



BioTechCircle News®

September, 2005

Quote of the month:

The National Institutes of Health anticipates spending \$150+ million over 5 years for the Pharmacogenetics Research Network (PGRN). The research should help tailor drug prescriptions to people's unique genetic make-ups.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14100004>

In this articles section: links to 43 free Web articles in 11 major categories.

The major categories are in alphabetical order and further subdivided to make it easy for you to locate news and developments in technology, the business and the markets in the life science areas of interest to you.

Note: if the links don't connect you directly, please copy and paste the entire URL into your web browser.

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BIOBUSINESS MANAGEMENT

Subcategory: Miscellaneous

Biosafety for Large-scale Operations Using Recombinant DNA

Enda Moran, Ph.D., Richard Fink, SM (NRM) BioPharm International 01-Sep-05

Reviews the evolution of biosafety practices and detail current industry regulations and approaches for treatment of waste from production operations using rDNA-derived expression systems.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=180348>

Subcategory: Patent/Intellectual Property Issues

International Patents and International Harmonization

Paul Sharer, J.D., Martina Simpkins, LL.M. BioPharm International 01-Sep-05

Discusses how and why protection of intellectual property rights plays a key role in bilateral trade negotiations among international partners.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=180351>

CONTRACT SERVICES

Subcategory: Miscellaneous

ROs and CMOs in Asia Offer a Growing Array of Outsourcing Opportunities for Motivated Biopharm Companies.

Jim Miller BioPharm International 01-Sep-05

Providers of discovery, clinical research, and active pharmaceutical ingredient (API) manufacturing services are leading the way in India and China.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=180347>

DIAGNOSTIC TOOLS

Subcategory: Miscellaneous

The Search for Cancer Diagnostic Markers: A Race Against Time
K. John Morrow, Jr., Ph.D. BioPharm International 01-Sep-05

Many cases of malignancy go undetected until long past the time of effective treatment because there are no effective diagnostic tests for cancer that are rapid, economical, highly specific, and highly sensitive.

Discusses "theragnostics."

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=180349>

Subcategory: Oncology

Nanowires Can Detect Molecular Signs of Cancer, Scientists Find
EurekAlert! 23-Sep-05

Molecular markers indicating the presence of cancer in the body are readily detected in blood scanned by special arrays of silicon nanowires. The devices also promise to pinpoint the exact type of cancer present.

http://www.eurekalert.org/pub_releases/2005-09/hu-ncd092305.php

INDUSTRY

Subcategory: Geographic focus

The United Kingdom: Leading the Global Competition for Biotech
James L. Kupferer, Jr., J. BioPharm International 01-Sep-05
Wood Hydrick

Tells how the UK has been successful in attracting investors and nurturing organic growth of start-up operations.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=180352>

Oregon Has Largest Percentage Increase for R&D Funding
Bizjournals.com 14-Sep-05

Over the period of 1998 to 2003, Oregon saw the largest percent change in its academic research and development expenditures funded by industry sources, according to research.

http://www.bizjournals.com/industries/health_care/biotechnology/2005/09/12/portland_daily1

INVESTMENTS/ GOV. SUPPORT

Subcategory: Geographic focus

Murdock Biotech Plan Valued at \$1B

Bizjournals.com

12-Sep-05

California financier David Murdock's plan for establishing a biotechnology research campus in Kannapolis could grow to a \$1 billion development that would create 5,000 jobs.

http://www.bizjournals.com/industries/health_care/biotechnology/2005/09/12/charlotte_daily

Subcategory: Personalized Medicine

NIH Renews Network Focused On How Genes Influence Drug

Bio.com

28-Sep-05

The National Institutes of Health anticipates spending \$150+ million over 5 years for the Pharmacogenetics Research Network (PGRN). The research should help tailor drug prescriptions to people's unique genetic make-ups.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14100004>

ORGANIZATIONS

Subcategory: Bio Pharma

Biotech Firm may Bring 250 Jobs to Valley

Business Journal of Phoenix

12-Sep-05

InNexus Biotechnology Inc., a Canadian biotech firm which develops drugs from naturally occurring proteins, is consolidating operations and moving to Phoenix to conduct clinical trials for its cancer and heart drugs.

http://www.bizjournals.com/industries/health_care/biotechnology/2005/09/12/phoenix_story1

PERSONALIZED MEDICINE

Subcategory: Diagnostic Test Systems

Using Microarrays to Detect Disease and Tailor Therapy

Rob Lipshutz

Pharmaceutical Discovery

01-Sep-05

As costs fall, diagnostic microarrays are migrating from the lab to the clinic, classifying diseases more precisely than ever before and opening the door to personalized medicine.

<http://www.pharmagenomicsonline.com/pharmagenomics/article/articleDetail.jsp?id=180275>

PLATFORM TECHNOLOGIES

Subcategory: Epigenetics

Clearing Jams In Copy Machinery

Bio.com

19-Sep-05

The replication machinery inside the cell's nucleus is made up of a collection of enzymes including DNA polymerases, sliding clamps and clamp loaders. The beta sliding clamp serves as a toolbelt from which the correct proteins are retrieved.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=13800013>

Subcategory: Lab-on-a-chip/ DNA Chips/

A History of DNA Microarrays

Tom A. van de Goor

Pharmaceutical Discovery

01-Sep-05

Whether certain genes are active or not can be measured using microarrays, which can probe tens of thousands of genes simultaneously. What is the technology behind these arrays? How can one put that many features in such a small space?

<http://www.pharmagenomicsonline.com/pharmagenomics/article/articleDetail.jsp?id=180277>

Subcategory: Nanotechnology

Purdue Scientists Treat Cancer with RNA Nanotechnology

Purdue News

14-Sep-05

Using strands of genetic material, scientists have constructed tiny delivery vehicles that can carry anticancer therapeutic agents directly to infected cells, offering a potential wealth of new treatments for chronic diseases.

<http://news.uns.purdue.edu/UNS/html4ever/2005/050914.Guo.nanoparticles.html>

Subcategory: Proteomics

Structure of Protein That Powers Cell Movement Solved

Bio.com

14-Sep-05

Scientists have combined the power of several techniques including X-ray crystallography, resonance energy transfer and molecular modeling to obtain a three-dimensional, atomic resolution structure of the neck region of myosin V.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=13700041>

Computer Modeling Reveals Hidden Conversations Within Cells

Bio.com

15-Sep-05

Reports computational approach considered to be the first step toward developing drugs that interfere with one of the pathological functions of the proteins, but leave the healthy functions intact.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=13700053>

Researchers Create Functioning Artificial Proteins Using Nature's

Bio.com

21-Sep-05

Scientists have now employed a set of simple "rules" to create artificial proteins that look and function just like their natural counterparts.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=13900012>

Mysterious Molecules Begin to Yield Their Secrets

Bio.com

13-Sep-05

Researchers have discovered a way to screen hundreds and potentially thousands of "noncoding" RNA molecules to discover their functions within cells.

<http://www.bio.com/realm/features.jhtml?realmId=1&cid=13700028>

RESEARCH ADVANCEMENTS

Subcategory: Epigenetics

Embryonic Stem Cells Accrue Genetic Changes

Bio.com

04-Sep-05

Researchers have discovered that human embryonic stem cell lines accumulate changes in their genetic material over time. This indicates the need to closely monitor stem cell lines for genetic changes.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=13600074>

Subcategory: Genome Sequence

Researchers Predict Infinite Genomes

Bio.com

22-Sep-05

Scientists have concluded that researchers might never fully describe some bacteria and viruses because their genomes are infinite. Sequence one strain of the species, and scientists continually will find significant new genes.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=13900025>

Subcategory: Genomics

Noise And Delays Explain Why Some Genes Oscillate In Activity

Bio.com 30-Sep-05
Given that the coupling of 24-hour biological rhythms and the external environment can be crucial in the survival of an organism, scientists have found that synchronization of noisy genetic oscillations with the day-night cycle may be important.
<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14100042>

Subcategory: Immunology/ Infectious Diseases

Study Holds Promise for New Way to Fight HIV
EurekAlert! 01-Sep-05
A study found that the subset of HIV-infected patients referred to as long-term survivors or nonprogressors have higher amounts of a key enzyme, APOBEC-3G (A3G), in their white blood cells.
http://www.eurekalert.org/pub_releases/2005-09/uorm-shp090105.php

Johns Hopkins Researchers Discover Key Protein Linked to Transverse Myelitis and Multiple Sclerosis
EurekAlert! 23-Sep-05
Research findings offer a possible mechanism responsible for demyelinating disorders, such as TM and MS, and may aid in the development of effective therapies against these disorders.
http://www.eurekalert.org/pub_releases/2005-09/jhmi-jhr092205.php

Scientist Discover New Immune Mechanism
HealthDay 20-Sep-05
Cells use tiny tunnels to communicate during inflammatory response. The discovery of this previously unknown cellular communication mechanism may explain why the immune system can respond so quickly to threats.
<http://www.healthday.com/view.cfm?id=528009>

Subcategory: Neurology

Down's Syndrome Recreated in Mice
BBC News 22-Sep-05
Scientists have been able to introduce most of a human chromosome into mice, producing the most successful recreation of Down's syndrome so far.
<http://news.bbc.co.uk/2/hi/health/4268226.stm>

Animal Model Of Parkinson's Reveals Striking Sensitivity To Common Environmental Toxins
Bio.com 06-Sep-05

Researchers have found new evidence that loss of DJ-1, a gene known to be linked to inherited Parkinson's disease, leads to striking sensitivity to the herbicide paraquat and the insecticide rotenone.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=13600081>

Study Points to Molecular Origin of Neurodegenerative Disorders, Including Huntington's Disease

EurekAlert!

23-Sep-05

Nine neurodegenerative diseases, collectively known as polyglutamine diseases, share an abnormal deposit of proteins inside nerve cells. This deposition of protein results from a kind of genetic stutter within the cell's nucleus.

http://www.eurekalert.org/pub_releases/2005-09/uonc-spt092305.php

UCSF Study Points to Link to Neurodegenerative Disease Target

EurekAlert!

01-Sep-05

A study has found that a specific signaling link between neurons and muscles in the fruit fly is essential for keeping the insect's nervous system stable. The research points to the potential for identifying new drug targets.

http://www.eurekalert.org/pub_releases/2005-09/uoc--usp090105.php

Research Provides First Whole Genome Map of Genetic Variability in Parkinson's Disease

EurekAlert!

12-Sep-05

New research highlights changes in 12 genes that may increase the risk for Parkinson's disease in some people, representing one of the first large-scale whole genome association studies of any disease.

http://www.eurekalert.org/pub_releases/2005-09/mc-rpf091205.php

Subcategory: Oncology

Breast Cancer Gene Risk for Men

BBC News

01-Sep-05

Researchers say they have begun to understand how a breast cancer gene poses a risk to men. Men with BRCA2 have double the risk of prostate cancer. Two genes - called BRCA1 and 2, increase the risk of breast and other cancers in both men and women.

<http://news.bbc.co.uk/1/hi/health/4198578.stm>

Penn Researchers Discover A Molecular Pathway That Leads to Recurrence of Breast Cancer

- Penn Medicine
- 19-Sep-05
- Research has shown that Snail, a molecule normally important in embryonic development, can promote breast cancer recurrence. High Snail expression predicts more rapid tumor recurrence in women who have been treated for breast cancer.
- http://www.uphs.upenn.edu/news/News_Releases/sep05/brstrcrpth.htm
- Researchers Discover Why Melanoma Is So Malignant**
- Bio.com
- 04-Sep-05
- Unlike other cancers, melanoma is born with its metastatic engines fully revved. Central to this reawakened process is a gene called Slug.
- <http://www.bio.com/realm/research.jhtml?realmId=1&cid=13600075>
- Cancer Vaccine under Development Using Synthetic Protein**
- EurekAlert!
- 26-Sep-05
- Synthetic peptides accurately mimic naturally-occurring peptides, and could be used to stimulate an immune response to tumor cells. Researchers believe the vaccine could be applicable to a range of cancers, including breast, ovarian and bladder cancer.
- http://www.eurekalert.org/pub_releases/2005-09/ra-cvu092505.php
- Cancer Drug Target Chk1 May Also Be Source of Drug Resistance**
- EurekAlert!
- 02-Sep-05
- A cell-cycle checkpoint protein may play crucial roles in both the hampering of therapeutic actions and aiding cancer cells to "recover" and start dividing again after treatment with chemotherapy agent camptothecin (CPT) drugs.
- http://www.eurekalert.org/pub_releases/2005-09/bi-cdt090105.php
- Novel Test May Improve Prostate Cancer Diagnosis**
- HealthDay
- 21-Sep-05
- A new test that looks at the immune system's response to prostate cancer is better at diagnosing the malignancy than the current standard, the prostate-specific antigen (PSA) test, a new study says. 93% accuracy vs. 80%.
- <http://www.healthday.com/view.cfm?id=528098>
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RESEARCH TOOLS

Subcategory: Computing Systems

Blue Gene Used to Examine Dewetting in Protein Folding

Bio-IT World

07-Sep-05

Researchers studied what is called the dewetting process associated with the folding of a melittin protein tetramer in water. The focus of the simulations was to look at variations in the folding process under different conditions.

<http://www.bio-itworld.com/newsitems/2005/sept2005/09-07-05-news-blue-gene>

Conference Details UK e-Science Progress

Bio-IT World

21-Sep-05

Reports on large-scale IT systems to analyze data over the Internet for scientists in a range of fields. Grids are used to compute large masses of data, including middleware issues, virtual research environments and text and data mining.

<http://www.bio-itworld.com/newsitems/2005/sept2005/09-21-05-escience>

Subcategory: Evolution Research

New Insights Into The Software Of Life

Bio.com

02-Sep-05

Data revealing indications of the molecular basis of evolution shows that in mammals each individual gene uses multiple different mechanisms to produce different forms of protein. In a sense, each 'gene' is actually multiple different genes.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=13600071>

Subcategory: Genome Sequence

Scientists Map Chimpanzee Genome

HealthDay

31-Aug-05

A rough draft of the genome of the chimpanzee, the closest evolutionary relative to humans, shows human DNA differs by just 3%, but that gap is already yielding scientific clues.

<http://www.healthday.com/view.cfm?id=527723>

Subcategory: Genomics

Mammalian Transcriptome Mapped, and It Makes Antisense

Bio.com

01-Sep-05

Researchers report the results of a massive multi-year project to map the mammalian "transcriptome." Its complete mapping gives scientists major insights into how our genome works.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=13600118>

Subcategory: Lab-on-a-chip/ DNA Chips/

The Importance of Introducing Gene Expression Analysis Into Pharmacological Development

Joseph Monforte

Pharmaceutical Discovery

01-Sep-05

Evolving technologies for gene expression analysis offer a compromise between high cost microarrays and restrictive single-endpoint screens, such as quantitative multiplexed PCR techniques.

<http://www.pharmagenomicsonline.com/pharmagenomics/article/articleDetail.jsp?id=180273>

Subcategory: Proteomics

Proteomics Tool Revolutionizes Disease Diagnosis

Bio-IT World

24-Aug-05

Reports on a new tool that has slashed data processing times. Analysis of proteins and their peptides that previously took several weeks can now be completed in minutes, they say, with use for proteomics, disease diagnosis, and drug discovery.

<http://www.bio-itworld.com/newsitems/2005/Aug2005/08-24-05-news-proteomics>

STRATEGIC RELATIONSHIPS

Subcategory: Miscellaneous

The Cost of Not Collaborating on Pre-competitive Issues in the Healthcare Space Could Be Staggering.

Ernst Berndt

BioPharm International

01-Sep-05

Explores how collaborative approaches are required due to the trend of significantly increased and changing roles for information technology in the drug development and post-launch surveillance processes.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=180355>

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