



BioTechCircle News®

July, 2004

In this Articles section:

Links to 101 free Web articles in 11 categories.

The categories are in alphabetical order to make it easy to locate news and developments in technology, the business and the markets in the life sciences of interest to you. Each article is further identified by subcategory for quicker reference. The brief summaries will help you decide which articles to click on to read in their entirety.

Links to 101 Web articles in 11 categories:

- 1) Agri-biotech (2 articles)
 - 2) Biobusiness Management (8 articles)
 - 3) Clinical Trials (6 articles)
 - 4) Diagnostic Tools (2 articles)
 - 5) Drug Delivery (2 articles)
 - 6) Industry (4 articles)
 - 7) Organizations (1 article)
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 - 9) Platform Technologies (17 articles)
 - 10) Research Tools (7 articles)
 - 11) Therapeutical Category (51 articles)
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1) AGRI-BIOTECH (2 articles)

ANIMAL

Most Red Snapper Is Not Red Snapper

Kate Ruder, Genome News Network (15-Jul-04)

Using DNA analysis, scientists have found that most red snapper sold at grocery stores in the United States may not be red snapper. The findings could signal dwindling stocks of red snapper, the researchers warn.

<http://www.genomenewsnetwork.org/articles/2004/07/15/redsnapper.php>

CROPS

Branching Gene Could Beautify Bushes

Michael Hopkin, Nature (28-Jul-04)

A gene that helps plants decide when and where to sprout new branches has been discovered. The find may give rise to less wasteful crops and more beautiful bushes.

<http://www.nature.com/news/2004/040726/full/040726-8.html>

2) BIOBUSINESS MANAGEMENT (8 articles)

DRUG DISCOVERY

Advancing Drug Discovery — Beyond Design

Lukas K. Buehler, PharmaGenomics (01-Jul-04)

Drug discovery based upon high-throughput screening, combinatorial chemistry and rational drug design faces a conceptual hurdle: most physiological and diseases are multifactorial and thus require solutions based on trial and error.

<http://www.pharmagenomicsonline.com/pharmagenomics/article/articleDetail.jsp?id=106693>

Glass Houses

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

Because of technical and regulatory hurdles, the pharmaceutical market has seen a switch from first-in-class to me-too drugs. Experts discuss how to improve the efficiency of the drug discovery process.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704people1.pdf>

Birth of a Drug

Modern Drug Discovery (01-Jul-04)

Looks at the role of chemists and other specialties in the drug discovery process, including cheminformatics experts, medicinal chemists, physical chemists, computational chemists and others.

http://pubs.acs.org/subscribe/journals/mdd/v07/i07/html/704feature_mehta.html

The True Cost of Drug Discovery

Kevin Davies, Bio-IT World (14-Jul-04)

Reviews book whose author suggests: Create a \$1-billion institute on clinical practice within the NIH to conduct clinical trials that compare existing medicines and abolish patents on genes and pathways that don't expressly involve "the hand of man."

<http://www.bio-itworld.com/archive/071404/firstbase.html>

GOVERNMENT/ APPROVALS

Clearing the Critical Path

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

Presents the FDA's new initiative to comprehensively overhaul the tools and methods of drug and medical device development.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704rules.pdf>

MISCELLANEOUS

Playing the High-Stakes Biotech Game

Sam Subramanian, AlphaProfit Investments, LLC (08-Jul-04)

Looks at the 3C's driving the biotech sector's stock prices: Cancer, Cycle-time, and Consolidation.

<http://www.alphaprofit.com/Recent-Articles/Biotech0620-2004.html>

ASU to Offer 1st Master's Degree in Biotech, Genomics Law

Josh Kelley, The Arizona Republic (08-Jul-04)

The first advanced legal degree in biotechnology and genomics in the U.S. is being offered as worldwide demand for scientific legal expertise rapidly increases.

<http://www.azcentral.com/arizonarepublic/local/articles/0708asulaw08.html>

PATENT/INTELLECTUAL PROPERTY ISSUES

When the "Reach-through" Exceeds the Grasp

Phillip B. C. Jones, Modern Drug Discovery (01-Jul-04)

Reach-through patent claims aim to capture the value of downstream - and yet unidentified - products or methods. Court rulings on a patent lead others to consider alternatives for protecting early-stage technology.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704business2.pdf>

3) CLINICAL TRIALS (6 articles)

DATA INTEGRATION

The CDISC Operational Data Model: Ready to Roll?

David Iberson-Hurst, Applied Clinical Trials (01-Jul-04)

The ODM (Operational Data Model) standard appears set to support seamless data transfer throughout the clinical trial process. Explains how it works.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=103363>

GOVERNMENT/ APPROVALS

Congress, Agencies Probe Conflicts of Interest

Jill Weschler, Applied Clinical Trials (01-Jul-04)

FDA and NIH investigate staff relationships with industry to eliminate any outside influence on regulatory decisions and clinical trial procedures.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=103359>

MISCELLANEOUS

Validation Is Not Always Validation

Waldemar Braun, et al., Applied Clinical Trials (01-Jul-04)

Electronic diaries deliver unparalleled speed and accuracy; however, conforming their data to accepted validation standards is sometimes anything but a smooth process.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=103361>

PHASE 2

Drug to Fight Virus in Transplant Patients Moves Forward in Trials

Colleen Newvine, University of Michigan (27-Jul-04)

A drug once considered for cancer chemotherapy is advancing in clinical trials to test its effectiveness in fighting a virus from the herpes family that threatens transplant patients. Notes effectiveness of collaboration between pharmacy and dentistry.

<http://www.umich.edu/news/index.html?Releases/2004/Jul04/r072704e>

SUBJECT ENROLLMENT/MANAGEMENT

Optimizing the Supply Chain Through Trial Simulation

Damian McEntegart, et al., Applied Clinical Trials (01-Jul-04)

Explains how simulation tools empower sponsors to confidently choose the best drug supply strategies in IVR (interactive voice response) trials.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=103362>

Who Can a Future Trial Participant Trust?

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

Encouraging critical questions about health issues will allow potential trial participants to become informed decision makers. Notes that media should have higher standards of accurate health news reporting while encouraging openness of trial data.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=103358>

4) DIAGNOSTIC TOOLS (2 articles)

MRI

New Breast-Imaging Technology Could Save More Women's Lives

Maureen Morley, Radiological Society of North America (23-Jul-04)

Using alternative imaging technologies such as Digital Mammographic Imaging Screening and others to supplement mammography could help some 40,000 women dying of breast cancer each year, according to a researcher.

<http://www.rsna.org/media/briefings/2004/html/technology.html>

TEST SYSTEMS - HEMATOLOGY

DNA Duplication Trick May Lead to Faster Testing

Andy Coghlan, New Scientist (09-Jul-04)

A potentially faster and more practical version of the polymerase chain reaction (PCR) called helicase-dependent amplification (HDA), could result in small, hand-held devices which enable doctors to test blood samples directly in the surgery.

<http://www.newscientist.com/news/news.jsp?id=ns99996132>

5) DRUG DELIVERY (2 articles)

MISCELLANEOUS

'Envelopes' Deliver Cancer Drugs

BBC News (06-Jul-04)

An anti-cancer drug has been delivered directly to cancer cells inside hollow balls of molecules called liposomes. Molecular "envelopes" could mean that powerful drugs can be sent directly to tumors.

<http://news.bbc.co.uk/1/hi/health/3871127.stm>

NANOTECHNOLOGY

Good Things in Small Packages

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

Most drugs are delivered to patients using a systemic approach. However, this approach doesn't differentiate between tumor and healthy growing tissue. This and other challenges are leading drug developers to turn to nanotechnology.

http://pubs.acs.org/subscribe/journals/mdd/v07/i07/html/704feature_willis.html

6) INDUSTRY (4 articles)

GENERAL

When Biotech Comes Home

Dan Farber, ZD Net (30-Jul-04)

Physicist calls biotech the "new art form of the 21st century," envisions that the "domestication" of biotechnology will open up creativity to millions of people.

http://zdnet.com.com/2100-11_2-5290186.html

GEOGRAPHIC FOCUS

Bioindustry Park Canavese Launches Discovery: the Project is Aimed at Creating New Companies in Biotechnologies and Life Sciences in Italy

TMCnet (02-Jul-04)

Describes the first example in Italy of a synergic and systemic approach to the problem of creating new businesses in the biotechnology sector.

<http://www.tmcnet.com/submit/2004/Jul/1053866.htm>

Singapore Wants You!

Stuart Luman, Wired (01-Aug-04)

The city-state is offering bioscientists unrestricted research, top-notch

equipment, and more than \$2 billion for research of all kinds, hoping to attract therapeutic cloning, drug discovery, cancer research, and other areas.

<http://www.wired.com/wired/archive/12.08/singapore.html>

Not Just a Day at the Beach

John Russell, Bio-IT World (14-Jul-04)

About 500 biotech companies are tucked between the sea and the desert in greater San Diego. Describes the diversity of the companies, resulting partly from universities and private research institutes.

<http://www.bio-itworld.com/archive/071404/russell.html>

7) ORGANIZATIONS (1 article)

BIO PHARMA

The Maven of Microarrays

Malorye A. Blanca, Bio-IT World (14-Jul-04)

Affymetrix's Stephen Fodor discusses building a tech business without a blueprint. Says the focus at Affymetrix has always been on real fundamentals, both a strength and a weakness.

http://www.bioitworld.com/archive/071404/horizons_maven.html

8) PHARMACEUTICALS (1 article)

HUMAN DIAGNOSTICS

Cancer Detection Method Overcomes Problem Of Samples With Few Cells

Bio.com (23-Jul-04)

Finding cancer in a tiny drop of body fluid containing relatively few cells now may be possible with a new method of analyzing multiple genes in small samples of DNA. The molecular test may be especially helpful in detecting cancer cells in breast fluid.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2600027

9) PLATFORM TECHNOLOGIES (17 articles)

ASSAY SYSTEMS

Drug Resistance and Microarrays

Chung-Hae Lee and Pascale F. MacGregor, Modern Drug Discovery (01-Jul-04)

Looks at vision and current status of personalized medicine, better response rates, decreased side effects, less drug resistance, and, eventually, higher cancer cure rates.

http://pubs.acs.org/subscribe/journals/mdd/v07/i07/html/704feature_macgregor.html

CELL THERAPY

Mouse Brain Stem Cells Capable of Converting Into Blood Vessel Cells

Doug Dollemore, NIH News (14-Jul-04)

Reports that many stem cells from the brain merge or fuse with an existing cell within a tissue forming a hybrid that takes on the pre-existing cell's functions. Fused cells may have a different therapeutic potential from those that differentiate.

<http://www.nih.gov/news/pr/jul2004/nia-14.htm>

Researchers Hunt for New Stem Cell Sources

Serena Gordon, Medicine.net (06-Jul-04)

Researchers report there may be a previously unrecognized and untapped source of fetal cells in the blood of women who have been pregnant. Adult stem cells from bone marrow may have more potential than previously believed.

<http://www.medicinenet.com/script/main/art.asp?articlekey=33907>

DIAGNOSTIC TEST SYSTEMS

Ancient DNA Reveals Skin Color

Anna Salleh, Discovery Channel (19-Jul-04)

Researchers announce the first ever use of ancient DNA to determine hair and skin color from skeletal remains. The technology could also be used to help build up pictures to help identify skeletons or criminals.

<http://dsc.discovery.com/news/afp/20040719/skincolor.html>

DRUG DISCOVERY

How Academia Can Help Drug Discovery

Simon Frantz, Nature Reviews (02-Jul-04)

Reports debate on whether academic institutions can realistically become involved in drug discovery and development programs. Some question whether academia can produce therapeutically useful small molecules.

http://www.nature.com/cgi-taf/DynaPage.taf?file=/nrd/journal/v3/n7/full/nrd1462_fs.html

Neural Cell Differentiation

Paul Wylie, Modern Drug Discovery (01-Jul-04)

Explains the advantages of high-content screening (HCS) technology, which helps to increase the relevance of drug screening programs, including those used in neuroscience research.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704applications.pdf>

Firefly Compound Lights Up 'Protein Dance' In Living Animals

Washington University School of Medicine, Bio.com (29-Jul-04)

Researchers have developed a first-of-its-kind noninvasive imaging technique that allows them to watch two proteins interacting in live animals by fusing proteins of interest with carefully cleaved sections of luciferase.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2800015

EPIGENETICS

Scientists Suggest Framework For Epigenetics In Common Disease

Bio.com (27-Jul-04)

Scientists are calling for simultaneous evaluation of both genetic and epigenetic information in the search to understand contributors to such common diseases as cancer, heart disease and diabetes.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2700001

GENE THERAPY

Gene Silencing Prevents Hereditary Brain Disease in Mice

New Scientist (04-Jul-04)

Scientists have prevented mice from developing a hereditary brain disease by injecting their brains with fragments of genetic material, short interfering RNA (siRNA), designed to switch off unhealthy genes.

<http://www.newscientist.com/news/news.jsp?id=ns99996109>

GENOMICS

Team of Microbiologists Develops Mutated Yeast Strains to Aid Geneticists

Elaine Smith, University of Toronto (08-Jul-04)

Microbiologists have used pattern recognition software to discover the function of yeast genes essential to cell life. This knowledge could help determine what causes cells to die, as well as what they need to live.

<http://www.news.utoronto.ca/bin6/040708-239.asp>

Researchers Uncover Surprising Degree Of Large-scale Variation In The Human Genome

Cold Spring Harbor Laboratory, Science Daily (23-Jul-04)

Researchers detected 76 large-scale "copy number polymorphisms" or CNPs from 20 individuals. There may be a relationship between CNPs and susceptibility to health problems such as neurological disease, cancer, and obesity.

<http://www.sciencedaily.com/releases/2004/07/040723093056.htm>

Study Reveals Surprising 'Remodeling' Property Of Gene Regulation Process

University Of North Carolina School Of Medicine, Science Daily (30-Jul-04)

Much like moving furniture around to create more space, cells dramatically rearrange their entire genome in order to allow the right genes to be turned on at the right time, say researchers.

<http://www.sciencedaily.com/releases/2004/07/040730090316.htm>

Surprising 'Remodeling' Property Of Gene Regulation Process

University of North Carolina School of Medicine, Bio.com (30-Jul-04)

New research shows that cells dramatically rearrange their entire genome in order to allow the right genes to be turned on at the right time, much like moving furniture around to create more space.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2900001

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

Microarrays Work Better When Probes Are Sequence-Verified

Bio.com (22-Jul-04)

Multiple research groups have shown that microarray data can identify previously unappreciated molecular subtypes of lung cancer that differ in their prognoses. Explains how to improve poor reproducibility of results.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2600014

MISCELLANEOUS

'Omics: The Next Generation

Karen Hopkin, Bio-IT World (14-Jul-04)

The study of metabolomics is attracting a flurry of biotechs and academics, with research implications ranging from plant biology to drug discovery.

<http://www.bioitworld.com/archive/071404/omics.html>

PROTEOMICS

U Of Toronto Research Answers Key Question In Biochemistry

University of Toronto, Bio.com (29-Jul-04)

Scientists are helping to answer one of the most important questions in biochemistry, one that has implications for treating neurodegenerative diseases: how do proteins fold into their three-dimensional structures?

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2800014

Unfolding the Potential of Proteins

Joby Marie Chesnick, Modern Drug Discovery (01-Jul-04)

Several human diseases, including Alzheimer's, Parkinson's and cystic fibrosis have their origins in misfolded cellular proteins. Explains how new refolding technologies are essential for making useful recombinant proteins.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704toolbox.pdf>

10) RESEARCH TOOLS (7 articles)

COMPUTING SYSTEMS

Can't (Under)stand the Heat?

Robert Royce, Modern Drug Discovery (01-Jul-04)

The demand for assays to detect and quantify specific DNA or RNA sequences is growing rapidly. As genomic assays become more complex, hybridization software is becoming more important.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704sites.pdf>

R Is Ready to Rumble

Bill Van Etten, Bio-IT World (14-Jul-04)

Defines R as what you use when your data analysis and plotting requirements exceed the functionality of Excel but you don't want to buy a commercial package. Value: rich functionality, open-source licensing, ease of extensibility, broad developer support.

<http://www.bio-itworld.com/archive/071404/box.html>

IBM's Super Duo

Salvatore Salamone, Bio-IT World (14-Jul-04)

Scientists have been using IBM's next-generation supercomputer Blue Gene/L prototype system to study how G-protein-coupled receptors (GPCRs) act in a membrane environment.

http://www.bio-itworld.com/news/071404_report5576.html

The Pathways Promise

Malorye A. Blanca, Bio-IT World (14-Jul-04)

By using the right tools, even a modest genomic data set can generate a good view into a particular biological pathway. Reviews a range of new technologies arising from academia as well as the commercial sector to meet this need.

http://www.bioitworld.com/archive/071404/horizons_pathways.html

GENOME SEQUENCE

Dog Genome Assembled

Geoff Spencer, National Human Genome Research Institute (14-Jul-04)

The first draft of the dog genome sequence has been deposited into free public databases for use by biomedical and veterinary researchers around the globe. Links to public databases.

<http://www.nhgri.nih.gov/12511476>

Miscellaneous

Microwaves Lend a Hand

Michael Collins, Modern Drug Discovery (01-Jul-04)

Microwave synthesis has become an accepted method and is playing an increasingly larger role in medicinal chemistry. There are some reactions that can be impossible with conventional heating and can only be achieved in a microwave synthesis system.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704people2.pdf>

MOUSE/ RAT MODELS

Carnegie Mellon University Neuroscientist Develops Novel Tool to Image Brain Function at the Cellular Level

Lauren Ward, Carnegie Mellon University (27-Jul-04)

Describes transgenic mouse as a novel tool that can be used to visualize, in living brain tissue, a single neuron that has been activated in response to an animal's experience.

http://www.cmu.edu/PR/releases04/040727_brain.html

11) THERAPEUTIC CATEGORIES (51 articles)

BIOTERRORISM

3-D Structure of Anthrax Toxin Complex Solved

Linda Joy, NIH News (04-Jul-04)

A three-dimensional (3-D) molecular image of how anthrax toxin enters human cells is giving scientists more potential targets for blocking the toxin.

<http://www.nih.gov/news/pr/jul2004/niaid-04.htm>

CARDIOLOGY/ VASCULAR DISEASES

Stem Cells 'Treat Heart Attacks'

BBC News (08-Jul-04)

Stem cells have been found to be an effective treatment for patients who have had a heart attack. Patients who undergo the procedure have stem cells taken from their own bone marrow and injected directly into the heart muscle.

<http://news.bbc.co.uk/1/hi/health/3877877.stm>

First 'Black' Drug Nears Approval

Helen Pearson, Nature (23-Jul-04)

A heart drug being tested in black patients is on course to become the first medicine approved for use in a specific ethnic group, challenging those scientists who believe that race is a bad basis for prescriptions.

<http://www.nature.com/news/2004/040719/full/040719-16.html>

New Research Suggests Previously Unrecognized Mechanism by Which Blood Vessels Are Patterned

Jonathan Epstein, University of Pennsylvania School of Medicine (12-Jul-04)

Researchers have identified a receptor in endothelial cells that when interrupted in mice, results in congenital heart disease and defects in the growth and arrangement of blood vessels.

http://www.uphs.upenn.edu/news/News_Releases/july04/PlexinReceptor.htm

Researchers Identify Gene for a Primary Form of Sudden Infant Death Syndrome (SIDS)

Translational Genomics Research Institute (19-Jul-04)

Researchers have discovered one of the first genetic sub-classifications of SIDS, describing the form as sudden infant death with dysgenesis of testes, or SIDDT. By recognizing predisposition early, a number of babies may be saved.

<http://www.tgen.org/news/index.cfm?newsid=264>

DERMATOLOGY

Gene Find Hope for Acne Sufferers

BBC News (30-Jul-04)

Scientists have cracked the genetic code of a bacterium involved in acne, an advance they say could lead to new treatments.

<http://news.bbc.co.uk/1/hi/health/3936263.stm>

DISEASE PREVENTION

In New York, Air Pollution Reaches Babies in the Womb

Kate Ruder, Genome News Network (23-Jul-04)

Studies show babies in the womb are more susceptible than their mothers

to DNA damage from air pollution, despite the added protection that the placenta is thought to provide in filtering out toxins.

<http://www.genomenewsnetwork.org/articles/2004/07/23/airpollution.php>

Gene Test Traces a Polio Epidemic in the Making

Cheryl Simon Silver, Genome News Network (01-Jul-04)

The rapid analysis of poliovirus genomes has become a valuable tool in efforts to contain polio. Reports surge in polio cases in Nigeria.

<http://www.genomenewsnetwork.org/articles/2004/07/01/polio.php>

GERIATRICS

Mayo Clinic Researchers Identify Gene Regulating Aging and Fertility

Jan van Deursen, Mayo Clinic (06-Jul-04)

Reports discovery of a gene, called BubR1, that governs production of a protein that modulates physical aging. Mutant mice with low amounts of BubR1 protein live five times shorter than normal mice.

<http://www.mayoclinic.org/news2004-rst/2341.html>

IMMUNOLOGY/ INFECTIOUS DISEASES

UCSD Biologists Discover Cell's Defense Mechanism Against Class Of Disease-Causing Bacterial Toxins

Kim McDonald, University of California San Diego (12-Jul-04)

Reports on a new mechanism that allows cells to fight a class of toxins made by a wide variety of disease-causing bacteria. The discovery may pave the way for the development of new, more effective treatments for many bacterial diseases.

<http://ucsdnews.ucsd.edu/newsrel/science/mccry.asp>

Lack of Immune System Protein Prevents Lupus-Like Condition in Mice

Michael C. Purdy, Washington University in St. Louis (08-Jul-04)

Researchers have found that removal of the immune system signaling protein SAP prevents the development of a lupus-like condition in mice. Normal immune system functions were still largely intact in the experimental mice that lacked SAP.

<http://mednews.wustl.edu/medadmin/PAnews.nsf/0>

New Method Enables Researchers to Make Human SARS Antibodies Quickly

Jennifer Wenger, NIH News (11-Jul-04)

Human antibodies that thwart the SARS virus in mice can be mass-produced quickly using a new laboratory technique using antibodies from recovered patients and a short stretch of synthetic DNA.

<http://www2.niaid.nih.gov/newsroom/releases/sarsmab.htm>

Triple-vaccine Strategy Stimulates Strong HIV-specific Immune Response In Monkeys

The Wistar Institute, Science Daily (12-Jul-04)

Reports on test to maximize the immune response to a truncated HIV gene called Gag. Researchers succeeded in dramatically stimulating the production of CD8+ T cells responsive to Gag, a potential key to creating an effective HIV vaccine.

<http://www.sciencedaily.com/releases/2004/07/040709084550.htm>

Genetic Damage from Leukemia Drugs Persists among Children

Cheryl Simon Silver, Genome News Network (09-Jul-04)

A new study reports that treatments used to treat children with acute lymphocytic leukemia cause a high rate of mutations and says that the genetic damage persists in the children long after the cancer is in remission.

<http://www.genomenewsnetwork.org/articles/2004/07/09/leukemia.php>

Scientists Determine Structure of Staph, Anthrax Enzyme

Beth Quill, Argonne National Laboratory (14-Jul-04)

Researchers have determined the crystal structure of sortase B, an enzyme found in the bacteria that cause staph and anthrax. the structure could provide the first clue in developing a treatment for the infections.

http://www.anl.gov/Media_Center/News/2004/news040714.html

Mapping the Evolution of a Virus

Todd Hanson, Los Alamos National Laboratory (16-Jul-04)

A computer modeling method for mapping the evolution of the influenza virus could soon help medical researchers worldwide develop a better understanding of certain mutations in influenza and other viruses.

<http://www.lanl.gov/worldview/news/releases/archive/04-069.shtml>

Ancient War of the World Within: Study Finds Anti-HIV Protein Evolved Millions of Years Before the Emergence of AIDS

Kristen Woodward, Fred Hutchinson Cancer Research Center (29-Jul-04)

A recently discovered protein called Apobec3G defends cells from HIV infection by causing mutations in the genetic material within the virus. In response, HIV produces a protein that binds to Apobec3G and targets it for destruction.

http://www.fhcrc.org/news/science/2004/07/29/genetic_race.html

METABOLISM: OBESITY, DIABETES

Gene is Risk Factor for Type 1 Diabetes

Cheryl Simon Silver, Genome News Network (23-Jul-04)

Researchers have found that a mutation of a gene known as SUMO-4

appears more frequently in individuals with type 1 diabetes than in individuals without the disease.

<http://www.genomenewsnetwork.org/articles/2004/07/23/diabetesriskfactor.php>

Genetic Mutation Found That Is Major Contributor to Type 1 Diabetes

Toni Baker, Medical College of Georgia (15-Jul-04)

By examining the transmission of genes from parents to children in nearly 1,000 diabetic families from around the world, researchers found that a certain natural mutation of the SUMO-4 gene increases the risk of type 1 diabetes.

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

Misfiring Proteins Tied To Inflammation And Sick Feeling Of Type 2 Diabetics

Bio.com (28-Jul-04)

Presents findings showing that a disruption of signaling proteins in the immune system may be responsible for the inflammation that makes someone with type 2 diabetes feel sick and increases the risk of serious complications.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2800002

Gene and Grape Antioxidant Slice Obesity Away?

Food Navigator (09-Jul-04)

Scientists claim the SIRT1 gene can not only cut the growth of fat cells, but also increase the metabolism or use of fat in existing fat cells, an activity helped by resveratrol, a polyphenol and antioxidant found at high levels in grape skins.

<http://www.foodnavigator.com/news/news-NG.asp?id=53442>

MUSCULOSKELETAL

Gene Therapy Reaches Muscles Throughout The Body And Reverses Muscular Dystrophy In Animal Model

Bio.com (26-Jul-04)

Researchers have found a delivery method for gene therapy that reaches all the voluntary muscles of a mouse, including heart, diaphragm and limbs, and reverses the process of muscle-wasting found in muscular dystrophy.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2600035

Muscles Release Secret of Strength

Helen Pearson, Nature (16-Jul-04)

Scientists are seeking the genetic sequences that could forecast athletic potential, risks of muscle wasting during old age or even which astronauts might lose bulk during space flight.

<http://www.nature.com/news/2004/040712/full/040712-17.html>

NEUROLOGY

Gene Controls Serotonin, a Key to Good Moods

Edward R. Winstead, Genome News Network (08-Jul-04)

Scientists have now discovered that serotonin levels in the brains of mice vary significantly depending on which form of the Tph2 gene a mouse has.

<http://www.genomenewsnetwork.org/articles/2004/07/08/serotonin.php>

Scientists Pinpoint Molecules That Generate Synapses

Joshua R. Sanes, Harvard University Gazette (23-Jul-04)

Researchers have found a family of molecules that play a key role in the formation of synapses. The molecules initiate the development of these connections, and could eventually yield new brain therapies.

<http://www.news.harvard.edu/gazette/daily/2004/07/23-synapse.html>

Solving the Mystery of Huntington's Disease

Dennis Thompson, HealthDay (23-Jul-04)

Scientists have found evidence that Huntington's disease is caused by mutations in a single gene that leads to an abnormal form of the protein huntingtin. Therapies will have to take the form of combinations of drugs.

<http://www.healthday.com/view.cfm?id=520240>

Genetic Model for Devastating Form of Paraplegia Suggests New Treatments

Vanderbilt University (15-Jul-04)

A new genetic model for a motor disorder, hereditary spastic paraplegia (HSP) indicates that instability in the microscopic scaffolding within a key set of nerve cells is the cause, suggesting a new way to treat the inherited genetic disorder.

<http://www.vanderbilt.edu/news/releases?id=13007>

Project to Search for Autism Gene

BBC News (19-Jul-04)

A global research project is aiming to pin down the genetic causes of autism by studying 6,000 DNA samples from families affected by the brain disorder.

<http://news.bbc.co.uk/1/hi/health/3901717.stm>

OHSU Scientists Find Gene Influencing Drug Withdrawal

Kari Buck, Oregon Health & Science University (07-Jul-04)

One of the genes that influences drug physical dependence and associated withdrawal, Mpdz, has been identified. Its discovery could someday lead to addiction-reducing therapy.

<http://www.ohsu.edu/news/2004/070604wd.html>

Prion Finding Offers Insight Into Spontaneous Protein Diseases

University of California - San Francisco, Bio.com (29-Jul-04)

Research indicates that the infectious agent known as prion is composed solely of protein. Findings promise to create new tools for early diagnosis of bovine spongiform encephalopathy (mad cow disease) in cattle and Creutzfeldt-Jakob disease in people.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2800022

Synthetic Prion Causes Neurological Disease in Mice

Doug Dollemore, NIH News (29-Jul-04)

Scientists have produced a prion protein that can trigger the development of a neurological disorder in mice that is similar to “mad cow” disease, demonstrating that prions can make copies of themselves without the presence of viral DNA or RNA.

<http://www.nia.nih.gov/news/pr/2004/072904.htm>

Nerve Cells' Powerhouse "Clogged" in Lou Gehrig's Disease

Joanna Downer, Johns Hopkins Medicine (13-Jul-04)

Rodent models of the relatively rare inherited form of Lou Gehrig's disease and tissue samples from a patient with the condition has led to evidence that damage to nerve cell powerhouses is directly responsible for these cells' death.

http://www.hopkinsmedicine.org/Press_releases/2004/07_13_04.html

Nerve Cells Successfully Regenerated Following Spinal Cord Injury

Mark Tuszynski, University of California, San Diego (13-Jul-04)

Using a combination of therapies and cell grafts, researchers have promoted significant regeneration of nerve cells in rats with spinal cord injury.

http://health.ucsd.edu/news/2004/07_13_Tusz.html

ONCOLOGY

Virus 'Harnessed to Kill Cancers'

BBC News (24-Jul-04)

Researchers engineered a virus that would target and destroy cancer cells while leaving healthy tissue untouched. The virus lacks a gene viruses normally use to disguise themselves so they can sneak into the cell unnoticed.

<http://news.bbc.co.uk/1/hi/health/3921693.stm>

Origin of 'HIV Cancer' Identified

BBC News (03-Jul-04)

A virus 'reprograms' cells in the lining of the lymph vessels and turns them cancerous, scientists have found. The finding may lead to new drugs to treat the cancer.

<http://news.bbc.co.uk/1/hi/health/3860167.stm>

New England Journal of Medicine Study Demonstrates Link Between Rapid Rise in PSA Level and Death From Prostate Cancer

Andrew Buchanan, Northwestern Memorial Hospital (07-Jul-04)

Researchers have found that the rate of rise in the PSA level, or the PSA velocity, prior to diagnosis was a more powerful indicator of eventual death from prostate cancer than the actual PSA level itself.

http://www.nmh.org/for_the_press/press_releases/pdfs/release_2004_07_08.pdf

Gene Linked To Breast Cancer Can Suppress Tumors

UC Irvine, Bio.com (28-Jul-04)

Scientists have identified how the healthy BRCA1 gene prevents the growth and survival of breast cancer cells. The gene keeps estrogen and growth factor molecules from sending chemical messages that can cause a tumor to grow.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2800004

Location of Potential Familial Lung Cancer Gene Discovered

NIH News (26-Jul-04)

Researchers found strong evidence that a lung cancer susceptibility gene or genes is co-inherited with a genetic marker on chromosome 6. Markers on chromosomes 12, 14, and 20 also indicated possible linkage to lung cancer susceptibility

<http://www.nhgri.nih.gov/12511792>

LSU Vet School Professor Using Gene Therapy To Battle Cancerous Tumors

Bio.com (19-Jul-04)

Reports research on developing a gene therapy treatment for cancer that could ultimately serve to "vaccinate" bodies against tumor recurrence.

http://www.bio.com/newsfeatures/newsfeatures_research.jhtml?cid=2300004

Vitamin K Found to Protect Against Liver Cancer

Nutra Ingredients (21-Jul-04)

Researchers investigating whether vitamin K could prevent bone loss in women with liver disease have uncovered a surprising, secondary benefit - the vitamin also helped to prevent liver cancer in the patients.

<http://www.nutraingredients.com/news/news-NG.asp?id=53665>

Virus 'linked to breast cancer'

BBC News (11-Jul-04)

Researchers have found signs of a virus called MMTV in tissue taken

from women with breast cancer. There were geographical variations in the numbers testing for the virus, thus indicating the need for more research.

<http://news.bbc.co.uk/1/hi/health/3879783.stm>

Protective Mechanism Exploited By Tumors May Provide New Cancer Treatment

Toni Baker, Medical College of Georgia (19-Jul-04)

Some tumors protect themselves by recruiting non-tumor cells that normally help keep the immune system in check. These normal cells are a type of dendritic cell that was previously ignored by scientists.

Information may be used to help cancer patients.

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

Researchers Use Human Antibody to Cure Malignant Melanoma in Mice

Larry Pease, Mayo Clinic (15-Jul-04)

Treating live mice intravenously with a human antibody stimulates dendritic cells, which, in turn, changes the way dendritic cells interact with the T cells of the immune system. This results in a consistently strong treatment for malignant melanoma.

<http://www.mayoclinic.org/news2004-rst/2344.html>

Findings Suggest Need For New View Of P53 Cancer Protein's Interaction With DNA

The Wistar Institute, Science Daily (15-Jul-04)

Scientists estimate that at least half of human cancers involve mutant p53. A new model of how p53 binds to DNA would have important implications for the development of anti-cancer drugs targeting the activity of p53.

<http://www.sciencedaily.com/releases/2004/07/040715081217.htm>

Research Discovery May Increase Effectiveness of Monoclonal Antibody Therapies for Cancer

David Walsh, Biopolymer Engineering, Inc. (15-Jul-04)

Researchers have identified a natural carbohydrate that recruits innate immune cells to assist monoclonal antibodies in the killing of cancer cells, providing a third mechanism by which this immunotherapy destroys tumors.

<http://www.biopolymer.com/press/7-15-04%20J%20of%20Immunology.htm>

OPHTHALMOLOGY

Gene Linked to Short-sightedness

BBC News (28-Jul-04)

A study of twins suggests that a gene key to eye development, PAX6, plays a crucial role in people becoming short-sighted. Sitting too close to

the TV or playing too many computer games could exacerbate someone's risk.

<http://news.bbc.co.uk/1/hi/health/3933851.stm>

Genetic Role Seen in Chief Cause of Blindness

Kathleen Doheny, HealthDay (23-Jul-04)

Researchers have found that mutations in a specific gene, fibulin 3, are sometimes associated with age-related macular degeneration (AMD).

<http://www.healthday.com/view.cfm?id=520200>

PSYCHIATRY/ PSYCHOLOGY

Gene Scientists Plan Aggression Drug

David Adam, The Guardian (20-Jul-04)

Researchers report that there is enough known about how genes influence behaviour in animals to consider designing human medicines to fight the rising tide of antisocial behaviour.

http://www.guardian.co.uk/uk_news/story/0,3604,1264938,00.html

PULMONARY/ RESPIRATORY DISEASES

Asthma

Evelyn B. Kelly, Modern Drug Discovery (01-Jul-04)

Using knowledge of cellular and genetic pathways, biotechnology has created new products targeting asthma-related receptors. Disease is expected to grow to 400 million sufferers by 2020.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i07/pdf/704diseases.pdf>

REPRODUCTION

More Evidence that Pregnant Women Need Folic Acid

Cheryl Simon Silver, Genome News Network (09-Jul-04)

About 60% of Europeans and 50% of North Americans carrying either one or two copies of the gene variant C677T are at increased risk for having a neural tube defect such as spina bifida. Folic acid cuts in half the risk of giving birth to such a child.

<http://www.genomenetwork.org/articles/2004/07/09/folicacid.php>

Penn State Research Reveals Role of Gene in Infertility

Hong Ma, Penn State (21-Jul-04)

Reports discovery that the gene RAD51 plays an essential role in the the process of recombining the genetic material in chromosomes during sexual reproduction in plants. Defects in this process can cause a fetus to have abnormal numbers of chromosomes

<http://live.psu.edu/story/7477>

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