



BioTechCircle News®

May, 2006

Quote of the month:

Worldwide, 5 billion people suffer from tooth decay. Researchers have discovered key molecules that can stimulate the production of antibodies that inhibit the enzyme that allows bacteria to accumulate on teeth.

http://www.forsyth.org/news_disp.asp?content_id=100535

In this articles section: links to 60 free Web articles in 13 major categories.

We've added a new category this month: Awards. This is to celebrate and highlight public recognition given to people, organizations and locations for their achievements in biotechnology.

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

Unique Soybean Lines Hold Promise for Producing Allergy-free

EurekaAlert!

04-May-06

Two Chinese soybean lines that grow without the primary protein linked to soy allergies in children and adults will be given away to breeders seeking to produce new varieties of allergy-free soybeans without genetic engineering.

http://www.eurekaalert.org/pub_releases/2006-05/uoia-usl050406.php

AWARDS

Subcategory: People

Behavioral Geneticist Wins Top US Medical Award

Voice of America News

28-Apr-06

Seymour Benzer, 84, known as the "father of neurogenetics," has won the US' top prize in medicine, the \$500,000 Albany Medical Center Prize in Medicine and Biomedical Research for his work in physics, molecular biology and behavioral biology.

<http://www.voanews.com/english/2006-04-28-voa56.cfm>

BIOBUSINESS MANAGEMENT

Subcategory: Collaboration

Best Practices in Demand and Inventory Planning

Chris Taunton, PhD,
Jonathan Feinbaum

BioPharm International

01-May-06

Managing the supply chain is critical to a pharmaceutical manufacturer's overall operations and to the bottom line.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=321960>

Subcategory: Government/ Approvals

FDA Outlines Critical Path Opportunities

Jill Wechsler Applied Clinical Trials 01-May-06

New analytical and diagnostic technologies are key to developing more accurate and predictive measures of how a test product may affect responses. A main Critical Path objective of the FDA is to encourage more productive research practices.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=324324>

Subcategory: Personnel Issues

Soft Skills

Ian Morrison Biospace 09-May-06

While hard skills will get an applicant an interview, a job seeker should keep in mind that the most important information they can convey to the interviewer in order to get the job is which soft skills they possess.

http://www.biospace.com/news_story.aspx?StoryID=18082&full=1

Subcategory: Project Management

Using a Risk-Based Approach From Discovery to Proof of Concept

James Murtagh Contract Pharma 01-Apr-06

Explains risk identification and assessment as a science- and knowledge-based decision-making tool for conducting a development program for a biotechnology-based therapy. Asks: what might go wrong, its likelihood of going wrong and the consequences.

<http://www.contractpharma.com/articles/2006/04/development-of-a-bioderived-drug.php>

CLINICAL TRIALS

Subcategory: Oncology

Oncology Clinical Development: Retooling for MTTs

Connie Wierman Applied Clinical Trials 02-May-06

Molecularly targeted therapies (MTTs) are causing rapidly changing oncology clinical trial design from the traditional approach seen for cytotoxic chemotherapeutics. The need for new trial designs will require flexibility with regard to cost drivers.

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=324332>

Subcategory: Regulatory/ Government

Challenging Times for Noncommercial Researchers

Elizabeth O'Doherty, Applied Clinical Trials 01-May-06
Nathan Clumeck

Concerns have been raised on the new administrative, legal, and

financial responsibilities facing sponsors of independent noncommercial clinical trials since legislation on clinical research was introduced across the 25 states in the European Union (EU).

<http://www.actmagazine.com/appliedclinicaltrials/article/articleDetail.jsp?id=324328>

CONTRACT SERVICES

Subcategory: Biomanufacturing

Outsourcing Bio-Production to Asia; Are attitudes changing?

Sandra Fox

Contract Pharma

01-Apr-06

Biopharmaceutical contract manufacturing is expected to grow as pricing pressures in biotechnology markets increase and companies seek access to Asian markets. Discusses benefits and drawbacks.

<http://www.contractpharma.com/articles/2006/04/outsourcing-bioproduction-to-asia.php>

DRUG DELIVERY

Subcategory: Immunology/ Infectious Diseases

A Boost to Vaccine Development: New Approach Provides Potent, Long-lasting Immunity

University of Pittsburgh

26-May-06

A single injection of the lentivector containing either a hepatitis B virus antigen, a melanoma tumor antigen, or a commonly studied model antigen induced a more potent and notably, long-lasting immune response compared to other immunization approaches.

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

Subcategory: Nanotechnology

World's Tiniest Test Tubes Get Teensiest Corks

University of Florida

10-May-06

Scientists have found a way to “cork” infinitesimally small nano test tubes. The goal is a better way to deliver drugs, for example, for cancer treatment.

<http://news.ufl.edu/2006/05/10/nanocork/>

INDUSTRY

Subcategory: Biomanufacturing

Regulatory Beat: FDA Encourages Innovation in Biotech Manufacturing and Product Development

PhD, Jan C. Verdoes, PhD

Filamentous fungi are widely used in industry to produce small-molecule metabolites such as antibiotics like penicillin, cholesterol-lowering drugs like Lovastatin, and food ingredients like citric acid. Describes how to maximize protein yields.

<http://www.biopharm-mag.com/biopharm/article/articleDetail.jsp?id=321958>

Subcategory: Cardiology/ Vascular Diseases

Nanotechnology Shows Early Promise to Treat Cardiovascular Disease

Bio.com

10-May-06

Researchers propose a way to combat clogged arteries by attacking how bad cholesterol triggers inflammation and causes plaque buildup at specific blood vessel sites: by employing nanoengineered molecules called "nanolipoblockers."

<http://www.bio.com/realm/research.jhtml?realmId=5&cid=19100060>

Subcategory: Cell Therapy

Study Shows Frogs Can Play Key Role in Stem Cell Research

Bio.com

15-May-06

The key protein in humans, called Oct4, which governs the process of unlimited division of stem cells, has an equivalent in the African clawed frog, called PouV.

<http://www.bio.com/realm/research.jhtml?realmId=4&cid=19100079>

New Research Demonstrates Bone-marrow Derived Stem Cells Can Reverse Genetic Kidney Disease

Medical News Today

26-Apr-06

Research offers the first example of how bone-marrow derived stem cells may be useful in repairing basement membrane matrix defects and restoring organ function.

<http://www.medicalnewstoday.com/medicalnews.php?newsid=42180&nfid=rssfeeds>

Subcategory: Drug Discovery

Biomarkers Key to Better Drugs

Richard Frank

Drug Discovery &

01-May-06

As biological indicators of disease status and progression, biomarkers represent powerful tools for monitoring the course of disease and gauging the effects of novel therapeutic agents.

<http://www.dddmag.com/ShowPR.aspx?PUBCODE=016&ACCT=1600000100&ISSUE=0605&RELTYPE=PR&ORIGRELTYPE=IIS&PRODCODE=00000000&PRODLETT=U>

In Chemical Genetics, A New Strategy Could Speed Drug Discovery

Fox Chase Cancer Center

21-Apr-06

Scientists describe a way to allow researchers to test thousands of small

drug-like molecules at once for a specific biological activity, such as inhibiting the cell movements that allow cancer cells to spread in the body.
<http://www.fccc.edu/news/2006/New-Strategy-Could-Speed-Drug-Discovery-04-21-06.html>

Subcategory: Genomics

Non-coding RNAs Help Silence the Mammalian Transcription

Bio.com

15-May-06

Reports new insight into the mechanism of genomic imprinting, the differential expression of a gene based upon which parent it has been inherited from. Implications for Prader-Willi and Angelman syndromes.

<http://www.bio.com/realms/research.jhtml?realmId=4&cid=19100078>

Scaled-Down Genome May Power Up E. Coli's Ability in Lab, Industry

University of Wisconsin - Madison

27-Apr-06

By stripping the E. coli genome of hundreds of apparently inconsequential genes, researchers say the result promises to make E. coli far more malleable for research and industrial use than it already is.

<http://www.news.wisc.edu/12515.html>

Subcategory: Miscellaneous

Cell, Heal Thyself: New Systems Biology Model Reveals How Cells Repair DNA Damage

University of California

18-May-06

Systems biology could be used eventually to develop drugs to boost DNA repair and possibly treat xeroderma pigmentosum, Werner syndrome, a premature aging disorder, as well as certain immune deficiencies and other degenerative diseases.

http://www.jacobsschool.ucsd.edu/news_events/releases/release.sfe?id=541

Subcategory: Nanotechnology

Nanotubes Used for First Time to Send Signals to Nerve Cells

Bio.com

08-May-06

Thin films of carbon nanotubes deposited on transparent plastic can serve as a surface on which cells can grow. They could potentially serve as an electrical interface between living tissue and prosthetic devices or biomedical instruments.

<http://www.bio.com/realms/research.jhtml?realmId=4&cid=19100031>

A Biosensor Layered Like Lasagna

Bio.com

01-May-06

Scientists have used electrostatic attraction to layer reactive biological molecules lasagna-like around spaghetti-like carbon nanotubes. Applications include ultra-precise blood-sugar monitoring and infectious-agent detection.

<http://www.bio.com/realms/research.jhtml?realmId=5&cid=18900055>

Scientists Create the First Synthetic Nanoscale Fractal Molecule

Ohio University

11-May-06

Scientists used molecular self-assembly techniques to synthesize the largest man-made fractal molecule at the nanoscale level in the laboratory. The molecule's image was captured with a scanning tunneling microscope.

<http://news.research.ohiou.edu/news/index.php?item=298>

Subcategory: Neurology

Research Shows How Visual Stimulation Turns Up Genes to Shape the Brain

Harvard Medical School

01-May-06

Brains need neural activity to mature; that sensory input is most important during a specific window of time (the "critical period") when the brain is primed for aggressive learning. Study takes holistic view of genes in neural development and plasticity.

http://web.med.harvard.edu/sites/RELEASES/html/5_1Shatz.html

Subcategory: Proteomics

Researchers Find Protein That Silences Genes

Washington University in

04-May-06

The protein HDA6 has been identified as an important player in nucleolar dominance, in which one parental set of ribosomal genes in a hybrid is silenced. Applications may include understanding tumor suppressor genes.

<http://news-info.wustl.edu/tips/page/normal/7109.html>

Subcategory: Tissue Engineering

MIT Method Allows 3-D Study of Cell Tissue Organization

Massachusetts Institute of Technology

24-Apr-06

Bioengineers have devised a new technique that makes it possible to learn more about how cells are organized in tissues and potentially even to regrow cells for repairing areas of the body damaged by disease, accidents or aging.

<http://web.mit.edu/newsoffice/2006/3d.html>

RESEARCH ADVANCEMENTS

Subcategory: Cardiology/ Vascular Diseases

Whole-genome Study at Johns Hopkins Reveals a New Gene Associated with Abnormal Heart Rhythm

Johns Hopkins Medicine

30-Apr-06

Researchers have identified a gene called NOS1AP that may predispose some people, through the so-called QT interval length, to abnormal heart rhythms that lead to sudden cardiac death.

http://www.hopkinsmedicine.org/Press_releases/2006/04_30_06.html

Subcategory: Disease Prevention

Research Highlights Possibility of Halting Dental Caries Epidemic

The Forsyth Institute

25-May-06

Worldwide, 5 billion people suffer from tooth decay. Researchers have discovered key molecules that can stimulate the production of antibodies that inhibit the enzyme that allows bacteria to accumulate on teeth.

http://www.forsyth.org/news_disp.asp?content_id=100535

Subcategory: Immunology/ Infectious Diseases

New Method Designed to Analyze One of the Most Complex Regions of the Human Genome: The Genes that Regulate the Immune System

Fred Hutchinson Cancer Research Center 21-Apr-06

The method may have the potential of being an efficient way to map genes in the MHC (Major Histocompatibility Complex) that are responsible for many human diseases, and might also be useful in studying other gene complexes that have a lot of variability.

http://www.fhrc.org/about/ne/news/2006/04/21/genome_analysis.html

Subcategory: Metabolism: Obesity, Diabetes

Mouse Tail Discovery Challenges Laws of Heredity

CBC News

26-May-06

Lab mice sporting spotted tails seem to inherit the effects of a mutant gene through means other than DNA transmission, a finding that could help explain some forms of diabetes.

<http://www.cbc.ca/story/science/national/2006/05/24/mouse-rna.html?ref=rss>

Eat Less, Weigh More? Enzyme Makes Lean Mice “Susceptible” to Dietary Fat

Johns Hopkins Medicine

01-May-06

The CPT1c gene protects against weight gain caused by a high-fat diet. So-called knockout mice lacking the CPT1c gene gain more weight than their littermates carrying normal copies of the gene.

http://www.hopkinsmedicine.org/Press_releases/2006/05_01_06.HTML

Jefferson Scientists Uncover Lethal Gene Mutation Key to Blocking Cholesterol Processing

Thomas Jefferson University Hospital

18-Apr-06

Scientists found abnormalities in the Golgi apparatus of mutant zebrafish, which holds newly made or recycled proteins that help with fat metabolism and transport. <http://www.jefferson.edu/news/index.cfm?artid=2006/article11916.html>

Subcategory: Musculoskeletal

Purdue Researchers Find 'Switch' for Skeletal-Muscle Atrophy

Purdue News

24-May-06

Researchers found that atrophy of skeletal muscle in mice could be inhibited with both gene therapy and drug treatment using astemizole, an antihistamine. Drug treatment allowed muscle to retain 97% of its original fiber size in the face of atrophy.

<http://news.uns.purdue.edu/UNS/html4ever/2006/060524.Pond.atrophy.html>

Subcategory: Nephrology/ Urology

U-M Scientists Find Genetic Cause of Multiple Birth Defects Affecting Kidneys, Eyes and Other Organs

University of Michigan

08-May-06

Study of NPHP (nephronophthisis) genes suggests that tiny hair-like projections called cilia, found on the surface of cells throughout the body, could be the key to congenital diseases affecting the kidneys and many other organs.

<http://www.med.umich.edu/opm/newspage/2006/nphp.htm>

Subcategory: Neurology

Buck Study Provides a Startling New Look at Alzheimer's

Buck Institute for Age

24-Apr-06

Scientists have blocked a newly discovered molecular pathway that they believe is a critical determinant in the development of Alzheimer's. They believe the symptoms of Alzheimer's develop when the molecular switch gets stuck in the reverse position.

<http://www.buckinstitute.org/Main.aspx?id=1239>

Factor Isolated That Regenerates Nerve Fibers

Children's Hospital

14-May-06

Scientists have discovered a naturally occurring growth factor that stimulates regeneration of injured nerve fibers (axons) in the central nervous system. The previously unrecognized growth factor is called oncomodulin.

<http://www.childrenshospital.org/newsroom/Site1339/mainpageS1339P1sublevel206.html>

Scientists Discover Possible Link Between Oxidative Stress and Non-hereditary Degenerative Disease

EurekaAlert!

27-Apr-06

Scientists report that the protein DJ-1 is oxidatively damaged in non-hereditary (sporadic) Parkinson's disease, which is 90% of cases. Abnormalities in DJ-1 have been found to directly cause hereditary

(familial) Parkinson's disease.

http://www.eurekalert.org/pub_releases/2006-04/euhs-sdp042706.php

Feinstein Researchers Identify Intelligence Gene

North Shore LIJ Health

28-Apr-06

The dysbindin-1 gene (DTNBP1), previously demonstrated to be associated with schizophrenia, may also be linked to lower general cognitive ability.

<http://www.northshorelij.com/body.cfm?id=15&action=detail&ref=796>

Study Of Tiny Worms On Micro-Sized Chips Sheds Light On How Memories Are Formed In The Brain

Science Daily

16-May-06

Reseachers are using an intricate micro chip with stimulus delivery systems to decipher what new sensory information is triggering which neurons that then produce proper behavior and form worm memory as a result.

<http://www.sciencedaily.com/releases/2006/05/060515231914.htm>

New Findings Help Pinpoint Autism's Genetic Roots

Univ. of Texas

03-May-06

By deleting a gene in certain parts of the brain, researchers have created mice that show deficits in social interaction that are reminiscent of humans with autism spectrum disorders.

<http://www8.utsouthwestern.edu/utsw/cda/dept37389/files/289145.html>

Subcategory: Oncology

Targeted Virus Compels Cancer Cells to Eat Themselves

Bio.com

02-May-06

The modified adenovirus homed in on malignant glioma cells in mice and induced enough self-cannibalization among the cancer cells -- a process called autophagy -- to reduce tumor size and extend survival.

<http://www.bio.com/realm/research.jhtml?realmId=5&cid=18900086>

Weizmann Institute Scientists Discover a Molecular Security Mechanism for Keeping Mutations in Check

Bio.com

04-May-06

The body's solution to minimizing mutations is to have no fewer than 10 different "careless" enzymes, each of which is tailored to deal with certain specific types of DNA damage. This specialization keeps the level of mutation and the cancer risk low.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=19100005>

Research Reveals Control of Potent Immune Regulator

Ohio State University

23-May-06

New research shows how production of a potent immune regulator, interferon gamma (IFNg), might help harness the cancer-killing ability of NK [natural killer] cells to control tumor growth and lead to new treatments that complement current cancer therapy.

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

Researchers Make Vitamin E Offshoot a Potent Cancer Killer

Ohio State University

23-May-06

Research findings show how vitamin E succinate, or alpha tocopheryl succinate, kills cancer cells by causing them to undergo programmed cell death, or apoptosis. The antitumor activity is found to be separate from its antioxidant effect.

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

Search For Cancer Genes Unlikely To Succeed, Say Experts

Science Daily

11-May-06

"The search for common cancer susceptibility genes faces...methodological and practical challenges for cancer prevention, given the small chance that such genetic variants exist and the difficulty and expense of proving substantial clinical benefit..."

<http://www.sciencedaily.com/releases/2006/05/060512102604.htm>

Subcategory: Ophthalmology

UF Scientists Restore Sight to Chickens with Blinding Disease

University of Florida

23-May-06

Scientists have delivered a gene through an eggshell to give sight to a type of chicken normally born blind. A similar treatment may be developed for an incurable form of childhood blindness.

<http://www.news.health.ufl.edu/story.asp?ID=3934>

Subcategory: Otolaryngology

Researchers Learn More about Ways to Regenerate the Ear's Hearing

EurekaAlert!

28-Apr-06

Once damaged, hair cells do not naturally regenerate in mammals, and their death accounts for most types of acquired hearing loss.

Researchers found that mature hair cells can go through the cell cycle and produce new, functioning hair cells.

http://www.eurekaalert.org/pub_releases/2006-04/mgh-rlm042806.php

Subcategory: Wound/Tissue Repair

Mutation in Deafness Gene Can Help Heal Wounds and Prevent Infection

Bio.com

08-May-06

The gene (GJB2) produces a protein called Cx26 which is the most common cause of genetic deafness. The mutation appears to affect the ability of cells to communicate with each other in the epidermis, thus

offering a potential treatment of wounds.
<http://www.bio.com/realm/research.jhtml?realmId=4&cid=19100028>

RESEARCH TOOLS

Subcategory: Computing Systems

NYU Algorithm Enhances Ability to Detect Cancer Genes

Bio.com

09-May-06

The algorithm uses data from Affymetrix's gene-chips that scan hundreds of patients' genomes to find gains and losses in gene-copies. Future uses: finding good biomarkers, drug discovery, disease diagnosis, and choosing correct therapeutic intervention.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=19100044>

Integrating Transcriptomics and Proteomics

Eric Chan

Genomics & Proteomics

01-Apr-06

Expression analyses and molecular biological studies contribute to a systems-level understanding of host response. Explains how new analytical software tools can help.

<http://www.genpromag.com/ShowPR.aspx?PUBCODE=018&ACCT=1800000100&ISSUE=0604&RELTYPE=PR&ORIGRELTYPE=CHO&PRODCODE=00000000&PRODLETT=Z>

Subcategory: Databases

Scientists Develop ENDEAVOUR -- A Computer Program for Identifying Disease Genes

Flanders Interuniversity

08-May-06

Drawing on various databases, ENDEAVOUR gathers all the data about genes that are known to be connected with a disease or a biological process and integrates these data into a mathematical model.

http://www.vib.be/NR/rdonlyres/E462481A-964F-4AED-9E87-3EBDA5E76AC6/0/080506steinaertsENG_website.pdf

Subcategory: Imaging

Embryos Exposed in 3-D

EurekAlert!

04-May-06

Explains use of computer visualization techniques, known as "microCT-based virtual histology," to convert X-ray CT scans of mouse embryos into detailed 3-D images showing both the mouse's exterior and interior.

http://www.eurekalert.org/pub_releases/2006-05/uou-eei050406.php

Subcategory: Miscellaneous

Top Journal Launches Health Site

British Medical Journal

09-May-06

In association with Clinical Evidence, BestTreatments claims to be the only website that rates thousands of health and medical treatments, based on how well they work. No outside advertising. Evidence-based research in jargon-free terms.

<http://www.besttreatments.co.uk/btuk/home.jsp>

Subcategory: Oncology

New Hybrid Virus Provides Targeted Molecular Imaging of Cancer

The Univ. of Texas MD

21-Apr-06

A new class of hybrid virus is potentially an important step in making human cancer both more visible and accessible to treatment; it may also allow prediction and monitoring of how specific anti-cancer agents are actually working.

<http://www.mdanderson.org/departments/newsroom/display.cfm?id=AE5D96EA-41F1-481F-AEEF5F82DC2985BD&method=displayFull&pn=00c8a30f-c468-11d4-80fb00508b603a14>

STRATEGIC RELATIONSHIPS

Subcategory: Collaboration

Collaboration Can Advance Pharmacogenomics

Bill Schu

Genomics & Proteomics

01-Apr-06

Advances in genomics, molecular biology, and bioinformatics are converging to form an environment rich for pharmacogenomic discoveries. The problem, says Schu, has been the lack of any systematic involvement from the major pharmaceutical companies.

<http://www.genpromag.com/ShowPR.aspx?PUBCODE=018&ACCT=1800000100&ISSUE=0604&RELTYPE=PR&ORIGRELTYPE=GPF&PRODCODE=00000000&PRODLETT=AJ>

THERAPEUTIC CATEGORY

Subcategory: Metabolism: Obesity, Diabetes

New Way to Treat Obesity Heralded

BBC News

26-Apr-06

Boosting oxyntomodulin, a hormone found naturally in the stomach, limits appetite and raises activity levels at the same time - leading to speedy but healthy weight loss rates, a UK study suggests.

<http://news.bbc.co.uk/1/hi/health/4946574.stm>

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