



BioTechCircle News®

February, 2004

In this issue:

- Links to 50 Web articles in 13 areas of interest to the biotech community covering 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 e-mails**): 68 gene-related patents issued and 247 patent applications posted in January, 2004. You may copy and paste the data into your own spreadsheet for further analysis.
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Links to 50 Web articles in 13 categories:

- 1) Agri-biotech (3 articles)
 - 2) Biobusiness Management (1 articles)
 - 3) Contract Services (1 article)
 - 4) Drug Delivery (1 article)
 - 5) Industry (8 articles)
 - 6) Investments/Gov. Support (1 article)
 - 7) Novel Applications (2 articles)
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 - 9) Platform Technologies (12 articles)
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 - 11) Strategic Relationships (1 article)
 - 12) Technology Management (2 articles)
 - 13) Therapeutic Category (13 articles)
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1)AGRIBIOTECH (3 articles)

CROPS

Monsanto: Ready to Blossom?

Amy Tsao, Business Week (February 6, 2004)

Monsanto is shifting its focus from farm chemicals to the more lucrative gene-altered seeds. Among the most promising are seeds that enhance water and nitrogen utilization and improve a plant's ability to withstand cold weather.

http://www.businessweek.com/bwdaily/dnflash/feb2004/nf2004023_6609_db014.htm

FOOD

Organic food contaminated with GM

Jim Giles, Nature (February 6, 2004)

A wide range of 'organic' food products on sale in the United Kingdom contain genetically modified (GM) ingredients, according to a study.

Some say the results could damage the credibility of organic products.

<http://www.nature.com/nsu/040202/040202-15.html>

REGULATORY/ GOVERNMENT

Confining Biotech Organisms

Bette Hileman, Chemical & Engineering News (January 26, 2004)

Reports study finding that although many biotech organisms present no risk, some plants, such as those producing pharmaceuticals, and transgenic insects and salmon could breed or compete with wild relatives and pose risks to humans or ecosystems.

<http://pubs.acs.org/cen/topstory/8204/8204notw8.html>

2)BIO-BUSINESS MANAGEMENT (1 article)

MARKET RESEARCH

Hit or Miss

Mark S. Lesney, Modern Drug Discovery (February 1, 2004)

Finding information on the Web requires the right search engine, the right strategy, and a bit of luck. Lesney explains how to get the most out of searches and lists sources for biomedical Web resources.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i02/pdf/204sites.pdf>

3) CONTRACT SERVICES (1 article)

INDUSTRY, GENERAL

Outsourcing Outlook: An Overlooked Source of Services: Equipment Vendors

Jerold M. Martin, BioPharm International (January 1, 2004)

Martin suggests that biopharmaceutical companies may be overlooking the expertise of their process equipment suppliers, some of whom also provide consulting services for equipment documentation, process validation, automation, and compliance.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=83154>

4) DRUG DELIVERY (1 article)

PARENTERAL

Steroid-coated DNA Represents New Approach To Gene Delivery

University Of Pennsylvania, Science Daily (February 13, 2004)

Researchers have shown that a common anti-inflammatory steroid, wrapped around a strand of DNA, can prevent the immune responses commonly associated with gene-transfer techniques, making for more effective therapeutic gene delivery.

<http://www.sciencedaily.com/releases/2004/02/040212080959.htm>

5) INDUSTRY (8 articles)

GENERAL

Medicare Bill Boosts Coverage for Biotech Therapies

Jill Wechsler, BioPharm International (January 1, 2004)

Biotech manufacturers stand to gain from a number of less-noticed provisions in the bill that revise how Medicare calculates reimbursement for covered drugs and biologics.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=83124>

An Upstart's Take on Biotech's Ills

Lisa Miller, Business Week (February 9, 2004)

Dan Adams of Protein Sciences doesn't mince words. His industry's biggest flaw, he says, is that it's "horrendously managed by egomaniacs."

http://www.businessweek.com/smallbiz/content/feb2004/sb2004029_9806_sb013.htm

Biotech Rides a Bull into 2004

Rick Mullin, Chemical & Engineering News (January 12, 2004)

According to the Biotechnology Industry Organization (BIO), FDA approved 25 new biotech drugs in 2003, an increase of 25% over 2002. Looks at the industry's momentum going into 2004.

<http://pubs.acs.org/cen/topstory/8202/8202notw4.html>

Biotech Not the Savior Some Had Expected

Sharon Simonson. Silicon Valley/san Jose Business Journal (February 13,2004)
Reports rising vacancy rates of biotech R&D facilities in Northern California. Mergers and acquisitions, and resulting consolidation are some factors. Good deals on subleased space is attractive for smaller and start-up biotech companies.

<http://sanjose.bizjournals.com/sanjose/stories/2004/02/16/story3.html>

GEOGRAPHIC FOCUS

Biotech's Sweet History

Carrie Mollatt, BioMedNet (January 27, 2004)

Mollet tells about a fermentation process developed over 25,000 years ago by Africa's bushmen that shares advanced technological principles with today's biotechnology.

<http://gateways.bmn.com/biotechnology/news?uid=NEWS.040128-1>

A Major Force in Biotechnology Sweden

Ylva Williams, BioPharm International (January 1, 2004)

Sweden's biotechnology sector has developed into one of Europe's strongest. Williams looks at Sweden's established biotech infrastructure and the presence of some major players already doing business there.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=82491>

Biotech Group Hunts Big-ticket Project

Heidi Dietrich, Puget Sound Business Journal (January 16, 2004)

Specialized, large-scale biotech facilities are being planned for the Seattle area, to be made possible through corporate, foreign, and federal funding.

<http://seattle.bizjournals.com/seattle/stories/2004/01/19/story4.html>

Ireland Launches Regenerative Medicine Research Center

Sabine Louet, Nature Bioentrepreneur (January 29, 2004)

The Irish government encourages innovation by supporting industry-academia partnerships in biotechnology. Academic teams at the new institute will receive funds only if they form partnerships with companies, however.

<http://www.nature.com/cgi-taf/Gateway.taf?g=6&file=/bioent/bioenews/012004/full/bioent792.html>

6) INVESTMENTS/GOV. SUPPORT (1 article)

VENTURE

Boutiques Reborn in 2003

Aparna Surendran, Nature Bioentrepreneur (February 5, 2004)

The biotechnology sector received over \$2 billion from venture capitalists (VC) in the second half of 2003, more than any other industry. The reemergence of small investment banks (called boutique firms) might increase initial public offerings (IPOs).

<http://www.nature.com/cgi-taf/Gateway.taf?g=6&file=/bioent/bioenews/022004/full/bioent793.html>

7) NOVEL APPLICATIONS (2 articles)

ENVIRONMENT

Iron Mountain's Champion Extremophiles

Kate Ruder, Genome News Network (February 6, 2004)

Scientists have sequenced the genomes of a small community of hearty microbes that lives in Iron Mountain, where a creek downstream of the mine in California contains some of the most acidic water ever measured.

http://www.genomenewsnetwork.org/articles/2004/02/06/iron_mtn.php

MISCELLANEOUS

Plants to Uncover Landmines

Laura Nelson, Nature (January 29, 2004)

Describes tests using a genetically engineered plant that detects landmines in soil by changing color. Some experts say there are already effective ways of dealing with landmines but there is a lack of political will to address the problem.

<http://www.nature.com/nsu/040126/040126-10.html>

8) ORGANIZATIONS (4 articles)

BIG PHARMA

Big Pharma Works on Productivity-But Is It Enough?

Jim Miller, Pharmaceutical Technology (February 1, 2004)

As major pharmaceutical companies focus more on operating efficiency instead of just product performance, the demand for development services is expected to grow. Improved productivity will establish higher benchmarks for CRO performance.

<http://www.pharmtech.com/pharmtech/data/articlestandard/pharmtech/072004/84569/article.pdf>

Pfizer: Weaving a New Thread into the Fabric of Discovery

Malorye A. Branca, Bio-IT World (January 30, 2004)

Branca discusses how genomics "part of the very fabric of discovery" at Pfizer, becoming more important downstream by helping the company select better compounds against its targets and fulfilling its dream of actually "managing health."

http://www.bio-itworld.com/news/013004_report4257.html

GlaxoSmithKline: Putting Genomics to Work Today

Malorye A. Branca, Bio-IT World (February 13, 2004)

When GlaxoWellcome and SmithKline Beecham joined in 2000, they created what is now the second-largest pharmaceutical company in the world. Branca tells about what is perhaps the single largest genomics drug discovery program in the world.

http://www.bio-itworld.com/news/021304_report4399.html

Priming the Pipeline

Rick Mullen, Chemical & Engineering News (February 16, 2004)

Major drug firms have marshaled new technologies and business practices in discovery and development. Company executives say that changing over to new technologies such as proteomics and genomics is causing a temporary slowdown in early-stage development.

<http://pubs.acs.org/cen/coverstory/8207/8207pharmabiz.html>

9) PLATFORM TECHNOLOGIES (13 articles)

BIOINFORMATICS

Exploring Data Mines Without Cave-Ins

Mark Greener, Genomics & Proteomics (February 3, 2004)

A failure in database architecture can ruin long, complicated and expensive experiments. Provides examples of systems developed by academia and industry are helping reduce the risk that database problems will ruin genomic and proteomic experiments.

<http://email.genpromag.com/cgi-bin7/DM/y/hXFF0Esulb0GI80jbo0AH>

CELL THERAPY

Cellular U-Turn

Celia Henry, Chemical & Engineering News (January 5, 2004)

Discusses and illustrates how a synthetic small molecule, called reversine, can turn differentiated cells back into progenitor cells, representing a first step toward regenerative medicine.

<http://pubs.acs.org/cen/topstory/8201/8201notw1.html>

CLONING TECHNIQUES

The Ins and Outs of Human Cloning

Patricia O'Connell, Business Week (February 17, 2004)

Korean researchers' recent creation of embryos has reignited the debate about the procedure. Presents a guide to the scientific and ethical issues.

http://www.businessweek.com/technology/content/feb2004/tc20040217_6232_tc119.htm

DIAGNOSTIC TEST SYSTEMS

New Gene Discovery: Linked to Blood Vessel Formation

Cleveland Clinic (February 11, 2004)

Cleveland Clinic-led researchers identify gene regulating angiogenesis -- could lead to new treatments for cancer, ischemic heart disease, stroke and other conditions.

<http://www.clevelandclinic.org/newsletter/story.asp?type=Home+Page+Story&id=2214>

GENE THERAPY

One Dose of "Designer" Gene Therapy May Target Specific Body Area

American Heart Association (January 20, 2004)

Doctors may soon be able to inject gene therapy intravenously that travels to a specific part of the body. The new therapy based on redesigned adeno-associated virus (AAV) targets vascular endothelial cells, which line the inside of blood vessels.

<http://www.americanheart.org/presenter.jhtml?identifier=3018291>

GENOME SEQUENCE

Celera Human Genome Sequence Will Be Public

Edward R. Winstead, Genome News Network (February 6, 2004)

The human genome sequence created by Celera Genomics will be deposited in GenBank, the online DNA database funded by the U.S. National Institutes of Health.

<http://www.genomene.wsnetwork.org/articles/2004/02/06/celera.php>

GENOMICS

Scientists Report First Sequencing Of Environmental Genome

University of California - Berkeley, Bio.com (February 2, 2004)

Reports the first triumph of a field dubbed "environmental genomics," researchers having for the first time sequenced the genomes of the most abundant members of a community of organisms - not one at a time, but

simultaneously.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=131713586&page=1>

RNA Inner Workings Partly Unveiled In Stanford Study

Stanford University Medical Center, Bio.com (February 12, 2004)

In the world of molecules, DNA tends to get top billing at the expense of RNA, which is critical for turning DNA's genetic blueprint into working proteins. Presents insights into how the RNA molecule completes this task.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=133911535&page=1>

Yeast Mutations Offer Window Into Human Disease

McGill University, Science Daily (February 5, 2004)

Different combinations of genetic mutations may give rise to diverse human traits, including complex diseases such as schizophrenia. The study has sparked interest in developing techniques for mapping the genetic neighborhoods of more complex organisms.

<http://www.mcgill.ca/newswire/?ItemID=10318>

HIGH THROUGHPUT SCREENING

Sound Advice

Richard Ellson and Roeland Papen, Modern Drug Discovery (February 1, 2004)

Routine tests in genomics, proteomics, and drug discovery have been modified for high throughput. Reliable low-volume liquid handling has been elusive. Describes a liquid-handling method using sound energy to project sample droplets at small capillaries.

<http://pubs.acs.org/subscribe/journals/mdd/v07/i02/pdf/204toolbox.pdf>

PROTEOMICS

Protein Crystallization With Minimal Frustration

Genomics & Proteomics (January 20, 2004)

A new technique promises to take some of the frustration out of protein crystallization; it quickly identifies small regions within proteins that interfere with the proteins' ability to crystallize.

<http://email.genpromag.com/cgi-bin7/DM/y/hXFF0EsuIb0G180jkb0AD>

SNP

SNP Analysis Determines Origin of Mad Cow Case

Genomics & Proteomics (January 15, 2004)

The origin of the recent case of bovine spongiform encephalopathy (BSE), or mad cow disease, in the US was determined using MassArray technology from Sequenom Inc., in California. It confirmed results

obtained with more traditional DNA analysis.

<http://email.genpromag.com/cgi-bin7/DM/y/hXFF0EsuIb0G180jbm0AF>

10) RESEARCH TOOLS (1 article)

MISCELLANEOUS

Dividing and Conquering Protein Separation

Biocompare (January 26, 2004)

2-D gel electrophoresis is expanding the horizons of researchers needing to separate hundreds of thousands of proteins and pinpointing which may be the culprit for causing disease or the catalyst for some physiological process. Products reviewed.

<http://www.biocompare.com/spotlight.asp?id=175>

11) STRATEGIC RELATIONSHIPS (1 article)

COLLABORATION

Drug Giants Poised to Fund Local Biotech Companies

Angela Gonzales, The Business Journal Phoenix (February 13, 2004)

Today, every major drug manufacturer -- also known in the industry as "big pharma" -- are willing to work with small biotech firms that are creating promising medicines. Examples include Roche, AstraZeneca and Pfizer.

<http://phoenix.bizjournals.com/phoenix/stories/2004/02/16/story1.html>

12) TECHNOLOGY MANAGEMENT (2 articles)

BIOMANUFACTURING

Ramping Up and Ensuring Supply Capability for Biopharmaceuticals

Thomas L. McGurk, BioPharm International (January 1, 2004)

Biopharmaceuticals take longer to manufacture and require production operations that are more difficult to control. McGurk reviews issues such as the necessary interaction of capacity, yield, and reliability. Charts.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=82433>

PATENT/ INTELLECTUAL PROPERTY ISSUES

Patenting of Biotech Inventions in Europe: New Developments

Dr Martin Grund et al., Pharmedicalicensing (February 12, 2004)

Reviews the most relevant recent issues and legal developments under the European Patent Convention (EPC) in the field of biotechnology that are critical for obtaining patent protection in Europe, focusing on recent case law.

http://pharmalicensing.com/features/disp/1076575400_402b3ca84e68b

13) THERAPEUTIC CATEGORY (9 articles)

CARDIOLOGY/ VASCULAR DISEASES

Vitamin K Discovery Could Trigger New Heart Disease Treatments

Nutra Ingredients (February 5, 2004)

British researchers have identified the gene that controls the production of a protein essential for the action of vitamin K, which is necessary for the formation of a clot.

<http://www.nutraingredients.com/news/news-NG.asp?id=49655>

Gene Transfer Allows Mammals To Produce Heart-Healthy Fats

Massachusetts General Hospital, Bio.com, (February 4, 2004)

Many studies have confirmed that consumption of omega-3s can reduce the incidence and effects of cardiovascular disease. New research findings could lead to development of omega-3-rich meat, milk and eggs.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=132010857&page=1>

GERIATRICS

A Study of the Average Effect of the 3'apob-vntr Polymorphism on Lipidemic Parameters Could Explain Why the Short Alleles (<35 Repeats) Are Rare in Centenarians.

Sabrina Garasto et al., BioMed Central (February 9, 2004)

Studies on the genetics of human aging indicate that S alleles are unfavorable to longevity, while common in adults, thus indicating a protective role at middle age.

<http://www.biomedcentral.com/content/pdf/1471-2350-5-3.pdf>

IMMUNOLOGY/INFECTIOUS DISEASES

Advances in Antiretroviral Therapy -- Drug Discovery to Global Strategy

Douglas J. Ward, MD, Medscape (February 1, 2004)

Dr. Ward summarizes 4 presentations on where we are now, and where we need to go regarding antiretroviral drug development, made at the 11th Conference on Retroviruses and Opportunistic Infections.

<http://www.medscape.com/viewarticle/469246>

METABOLISM/OBESITY

Genetic Defect May Cause Type 2 Diabetes

Gary Gately, HealthDay (February 12, 2004)

New research suggests that an inherited defect that causes an energy shortage in the powerhouses of the body's cells may be a major factor in development of type 2 diabetes in children of parents with the disease.

<http://www.healthday.com/view.cfm?id=517434>

MISCELLANEOUS

Genetic, Cellular and Immune Approaches to Disease Therapy: Past and Future

Gary J Nabel, Medscape (February 13, 2004)

The 50th anniversary of the discovery of the structure of DNA was an opportunity to review the advances in immunology and molecular genetics and progress in recombinant DNA technology. Looks at progress in cellular, genetic and immune therapy of disease.

<http://www.medscape.com/viewarticle/468580>

MUSCULOSKELETAL

Study Raises Fears of Genetically Modified Athletes

New Scientist (February 17, 2004)

A study showing that gene therapy can make muscles respond much better to exercise has raised the prospect of genetically modified athletes. The research is aimed at developing treatments for diseases such as muscular dystrophy.

<http://www.newscientist.com/news/news.jsp?id=ns99994688>

ONCOLOGY

Targeting Cell Fusion As Possible Way To Repair Organs, Deliver Cancer Vaccines

Mayo Clinic, Science Daily (February 18, 2004)

Cancer researchers at Mayo Clinic have developed a way to biologically fuse living cells through the use of a genetically engineered cell membrane. The process, called "biofusion," could speed development of new tumor treatments and cancer vaccines.

<http://www.sciencedaily.com/releases/2004/02/040218074444.htm>

Engineering Meets Biology in Tackling Tumors

Randy Southerland, Atlantic Business Chronicle (February 13, 2004)

Describes programs at Georgia Tech ranging from the use of molecular beacons to diagnose pancreatic cancer to mathematical models that aid

the placement of radioactive seeds in the treatment of prostate cancer.
<http://www.bizjournals.com/atlanta/stories/2004/02/16/focus7.html>

Researchers Discover That A Virus Can Naturally Target And Kill Tumors

Daniel Meruelo, Ph.D, et al., NYU Medical Center (January 29, 2004)

Mosquitoes are notorious for their ability to spread disease, but in some cases they may prove to be beneficial. One mosquito-borne virus was found that automatically targets and kills tumor cells in mice, leaving healthy cells alone.

http://www.med.nyu.edu/communications/news/pr_37.html

PSYCHIATRY/PSYCHOLOGY

Drug Addiction, Learning Share Common Brain Protein

Wei-Dong Yao, Ph.D., Duke Med News (February 19, 2004)

Research findings suggest new genetic approaches for assessing an individual's susceptibility to drug addiction. They also illuminate the complex series of molecular events that underlie addiction.

<http://news.mc.duke.edu/news/article.php?id=7415>

The Addicted Brain

Eric J. Nestler and Robert C. Malenka, Scientific American (March 1, 2004)

Drug abuse produces long-term changes in the reward circuitry of the brain. Discusses how knowledge of the cellular and molecular details of these adaptations could lead to new treatments for the compulsive behaviors that underlie addiction

<http://www.sciam.com/article.cfm?articleID=0001E632-978A-1019-978A83414B7F0101>

PULMONARY/RESPIRATORY DISEASES

Genomic Changes Reveal Evolution Of SARS Virus

University of Chicago Medical Center, Bio.com (January 29, 2004)

Study of changes in the genetic make-up of the SARS virus has supported the evidence for the animal origins of SARS and to chart 3 phases of the virus's molecular evolution as it gradually adapted to human hosts, becoming more infectious over time.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=130820392&page=1>

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