



BioTechCircle News®

October, 2005

Quote of the month:

Lawmakers say they can help spur research and development in biotechnology by removing barriers to the federal tax code, enabling new biotechnology companies to claim net operating losses as tax deductions.

http://www.bizjournals.com/pittsburgh/stories/2005/10/17/daily26.html?from_rss=1

In this articles section: links to 56 free Web articles in 10 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.

Here are the major categories and the page where each category starts:

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AGRI-BIOTECH

Subcategory: Crops

Plant Genes Identified That Can Form Basis For Crops Better Adapted To Environmental Conditions

Bio.com

25-Oct-05

Scientists have analyzed a complete plant genome in order to identify the genes that are essential for the formation of capillary roots, unraveling the genetic basis for the key to a plant's further growth and development.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14300019>

BIOBUSINESS MANAGEMENT

Subcategory: Computing Systems

Advances in Technology and Methodology May Bring Compliant EDM Systems to the Masses.

Daniel Hahn

BioPharm International

01-Oct-05

Hahn reviews 4th generation compliant electronic document management (EDM) systems.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=187657>

Subcategory: Government/ Approvals

Pa. Lawmakers Unveil Biotech Measure

Pittsburgh Business Times

21-Oct-05

Lawmakers say they can help spur research and development in biotechnology by removing barriers to the federal tax code, enabling new biotechnology companies to claim net operating losses as tax deductions.

http://www.bizjournals.com/pittsburgh/stories/2005/10/17/daily26.html?from_rss=1

CLINICAL TRIALS

Subcategory: Government/ Approvals

Janssen Pharmaceutica and Medidata Solutions Join forces to Institute

Louis Pozzo, Glen de Vries Applied Clinical Trials 01-Oct-05
The FDA has published white papers explaining and endorsing a concept called eSourcing: capturing clinical data electronically at the "source"—patient diaries and case report forms (CRFs).

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=183075>

Subcategory: Miscellaneous

From Spam to Adverse Events

Paul Bleicher Applied Clinical Trials 01-Oct-05
Bleicher says understanding spam, and the ways we deal with spam, can help understand how to identify and manage problematic adverse events in large, untidy databases of spontaneously reported data, deepen our understanding of trial probabilities.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=182772>

DRUG DELIVERY

Subcategory: Gene Therapy

Hype and Hope: The Halting Progress of Gene Delivery

Bill Schu Genomics & Proteomics 01-Oct-05
The methods used for delivering genes have diversified, but they still break down into two basic categories: viral and nonviral delivery. Schu looks at progress with both methods.

<http://www.genpromag.com/ShowPR.aspx?PUBCODE=018&ACCT=1800000100&ISSUE=0510&RELTYPE=PR&ORIGRELTYPE=GPF&PRODCODE=00000000&PRODLETT=G>

INDUSTRY

Subcategory: Bio Pharma

The Centinent Biotech Top 10

The Centinent Biotech 17-Oct-05
Lists the Biotech Top 10 expected to significantly outperform the biotech segment.

<http://www.biospace.com/pdf/centientreport.pdf>

Subcategory: Geographic focus

Biotech Fever: Is it a Disease or a Cure-All?

Bizjournals.com

31-Oct-05

Areas that don't have an existing biotech infrastructure won't be able to compete on cost alone. They need "the political will and financial werewithal" to spend decades beefing up their medical research institutions and commercialization capacity.

http://www.bizjournals.com/industries/health_care/biotechnology/2005/10/31/stlouis_story2.

Stanford Sees Biotech Campus

Sharon Simonson

Bizjournals.com

24-Oct-05

Stanford University has bought 29 acres and nearly 550,000 square feet of older office/R&D property in Redwood City with the hope that the site will become a new biotech hub with links to Stanford faculty, researchers and students.

http://www.bizjournals.com/industries/health_care/biotechnology/2005/10/24/sanjose_story1.

Subcategory: Startups

Biotech Startups Struggle to Find Suitable Property

Bizjournals.com

24-Oct-05

Biotech startups have needs similar to other new firms, such as finding good space at prices they can afford. But they also have requirements unique to their industry as well. Tells of Boston-area company's experience.

http://www.bizjournals.com/industries/health_care/biotechnology/2005/10/24/boston_focus2.

Subcategory: Venture

Exit Strategies Put Biotech Firms Between Rock and a Hard Place

Daniel S. Levine

Bizjournals.com

31-Oct-05

Biotechnology companies have faced 2 choices: risk being ravaged by the public markets or become acquired. The result is that venture investors have been taking on private company risk and getting public market returns.

http://www.bizjournals.com/industries/health_care/biotechnology/2005/10/31/sanfrancisco_newscolumn7.html

INVESTMENTS/ GOV. SUPPORT

Subcategory: Nanotechnology

Cancer Nanotechnology Center to Be Established at UCSD

Bioscience Technology

06-Oct-05

Reports the establishment of a Center for Cancer Nanotechnology Excellence (CCNE), funded by a 5-year, \$20 million initiative to develop targeted anti-cancer therapies, specifically for leukemia and breast cancer.

<http://www.biosciencetechnology.com/ShowPR~PUBCODE~090~ACCT~9000000100~ISSUE~0510~RELTYPE~PR~ORIGRELTYPE~RLSN~PRODCODE~00000000~PRODLETT~D.htm>

Subcategory: Startups

Small Biotech Zelos to Depart Bay State for Phila.

Boston Business Journal

18-Oct-05

Zelos closed a \$9.7 million first round of venture funding in 2003 to help it begin clinical trials of its Ostabolin hormone compound to treat osteoporosis. The compound is based on more than a decade of research at Canada's National Research Council.

http://www.bizjournals.com/boston/stories/2005/10/17/daily39.html?from_rss=1

PLATFORM TECHNOLOGIES

Subcategory: Epigenetics

"Epigenetics" Means What We Eat, How We Live and Love, Alters How Our Genes Behave

Bio.com

25-Oct-05

Startling scientific discoveries illuminate the emerging field of epigenetics, in which single nutrients, toxins, behaviors or environmental exposures of any sort can silence or activate a gene without altering its genetic code in any way.

<http://www.bio.com/realms/research.jhtml?realmId=1&cid=14300030>

Subcategory: Evolution Research

Fitting in: Newly Evolved Genes Adopt A Variety Of Strategies To Remain In The Gene Pool

Bio.com

02-Oct-05

Of the 105 families of duplicated gene families involved in yeast metabolism, 34 demonstrated back-up function, 19 were involved in increased gene dosage, 18 exhibited regulatory functions, and 18 had evolved new, more specialized functions.

<http://www.bio.com/realms/research.jhtml?realmId=1&cid=14100045>

Subcategory: Misc. Medical Devices

- Researchers Find Multiple Proteins That Stick To Medical Devices**
Bio.com 05-Oct-05
Researchers identified many of the blood proteins that stick (adsorb) to the surfaces of medical devices, creating a variety of problems associated with heart-lung bypass, hemodialysis and the use of artificial vascular grafts.
<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14100092>
- Subcategory: Proteomics*
- Preparing The First 'Who's Who In Proteins'**
Bio.com 25-Oct-05
Proteins gone wrong cause most human diseases. Find these mutated proteins, scientists reason, and they are on the way to predicting who will get what disease.
<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14300032>
- Research Team Borrows Metal Tool For Protein Engineering**
Bio.com 25-Oct-05
By applying a computational technique for alloy design called cluster expansion, researchers were able to search through potential amino acid configurations up to 100 million times faster than with conventional techniques.
<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14300033>
- Yale Researchers Make Cell Biology Quantitative**
Bio.com 20-Oct-05
Researchers have reported a method to count the absolute number of individual protein molecules inside a living cell, and to measure accurately where they are located, two basic hurdles for studying biology quantitatively.
<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14100213>
- Scientists Learn To Predict Protein-Stabilizing Ability Of Small Molecules**
Bio.com 07-Oct-05
Osmolytes perform vital functions in many different locations in the human body, notably the kidneys and the brain. Scientists predict the ability of a variety of these small molecules to protect proteins in cells under stress.
<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14100103>
- Free-Energy Theory Borne Out In Large-Scale Protein Folding**
Bio.com 03-Oct-05

Simulating large-scale protein folding is too complex for even the most powerful supercomputer. In developing a theoretical approach,

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14100062>

Tapping the Potential of Proteins

Lori Valigra

Drug Discovery &

01-Oct-05

Biosensors, nanoparticles, and other new tools aim to examine more proteins simultaneously and provide protein-protein interaction and other functional data.

<http://www.ddmag.com/ShowPR.aspx?PUBCODE=016&ACCT=1600000100&ISSUE=0510&RELTYPE=PR&ORIGRELTYPE=GPF&PRODCODE=00000000&PRODLETT=S>

RESEARCH ADVANCEMENTS

Subcategory: Cardiology/ Vascular Diseases

Flea Protein May repair Arteries

BBC News

12-Oct-05

Resilin, a protein responsible for fleas' astonishing jumping power, may be used as a model for a technique which could actively restore elasticity to stiffening blood vessels.

<http://news.bbc.co.uk/1/hi/health/4334908.stm>

Scientists Discover Secret Behind Human Red Blood Cell's Amazing

University of California

21-Oct-05

Researchers describe a mathematical model explaining how a mesh-like protein skeleton gives a healthy human red blood cell its rubbery ability to stretch without breaking, and a potential mechanism to facilitate diffusion of oxygen across its membrane.

http://www.jacobsschool.ucsd.edu/news_events/releases/release.sfe?id=484

Subcategory: Gene Sequences

A New Roadmap for Genetics

Business Week

26-Oct-05

An international research group has published a catalog of human gene variations that promises to open dreamed-of realms of diagnosis and care.

http://www.businessweek.com/technology/content/oct2005/tc20051026_861912.htm

Subcategory: Geriatrics

Scientists Zero In On Memory-Related Proteins At The Core Of Alzheimer's Disease

Bio.com

18-Oct-05

The inability of Alzheimer's patients to remember events from a few days ago may be linked to the lack of proteins that strengthen the contact points, or synapses, between neurons in the brain, according to study findings.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14100196>

Anti-Aging Hormone Linked to Blood Calcium Regulation

HealthDay

20-Oct-05

Diseases such as osteoporosis occur when the calcium balance is negative. Klotho, found in cerebrospinal fluid, urine and blood, helps control blood calcium concentrations by regulating the amount of calcium allowed to enter cells.

<http://www.healthday.com/view.cfm?id=528622>

Subcategory: Immunology/ Infectious Diseases

New Gene Regulation Mechanism Discovered

EurekAlert!

20-Oct-05

Researchers have discovered a new kind of messenger RNA molecule that is converted from non-protein coding status to protein coding status in response to cellular stress such as viral infection. Illustration available upon request.

http://www.eurekalert.org/pub_releases/2005-10/cshl-ngr101205.php

Gene Profile Predicts Leukemia's Course

HealthDay

26-Oct-05

Researchers report that a group of 13 "microRNA" genes form a kind of signature that separates "bad" CLL from the less-virulent form of chronic lymphocytic leukemia.

<http://www.healthday.com/view.cfm?id=528751>

Subcategory: Metabolism: Obesity, Diabetes

UVa Researchers Show that a Natural Carbohydrate can Help Lower Blood Sugar

University of Virginia

26-Oct-05

A carbohydrate isolated from the liver lowers blood sugar levels after it is injected into diabetic rats. The findings could lead to new drugs to treat type 2 diabetes, the most common form of the disease.

http://www.healthsystem.virginia.edu/internet/news/Archives05/carb_lower_blood_sugar.cfm

Subcategory: Miscellaneous

Scientists Pinpoint Inflammation Gene

Biospace

09-Oct-05

Researchers have discovered that a specific gene on chromosome 15 regulates inflammation, a finding with implications for a wide range of disorders, including cancer, cardiovascular disease, diabetes, obesity, Alzheimer's, and infections.

http://www.biospace.com/news_story.cfm?StoryID=21387120&full=1

New Antifreeze Protein May Allow Longer Storage of Transplant Organs

Queen's University

21-Oct-05

Unlike the antifreeze proteins in beetles and moths, AFPs in snow fleas break down and lose their structure at higher temperatures. If used to store organs for transplants, they will be cleared from a person's system very quickly.

http://qnc.queensu.ca/story_loader.php?id=435803469f4c0

Genes May Help Some People Sleep Deeper Than Others

WebMDHealth

11-Oct-05

Researchers found people with a mutation on the adenosine deaminase gene had deeper, more intense sleep than people with the more common type of the gene. People with another genetic mutation responded differently to caffeine.

http://my.webmd.com/content/Article/113/110745.htm?z=1728_00000_1000_tn_09

Subcategory: Neurology

Zebrafish And CHIP Help Untangle Protein Misfolding In Brain

Bio.com

31-Oct-05

CHIP (C-terminal heat shock protein 70-interacting protein), links refolding of misshapen proteins and destruction of irreparably damaged proteins. Understanding and manipulating this pathway could lead to therapies for neurodegenerative diseases.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14400026>

Mayo Clinic Research Collaboration Discovers Why Some DNA Repair

EurekAlert!

03-Oct-05

By failing to initiate repair, the defective repair process mechanism may give rise to disabling inherited brain diseases such as Huntington's disease and some types of colon cancer.

http://www.eurekalert.org/pub_releases/2005-10/mc-mcr100305.php

Subcategory: Oncology

Single Gene 'Skin Cancer Cause'

BBC News

01-Oct-05

Researchers used gene chip array technology to identify the key skin cancer gene. There are over 200 different types of cancer and each one is caused by a handful of key genetic changes, which the technology will help in identifying.

<http://news.bbc.co.uk/1/hi/health/4297214.stm>

DNA Enzyme Shows Unexpected Acrobatic Flair

Bio.com

27-Oct-05

Researchers show that the helicase enzyme, which normally crawls along the length of a DNA strand during its function in replication and other processes, snaps back to its original position on the DNA strand when it encounters an obstacle.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=14400055>

Rhythm Gene Discovered

Bio.com

06-Oct-05

The gene that controls ultradian rhythms in worms is related to other genes that, when mutated, cause uncontrolled growth of mammalian cells. By learning how the gene works, researchers may learn a possible way to find new cancer drugs.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14200002>

Mayo Clinic Research Collaboration Discovers Why Some DNA Repair

Bio.com

03-Oct-05

Researchers have discovered the inner workings of a defective DNA repair process. This discovery may lead to ways of fixing the process to avoid Huntington's disease and some types of colon cancer.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14100056>

Double Trouble: Cells with Duplicate Genomes Can Trigger Tumors

EurekAlert!

12-Oct-05

In addition to extra chromosomes, the "double value" or "tetraploid" cells also duplicate a cell structure called the centrosome that plays a role in maintaining a stable genome. The extra centrosomes may be at the root of the cancer-triggering process.

http://www.eurekalert.org/pub_releases/2005-10/dci-dtc101205.php

A New Turn-on For Genes

EurekAlert!

21-Oct-05

Researchers discovered a special type of molecular structure, relevant to cell growth and cancer, that helps keep genes properly turned off until the structure is ejected from those genes in a regulated manner to help turn the genes on.

http://www.eurekalert.org/pub_releases/2005-10/uouh-ant102105.php

Novel Treatment Target for Deadly Brain Tumors Identified

EurekAlert!

30-Oct-05

Researchers found that glioblastoma cells have significantly increased levels of the protein EphA2 compared to normal cells – but it is in an inactive form. They believe that this inactive form of EphA2 aids in the survival and spread of cancer cells.

http://www.eurekalert.org/pub_releases/2005-10/wfub-ntt102405.php

Structure of Key Cancer Drug Target Identified

EurekAlert!

25-Oct-05

Researchers have determined the structure of the protein JAK2 kinase, a discovery with huge implications for the design and development of new cancer drugs.

http://www.eurekalert.org/pub_releases/2005-10/ra-sok102505.php

Stanford Study Reveals Protein's Jekyll-and-Hyde Role in Cancer

EurekAlert!

20-Oct-05

Though menin is a protein well-known for its ability to suppress endocrine tumors, researchers have discovered that it is also a key player in the development of some forms of acute leukemia, the first found to have such a dual role.

http://www.eurekalert.org/pub_releases/2005-10/sumc-ssr101805.php

Cabbage Fans less Likely to Develop Lung Cancer, Suggests Study

Nutra Ingredients

28-Oct-05

Weekly consumption of cruciferous vegetables had a 33% protective effect against lung cancer in people who had an inactive form of the the root of the cancer-triggering process.

<http://www.nutraingredients.com/news/ng.asp?n=63555-isothiocyanates-cabbage-cancer>

Restoring Silenced Suppressor Gene Kills Lung-cancer Cells

Ohio State University

17-Oct-05

Restoring the missing or silenced WWOX gene can slow or stop cells growth in a large majority of lung cancers, and in cancers of the breast, ovary, prostate, bladder, esophagus and pancreas.

<http://researchnews.osu.edu/archive/lunggene.htm>

Subcategory: Proteomics

Faster Method to Create Antibodies for Disease Research

EurekAlert!

06-Oct-05

Researchers looking at antibodies raised against simple peptide chains comprising just 5 amino acid residues and found that every one these bound only to the target protein.

http://www.eurekalert.org/pub_releases/2005-10/babs-fmt100605.php

Subcategory: Psychiatry/ Psychology

A Genome Wide Search For Genes Underlying Anxiety Disorders Turned Up Unexpected Candidates

Bio.com

31-Oct-05

Locally overexpressing either glyoxalase 1 or glutathione reductase 1 in mouse brains significantly increased anxiety in usually relaxed mice and made already jittery mice even more anxiety-ridden. Inhibition of glyoxalase 1 had the opposite effect.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14400023>

Subcategory: Reproduction

'Start of Life' Gene Discovered

BBC News

27-Oct-05

The HIRA gene is involved in the events necessary for the fertilisation that take place once a sperm enters an egg. Faults in this gene might explain why some couples struggle to get pregnant despite having healthy sperm.

<http://news.bbc.co.uk/1/hi/health/4377898.stm>

RESEARCH TOOLS

Subcategory: Computing Systems

Gene Expression Analysis Using Methods of Computational

Gary B. Fogel

Pharmaceutical Discovery

01-Oct-05

Fogel investigates the use of evolutionary computation and artificial neural networks for pattern recognition of microarray data. The combination of these methods holds promise for automated feature selection and data analysis.

<http://www.pharmagenomicsonline.com/pharmagenomics/article/articleDetail.jsp?id=187436>

Subcategory: Evolution Research

Faster Computation of Haplotypes Provides Insight into Genetic Basis of Human Disease

Bio.com

27-Oct-05

Many scientists believe that drilling down to the variations between individuals' DNA at the level of each chromosome, so-called haplotypes, will permit more accurate study of genetic differences and their consequences for medical research.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=14400003>

Flipped Genetic Sequences Illuminate Human Evolution and Disease

EurekAlert!

26-Oct-05

By comparing the human genome with that of the chimpanzee, researchers have discovered that large structural changes in the genome called inversions are hundreds of times more common in primates than previously thought.

http://www.eurekalert.org/pub_releases/2005-10/hhmi-fgs102505.php

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

Tiling Arrays Undergo Commercial Rebirth

Elizabeth Tolchin

Genomics & Proteomics

01-Oct-05

With the sequencing of the human genome complete, DNA tiling arrays are expanding to provide a more comprehensive understanding of transcriptional activity in the genome.

<http://www.genpromag.com/ShowPR.aspx?PUBCODE=018&ACCT=1800000100&ISSUE=0510&RELTYPE=PR&ORIGRELTYPE=MIC&PRODCODE=00000000&PRODLETT=E>

Subcategory: Miscellaneous

Scientific Societies Applaud New Milestone in Bringing Online Research to the Public

EurekAlert!

12-Oct-05

More than one million free full-text articles are available to non-subscribers from over 230 journals by publishers who participate in HighWire's Free Back Issues program. These articles can be accessed at <http://highwire.stanford.edu/lists/freeart.dtl>.

http://www.eurekalert.org/pub_releases/2005-10/dp-ssa101205.php

THERAPEUTIC CATEGORY

Subcategory: Oncology

Prof Develops Cancer Nanobomb

University of Delaware

13-Oct-05

Nanobomb may hold great promise as a therapeutic agent for killing cancer cells, with particular emphasis on breast cancer cells. Its shockwave also kills the biological pathways that carry instructions to generate additional cancerous cells.

<http://www.udel.edu/PR/UDaily/2005/mar/nanobomb101305.html>

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