distinguishing between foreign and native is one of the immune system's most important tasks. Researchers showed that a protein known as H2-DM can keep immune system T cells from erroneously assaulting the body's own tissues.

<http://aladdin.wustl.edu/medadmin/PAnews.nsf/news/8963DEEABFF9EFCF86256E7C006DA42B?OpenDocument>

METABOLISM: OBESITY, DIABETES

Drug Zaps Fat Cells into Oblivion

BBC News (April 10, 2004)

Describes development of a new obesity treatment that destroys the blood supply to fat tissue. A protein which identifies fat cells was made lethal by triggering cells in the blood vessels which feed the fat cells to commit suicide.

<http://news.bbc.co.uk/1/hi/health/3699741.stm>

Insulin-Making Cells Regenerate

Wired (May 5, 2004)

Describes a new study showing that insulin-producing cells in the pancreas can regenerate themselves, suggesting future treatments for diabetes that could eliminate the need to inject the hormone.

http://www.wired.com/news/medtech/0,1286,63352,00.html?tw=wn_10techhead

From Algae, Weeds and People: New Genetic Clues to Complex Obesity Syndrome

Joanna Downer, Johns Hopkins Medicine (May 13, 2004)

By comparing the genomes of an alga, a weed and humans, a team of researchers has identified a new gene behind Bardet-Biedl syndrome (BBS), a complex condition marked by learning disabilities, vision loss and obesity.

http://www.hopkinsmedicine.org/Press_releases/2004/05_13_04.html

Insulin-producing Pancreatic Cells Are Replenished by Duplication

Steve Bradt, Harvard University Gazette (May 5, 2004)

Researchers have discovered that insulin-producing beta cells in the pancreas that are attacked in type 1 diabetes are replenished through duplication of existing cells rather than through differentiation of adult

stem cells.

<http://www.news.harvard.edu/gazette/daily/0405/05-stem.html>

Protein Could Lead to Diabetes Treatments

Nancy Touchette, Genome News Network (May 14, 2004)

A new study in mice provides the strongest evidence yet that a protein that helps the body fight infection may also contribute to type 1 diabetes. This information could be beneficial in delaying or preventing diabetes.

http://www.genomenewsnetwork.org/articles/2004/05/14/immune_protein.php

Researchers Discover Unexpected Source of Insulin-Producing Cells

Nancy Touchette, Genome News Network (May 7, 2004)

Reports research showing that new insulin-secreting cells, known as beta cells, arise when beta cells that already exist in the pancreas replicate, suggesting research focus should be on the beta cells themselves.

<http://www.genomenewsnetwork.org/articles/2004/05/07/diabetes.php>

MUSCULOSKELETAL

Got Arthritis? Fresh Cherries May Help

Marcia Wood, Agricultural Research Service (May 7, 2004)

According to preliminary research results, plump, juicy Bing cherries, eaten fresh, may help people who suffer from the pain of gout or other forms of arthritic inflammation.

<http://www.ars.usda.gov/is/pr/2004/040507.htm>

NEUROLOGY

Dental Pulp Cells May Hold Key to Treatment of Parkinson's Disease

Colleen Newvine, University of Michigan (May 1, 2004)

Reports on a study showing that dental pulp cells provide great support for nerve cells lost in Parkinson's disease and could be transplanted directly into the affected parts of the brain.

<http://www.umich.edu/news/index.html?Releases/2004/May04/r050104>

New Approaches to Lou Gehrig's Disease

Nancy Touchette, Genome News Network (April 30, 2004)

Researchers have determined the structures of mutant forms of a protein associated with Lou Gehrig's disease. They have discovered what may cause the protein to clump up and kill neurons throughout the body.

<http://www.genomenewsnetwork.org/articles/2004/04/30/als.php>

Botulinum Toxin Structure Offers Clues for Vaccines/Treatments

Karen McNulty Walsh, Brookhaven National Laboratory (May 10, 2004)

Scientists have deciphered the near atomic-level structure of the catalytic

domain of botulinum toxin type E, important in developing a potential vaccine or treatment against bioterror agents and the botulism disease.
<http://www.bnl.gov/bnlweb/pubaf/pr/2004/bnlpr051004.htm>

ONCOLOGY

Discovery Sheds Light on How Cancer Cells Grow and Divide

Bob Nellis, Mayo Clinic (May 19, 2004)

Reports discovery of a protein known as Dynamin-2 has been on the centrosome, a minute structure near a cell's nucleus. Finding may lead to new strategies for stopping cancer growth.

<http://www.mayoclinic.org/news2004-rst/2232.html>

Fly With Brain Tumor May Shed Light On Cancer Causing Genes

Science Daily (April 19, 2004)

The causes of brain tumor development are largely unknown. Using microarray technology to compare the levels of gene expression in the heads of healthy flies and those with brain cancer, scientists found changes in expression levels of 321 genes.

<http://www.sciencedaily.com/releases/2004/04/040416013933.htm>

How Some Cancer Cells Cheat Death

BBC News (April 27, 2004)

Researchers have discovered how some cancer cells avoid being killed by chemotherapy. This process seems to be controlled by a protein molecule called p300.

<http://news.bbc.co.uk/1/hi/health/3659351.stm>

Genetic Link Seen in Cancer Drug's Power

Andrew Pollack, New York Times (April 30, 2004)

Researchers report that mutation of a gene involved in non-small cell lung cancer (NSCLC) increases the likelihood that the drug gefitinib (Iressa™) will show a beneficial response.

<http://www.nytimes.com/2004/04/30/science/30LUNG.html>

Researchers Identify Virus Gene Involved In Tumor Cell Growth, Spread

University Of North Carolina School Of Medicine, Science Daily (April 21, 2004)

Scientists have identified a viral gene that switches on cellular genes involved in promoting tumor cell growth and metastasis throughout the body, initiating these processes by causing cells to secrete growth and invasive factors.

<http://www.sciencedaily.com/releases/2004/04/040416010819.htm>

Longevity Gene May Also Predict Better Outcome for Breast Cancer

Patients

The University of Texas (April 15, 2004)

Describes how the presence of a protein, named Forkhead box class O3 (FOXO3), is associated with better outcomes for breast cancer patients.

Conversely, if FOXO3 was inactivated, patients had worse outcomes.

<http://www.mdanderson.org/departments/newsroom/display.cfm?id=074138C7-E92F-4384-AA6859ED7FD2BF40&method=displayFull&pn=00c8a30f-c468-11d4-80fb00508b603a14>

Newly-described Route To Cancer Solves A Mystery In Lung Cancer

University Of Texas M. D. Anderson Cancer Center, Science Daily (April 7, 2004)

Reports an answer to a mystery in lung and other cancers: why a potent tumor suppressor gene called FUS1 functions as it should, yet none of the protein it produces can be found anywhere in a cancer cell.

<http://www.sciencedaily.com/releases/2004/05/040506070424.htm>

Scientists Confirm New Breast Cancer Gene

Cancer Research UK (May 17, 2004)

Research confirms that inheriting the wrong version of a gene called CHEK2 doubles a woman's risk of developing breast cancer. CHEK2 is the first 'low risk' gene to have been definitely established as a risk factor.

<http://www.sciencedaily.com/releases/2004/05/040517073630.htm>

Scientists Identify New Regulator of Cell Feature Linked to Cancer

Michael Purdy, Washington University in St. Louis (May 4, 2004)

Special placement of the various parts of a cell is called cellular polarity.

Cancer cells frequently lose their polarity. Discusses discovery of a new link between two key proteins that regulate the placement of cell parts.

<http://news-info.wustl.edu/tips/page/normal/859.html>

Researchers Define Mechanism That Enables Stem Cells To Track Migrating Brain Tumor Cells

Cedars-Sinai Medical Center, Science Daily (May 7, 2004)

The prognosis for patients with malignant brain tumors called gliomas is extremely poor. Reports that scientists have defined a subset of neural stem cells that have tumor-tracking potential.

<http://www.sciencedaily.com/releases/2004/05/040505071414.htm>

Gene Predicts Cancer Drug Effectiveness

Robert Langreth, Forbes.com (April 29, 2004)

Reports that two independent groups of researchers at Harvard Medical School have pinpointed tiny genetic mutations inside the tumors of lung cancer patients that make them likely to respond to Iressa, AstraZeneca's lung cancer drug.

http://www.forbes.com/technology/sciences/2004/04/29/cx_rl_0429cancer.html

Researchers Identify Cancer-causing Gene Involved In Aggressive Leukemia, Lymphoma

Johns Hopkins Medical Institutions, Science Daily (May 19, 2004)

Reports that the early onset of cancerous tumors in 100% of genetically engineered mice provides the most direct evidence for the link between overexpression of the HMG-I gene and cancer.

<http://www.sciencedaily.com/releases/2004/05/040518075604.htm>

Researchers Confirm Genetic Link Between Hereditary Breast And Prostate Cancer

Memorial Sloan-Kettering Cancer Center, Science Daily (May 4, 2004)

A new study shows that the risk for prostate cancer is significantly elevated in men who are part of families with a hereditary form of breast and ovarian cancer.

<http://www.sciencedaily.com/releases/2004/05/040503054534.htm>

PSYCHIATRY/ PSYCHOLOGY

Gene Therapy Reduces Drinking in Rats with Genetic Predisposition to "Alcoholism"

Karen McNulty Walsh, Brookhaven National Laboratory (May 5, 2004)

Reports research results improving understanding of the mechanism or mechanisms of alcohol addiction and strengthen hopes that this treatment approach might one day help people addicted to alcohol.

<http://www.bnl.gov/bnlweb/pubaf/pr/2004/bnlpr050504a.htm>

Gene May Be Risk Factor for Autism

Cheryl Simon Silver, Genome News Network (April 16, 2004)

Researchers studying families with autism have pinpointed a gene that may increase susceptibility to autism in a broad population. Most rare genetic mutations associated with autism have been identified in single families.

<http://www.genomenewsnetwork.com/articles/2004/04/16/autism.php>

GM Skin Cells Help Treat Alzheimer's?

Helen R. Pilcher, Nature (April 28, 2004)

Transplanting genetically modified skin cells into the brain might slow the progression of Alzheimer's disease, a preliminary clinical trial suggests.

<http://www.nature.com/nsu/040426/040426-7.html>

OHSU Researchers Uncover Genes Involved In Early Stages Of Alzheimer's Disease

Oregon Health And Science University, Science Daily (April 29, 2004)

Currently, there are no early detectable biomarkers for Alzheimer's. Describes a study of mice that overexpress human mutated amyloid precursor protein to determine early cellular changes connected to Alzheimer's disease.

<http://www.sciencedaily.com/releases/2004/04/040428061841.htm>

PULMONARY/ RESPIRATORY DISEASES

Cystic Fibrosis Mouse May Open Door to New Therapies

Nancy Touchette, Genome News Network (April 30, 2004)

Researchers at last have developed a mouse model of cystic fibrosis. The mice have a completely normal cystic fibrosis gene; a second gene that normally works with the cystic fibrosis gene to maintain salt balance in cells is overly active.

<http://www.genomenewsnetwork.org/articles/2004/04/30/cf.php>

REPRODUCTION

Sperm Inject RNA into Eggs at Fertilization

Andy Coghlan, New Scientist (May 12, 2004)

Reports discovery that sperm unexpectedly inject RNA into the eggs they fertilize, providing new leads for treatments of infertility and a possible explanation for the low efficiency of cloning.

<http://www.newscientist.com/news/news.jsp?id=ns99994989>

Rewriting Textbooks on DNA Crossover

Neil Hunter, UC Davis (April 16, 2004)

Key decisions in the genetic shuffling that occurs before eggs or sperm are formed are made earlier than thought, according to new research. Crossovers are specifically required for the accurate distribution of chromosomes into the gamete cells.

http://www.news.ucdavis.edu/search/news_detail.lasso?id=6992

UNC Study Finds Protein in Male Reproductive Tract Kills Bacteria, May Improve Fertility

Leslie H. Lang, University of North Carolina (May 5, 2004)

Scientists have found that a protein discovered three years ago in the male reproductive tract is a potent anti-bacterial agent. The protein may aid fertilization by protecting sperm from harmful organisms encountered in the female reproductive tract.

<http://www.unc.edu/news/newsserv/archives/may04/lrb050504.html>

WOUND/TISSUE REPAIR

'Skin Cell' Bandages Treat Burns

BBC News (April 27, 2004)

People with severe burns or diabetic wounds could benefit from "living" bandages made of their own skin cells, according to researchers. Called "Myskin", the treatment involves the growing of healthy skin cells on small discs.

<http://news.bbc.co.uk/1/hi/health/3660533.stm>

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