



BioTechCircle News®

September, 2006

Favorite article in September:

Researchers have found a way to treat chronic pain from an injury or arthritis using menthol, the cooling ingredient in mint, and icilin, a synthetic cooling compound. Findings may point to therapeutic interventions that are less invasive.

<http://pubs.acs.org/cen/news/84/i36/8436cooling.html>

In this articles section: links to 55 free Web articles in 13 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:

Agri-Biotech (1 article) – Page 2
Biobusiness Management (5 articles) – Page 2
Contract Services (1 article) – Page 3
Drug Delivery (1 article) – Page 3
Industry (3 articles) – Page 3
Investments/Government Support (4 articles) – Page 4
Novel Applications (3 articles) – Page 5
Personalized Medicine (2 articles) – Page 6
Platform Technologies (11 articles) – Page 6
Research Advancements (15 articles) – Page 8

Research Tools (6 articles) – Page 11
Strategic Relationships (1 article) – Page 13
Therapeutic Category (2 articles) – Page 13

AGRI-BIOTECH

Subcategory: Nanotechnology

Agrifood Nanotechnology Research and Development

Nanotechproject

01-Sep-06

The project on emerging nanotechnologies has released its report describing the applications, benefits, and risks of nanotechnology used in agriculture and food. Links to download the report and database.

<http://www.nanotechproject.org/50>

BIOBUSINESS MANAGEMENT

Subcategory: Government/ Approvals

U.K. Biotech Industry Gets New Guidelines

Chemical & Engineering News

11-Sep-06

Among the document's main points is that information about a product in R&D should be "fair and accurate, without material omission" and that company communications containing scientific terms should include definitions used consistently over time.

<http://pubs.acs.org/cen/news/84/i37/8437notw5.html>

Subcategory: M&A Activities

Major Pharma, Biotech, and Related Agreements

Pharma DD

01-Sep-06

Table of major pharma, biotech and related agreements for the period of June 8 through July 31, 2006.

http://www.pharmaceuticaldiscovery.com/archives/Sept%202006/images/0906PDD_dealMakers

Subcategory: Nanotechnology

UK Launches Nanotechnology Reporting Scheme to "Assess Risks"

Ahmed ElAmin and Kirsty in-Pharma Technologist
Barnes

27-Sep-06

Concerns are being raised over the unknown consequences of digesting or injecting nano-scale particles designed to behave in specific way in the body. Discusses the UK government's voluntary reporting scheme to assess potential risks.

<http://www.in-pharmatechnologist.com/news/ng.asp?id=70866>

Subcategory: Personnel Issues

Companies Help Schools Produce Bio-Hires

San Francisco Business

04-Sep-06

Describes an award-winning, widely copied job-training program to build biotechnology's employment pipeline.

<http://www.bizjournals.com/sanfrancisco/stories/2006/09/04/focus3.html?b=1157342400^1339>

Subcategory: Regulatory/ Government

'Cascade of Liability' to Drive Pharma RFID Absorption

Gregory Roumeliotis

in-Pharma Technologist

21-Sep-06

Manufacturers are pushing radiofrequency identification (RFID) by holding distributors of their products accountable for errors when tags exist on their products, but distributors are reluctant because of the equipment and logistics cost.

<http://www.in-pharmatechnologist.com/news/ng.asp?id=70709>

CONTRACT SERVICES

Subcategory: Biomanufacturing

Boom Time for Bio-outsourcing

in-Pharma Technologist

11-Sep-06

Reports that as the bio-outsourcing market hits boom time, the number of contract biomanufacturing organizations (CBMOs) that specialize in the production of biopharma products, is rapidly expanding.

<http://www.in-pharmatechnologist.com/news/ng.asp?id=70433>

DRUG DELIVERY

Subcategory: General

Research Shows How Ultrasound Can Deliver Therapeutic Molecules into Living Cells

Bio.com

05-Sep-06

Researchers have shown how ultrasound energy can briefly "open a door" in the protective outer membranes of living cells to allow entry of drugs and other therapeutic molecules that cannot readily move through cell membranes.

<http://www.bio.com/realm/research.jhtml?realmId=4&cid=21400086>

INDUSTRY

Subcategory: Geographic focus

India's Surging Biotech Sector

Investor Ideas

05-Sep-06

The Indian biotechnology industry was estimated at \$1.05 billion in 2005, growing almost 37%. Although currently contributing to just about 1% of the global Biotechnology industry, it is projected to achieve a share of almost 10% over the next 5 years.

<http://www.indiastockmarket.com/IiI/News/090506.asp>

Subcategory: Miscellaneous

Molecular Frontiers Foundation Tackles Chemistry's Image Problem

Chemical & Engineering News

06-Sep-06

The institute will center on the molecular perspective but will include a wider scope than usually associated with chemistry, including environment and pollution, biotechnology and medicine, the molecular basis of biology, and computational chemistry.

<http://pubs.acs.org/cen/news/84/i37/8437chemistry.html>

RFID Penetration in Pharmaceuticals 'Rapid'

in-Pharma Technologist

05-Sep-06

The market for radiofrequency identification (RFID) tags in healthcare is predicted to explode from \$90m in 2006 to \$2.1bn in 2016, driven by the item level tagging of drugs and the growing appeal of "smart packaging."

<http://www.in-pharmatechnologist.com/news/ng.asp?id=70276>

INVESTMENTS/ GOV. SUPPORT

Subcategory: Geographic focus

State, Feds Announce \$1.2M in Biopharma Grants

Centre Daily

06-Sep-06

The money will pay for training grants at companies throughout New Jersey, with a focus primarily on small- to medium-sized companies where employees often perform a variety of duties. The program also will focus on continuing education.

<http://www.centredaily.com/mld/centredaily/business/15453311.htm>

Subcategory: Oncology

Researchers Get \$100m to Study Cancer Genetics

Boston Globe

22-Sep-06

One of the largest ever gifts for cancer research is going to the Broad Institute of the Massachusetts Institute of Technology and Harvard and

four New York research centers to study the genetics of cancer.
http://www.boston.com/news/local/massachusetts/articles/2006/09/22/researchers_get_100m_to_study_cancer_genetics/

National Institutes of Health to Map Genomic Changes of Lung, Brain and Ovarian Cancers

NIH Journals link

13-Sep-06

The pilot project will test the feasibility of using large-scale genome analysis technologies to determine all of the important genomic changes involved in selected cancers. Findings will indicate whether broader application is possible.

<http://www.genome.gov/19518105>

Subcategory: Research Labs

State Board Paves Way for Scripps' Campus Construction

Palm Beach Post

12-Sep-06

Reports on Florida's \$310 million investment in the Scripps Research Institute's plan for construction of the biotech research institute's permanent campus in Jupiter, Florida.

<http://www.palmbeachpost.com/business/content/business/epaper/2006/09/12/0912scripps.htm>

NOVEL APPLICATIONS

Subcategory: Environment

Metagenomic Analysis of Two Enhanced Biological Phosphorus Removal (EBPR) Sludge Communities

Nature Biotechnology

24-Sep-06

EBPR is a treatment process in which microorganisms remove Pi from wastewater by accumulating it inside their cells as polyphosphate.

<http://www.nature.com/nbt/journal/vaop/ncurrent/full/nbt1247.html>

Subcategory: Industry, general

Virginia Tech Chemists Create New Polymers by Adding DNA Base

Bio.com

12-Sep-06

Base pairs are the nucleotides on each side of the rungs that connect the strands of the DNA ladder, e.g. adenine pairs with thymine. Polymers with added base pairs show improved stretchable behavior and self-healing polymer films and coatings.

<http://www.bio.com/realm/research.jhtml?realmId=5&cid=21700059>

Subcategory: Miscellaneous

Getting Bacteria To Do The Work

Sarah Everts

Chemical & Engineering News

04-Sep-06

Researchers in Japan have created a micromotor powered entirely by bacteria. It's a spinning device that successfully integrates inorganic materials with living bacteria and might be used to drive a pump on a microchip or in electronic generator systems.

<http://pubs.acs.org/cen/news/84/i36/8436notw4.html>

PERSONALIZED MEDICINE

Subcategory: Oncology

Genome Code Cracked for Breast and Colon Cancers

Johns Hopkins Medicine

07-Sep-06

Research gives some understanding of why breast and colon cancers, and most likely other cancers, are very different diseases and develop through different processes. "Each cancer has a different blueprint...No two patients are identical."

<http://www.hopkinskimmelcancercenter.org/news/index.cfm?documentid=816&newstype=News%20Releases&action=showthisitem>

Synthetic Molecule Causes Cancer Cells to Self-destruct

University of Illinois at Urbana

28-Aug-06

When activated, procaspase-3 changes into the executioner enzyme caspase-3 and initiates programmed cell death. Patients could be selected for treatment based on the amount of procaspase-3 found in their tumor cells.

<http://www.news.uiuc.edu/news/06/0828cancer.html>

PLATFORM TECHNOLOGIES

Subcategory: Assay Systems

Tagging Based On Molecular Logic

Michael Freemantle

Chemical & Engineering News

11-Sep-06

Fluorescence-based molecular logic gates can be used to generate millions of distinct tags for encoding nano- and microscale objects, with application in split-and-mix peptide library synthesis and amino acid sequence determination.

<http://pubs.acs.org/cen/news/84/i37/8437notw4.html>

Subcategory: Drug Discovery

Solution to Bacterial Mystery Promises New Drugs

St Jude Children's Hospital

30-Aug-06

Current textbooks reportedly use the wrong type of bacterium as a model to explain a critical biochemical step that most disease-causing bacteria use to make their membranes, as researchers identify a step that is not used by humans.

http://www.stjude.org/media/0,2561,453_4187_21504,00.html

Subcategory: Evolution Research

Rodent's Bizarre Traits Deepen Mystery of Genetics, Evolution

Bio.com

14-Sep-06

The vole, a mouselike rodent, is not only the fastest evolving mammal, but also the number of their chromosomes ranges from 17-64 and other strange traits. Despite genetic variation, all voles look alike.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=21800003>

Subcategory: Genomics

Structure Determined for Key Molecular Complex Involved in Long-term Gene Storage

Bio.com

18-Sep-06

The human genome has developed a set of sophisticated mechanisms for keeping selected genes readily available for use while other genes are kept securely stored away. Researchers have determined the 3-D structure of a long-term storage complex.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=21800020>

Subcategory: High Throughput Screening

HTS: Halfway There?

Patrick McGee, Senior

Drug Discovery & Development

01-Sep-06

Reviews criticisms and advances in high-throughput screening (HTS) and its role in the drug discovery and development process. Tables listing drug candidates in the clinic or on the market that have been derived from HTS.

<http://www.ddmag.com/ShowPR.aspx?PUBCODE=016&ACCT=1600000100&ISSUE=0609&RELTYPE=CVS&PRODCODE=00000000&PRODLETT=V>

Subcategory: Oncology

Scientists Uncover Critical Step in DNA Mutation

Georgia Institute of Technology

23-Aug-06

Scientists have discovered the mechanism by which water reacts with the guanine of the ionized DNA caused by free radicals. This knowledge could be critical to the development of strategies for cancer prevention and treatment.

<http://www.gatech.edu/news-room/release.php?id=1106>

Subcategory: Proteomics

Scientists Discover an Essential Nucleus-building Protein

Bio.com

05-Sep-06

Scientists have discovered a protein, MEL-28, that plays a crucial role in the assembly and structure of the nucleus and is one of the key architects as bits of membrane and proteins are drawn together to build new nuclear envelopes.

<http://www.bio.com/realms/research.jhtml?realmId=2&cid=21400083>

Protein Folding: Building a Strong Foundation

Bio.com

14-Sep-06

Computational modeling study showing protein parts that fold first are also the most stable could help design synthetic proteins with a particular shape and help associate the shape and function of naturally occurring proteins.

<http://www.bio.com/realms/research.jhtml?realmId=2&cid=21700085>

Engineer Ramps Up Protein Production, Develops Versatile Viral Spheres

Bio.com

13-Sep-06

Discuss advances in "cell-free" protein synthesis, including production of versatile, nanoscale viral spheres that can act as delivery trucks for a new class of potentially more effective vaccines.

<http://www.bio.com/realms/research.jhtml?realmId=2&cid=21700084>

Glycosylation Engineering

Stu Borman

Chemical & Engineering News

04-Sep-06

Reviews programs to control the glycosylation of a protein or natural product. How sugars are attached can make it possible to tailor biomolecular structure, folding, stability, immunogenicity, uptake, distribution, target recognition and others.

<http://pubs.acs.org/cen/coverstory/84/8436glycosylation.html>

Cornell and Scripps Researchers Cite Evidence Supporting Theory of How Proteins Fold into Their Critical Shapes

Krishna Ramanujan

Cornell University

31-Aug-06

An ability to predict how and where proteins fold could lead to understanding such protein misfolding diseases as Alzheimer's and cystic fibrosis, designing drugs that act on proteins and even creating designer proteins with new functions.

<http://www.news.cornell.edu/stories/Aug06/ProteinFoldingScheraga.kr.html>

RESEARCH ADVANCEMENTS

Subcategory: Cardiology/ Vascular Diseases

Mutation Plays Key Role In Hypertension

EurekAlert!

13-Sep-06

A gene mutation of myosin, a key enzyme that regulates smooth muscle contraction and blood pressure in rats, has been identified by researchers. May lead to improved treatments for hypertension.

http://www.eurekalert.org/pub_releases/2006-09/uoia-mpk091306.php

Subcategory: Immunology/ Infectious Diseases

The Sweet Science: Viruses Switch Grip to Gain Upper Hand

Bio.com

13-Sep-06

By changing which carbohydrates they attach to, viruses are able to infect cells more efficiently. Finding may prove valuable to scientists seeking ways to fight cancer or brain diseases and helps explain how flu stays ahead of our defenses.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=21700083>

Subcategory: Musculoskeletal

Toxic Molecule May Cause Most Common Type of Muscular Dystrophy

University of Virginia

24-Aug-06

Researchers have shown for the first time that getting rid of RNA with CTG repeats in muscle cells can reverse myotonic dystrophy, the most common type of muscular dystrophy in adults.

<http://www.healthsystem.virginia.edu/internet/news/archives06/muscular-dystrophy.cfm>

Subcategory: Neurology

SUNY Downstate Scientists Discover Memory Molecule

SUNY Downstate Medical

24-Aug-06

An enzyme molecule called “protein kinase M zeta” has been found to preserve long-term memories. Findings may be useful for the treatment of disorders such as neuropathic pain, phantom limb syndrome, dystonia, and post-traumatic stress.

http://www.downstate.edu/newsroom/news%20releases/2006/news_releases_full116.html

Healing Potential Discovered in Everyday Human Brain Cells

University of Florida

16-Aug-06

Scientists describe how they used mature human brain cells taken from epilepsy patients to generate new brain tissue in mice.

<http://news.ufl.edu/2006/08/16/cell-cycle/>

Subcategory: Oncology

Researchers Image Molecular Motor Structural Changes

Bio.com

14-Sep-06

Molecular motors are responsible for dividing genetic material during cell division, and understanding how motors work in cancer cells, which undergo unchecked cellular division, might lead to new anticancer therapies.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=21800005>

UCSF Researchers Challenge Paradigm of How a "Tumor Suppressor" Works

Bio.com

09-Sep-06

Research has shown that the role of p53 in protecting against cancer is independent of its role of inducing apoptosis in cells with DNA damage. Thus, the good and the bad result from different processes within cells.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=21700016>

Who Gives Stem Cells Their Marching Orders?

Bio.com

05-Sep-06

Researchers have shown that a protein factor called Nodal is responsible for 2 seemingly contradictory activities: maintaining stem cells after the embryo has implanted and later providing cues to direct their differentiation.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=21400064>

Two-faced Protein Can Stop Metastasis or Promote It

Bio.com

18-Sep-06

The protein p120 catenin, known to be a key component of the glue that holds cells together also is involved in breaking them apart and promoting their movement when tumors begin to spread to other parts of the body, say researchers.

<http://www.bio.com/realm/research.jhtml?realmId=2&cid=21800023>

Study Uncovers Mechanism of Drug Resistance in Form of Lung Cancer

EurekaAlert!

05-Sep-06

Researchers have demonstrated that a mutated gene T790M, so scarce it can't be detected with some standard screening equipment, is often responsible for the loss of effectiveness of front-line drugs against non-small cell lung cancer.

http://www.eurekaalert.org/pub_releases/2006-09/dci-sum090506.php

Using Nature's Most Primitive Anti-viral Defense System to Find New Approaches to Cancer Research

EurekaAlert!

08-Sep-06

By combining the benefits of Drosophila RNAi screens with the functional analysis in human cell culture models of metastasis, researchers hope to identify novel, conserved proteins which could prove to be good anti-cancer drug targets.

http://www.eurekaalert.org/pub_releases/2006-09/lifc-unm090606.php

New Target for Cancer Therapy Identified

Monash University

20-Sep-06

Researchers have identified two proteins, Smad3 and c-Myc, that are involved in stopping a gene from producing a protein called telomerase that is essential if cancer cells are to proliferate.

<http://www.monash.edu.au/news/newsline/story/1015>

Clue Found to Epstein-Barr Virus' Ability to Form and Sustain Tumors

University of Wisconsin

05-Sep-06

Researchers found that when they blocked activity of a critical segment of a viral protein required to sustain Epstein-Barr virus (EBV)-related tumors, the virus life cycle was broken.

<http://www.news.wisc.edu/12833.html>

Subcategory: Ophthalmology

Nano Neuro-Knitting

Bruce Wilson

Drug Discovery & Development

01-Sep-06

Researchers are using nanotech tools to study areas such as neural regeneration of the optic nerve, as well as into ophthalmic genetics.

<http://www.ddmag.com/ShowPR.aspx?PUBCODE=090&ACCT=160000100&ISSUE=0609&RELTYPE=ST&PRODCODE=00000000&PRODLETT=AU>

Subcategory: Otolaryngology

Bacteria Get off Easy in Sinus Infections

EurekAlert!

15-Sep-06

Researchers have evidence that curbed activity from human beta defensin 2 (HBD2) and mannose binding lectin (MBL) on the inner lining of the nose are linked to chronic sinusitis that fails to respond to the usual current treatments.

http://www.eurekalert.org/pub_releases/2006-09/jhmi-bgo091306.php

RESEARCH TOOLS

Subcategory: Biomarker

Clinical Proteomics Study Design

Charlotte Clarke, PhD, and

Drug Discovery & Development

01-Sep-06

Eric T. Fung, MD, PhD

Clinical proteomics attempts to provide either diagnostic or therapeutic solutions with the hypothesis that protein biomarkers can address these clinical needs. Reviews progress. Chart of CIPHERgen approach to biomarker discovery and assay development.

<http://www.ddmag.com/ShowPR.aspx?PUBCODE=016&ACCT=160000100&ISSUE=0608&RELTYPE=TR&PRODCODE=00000000&PRODLETT=AJ>

Subcategory: Databases

Hopkins Develops Online Tool to Aid Research on Certain “Orphan Diseases”

Johns Hopkins Medicine

28-Aug-06

Researchers have compiled and made available on the Web a database of all genes known to contribute to cilia operations in the body, important for addressing Bardet-Biedl, Alstrom and Meckel-Gruber syndromes and other diseases.

http://www.hopkinsmedicine.org/Press_releases/2006/08_28_06.html

Subcategory: Evolution Research

Genetic Surprise Confirms Neglected 70-Year-Old Evolutionary Theory

Bio.com

07-Sep-06

The beginnings of speciation, suggest researchers, can be triggered by genes that change their locations in a genome...in this case the gene causing hybrid sterility when *Drosophila melanogaster* and *Drosophila simulans* are brought together.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=21700033>

Subcategory: Imaging

Watching DNA Repair in Real Time

Bio.com

20-Sep-06

By repeatedly dipping the same piece of DNA into the fluorescent channel, researchers could see molecules of an enzyme called RecA clusters of 4 to 5 molecules on the DNA. Gives new insights into how genetic material is copied and repaired.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=21900040>

Subcategory: Immunology/ Infectious Diseases

International Team Analyzes Human Genetic Variation in Key Immune Region

Bio.com

25-Sep-06

Reports on a detailed map of human genetic variation within the major histocompatibility complex (MHC), the most important region of the human genome encoding the human response to infection, autoimmune disease and organ transplantation.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=22100001>

Subcategory: Mouse/ Rat Models

NIH Launches Knockout Mouse Project

Bio.com

07-Sep-06

The goal of this program is to build a comprehensive and publicly available resource of knockout mutations in the mouse genome.

<http://www.bio.com/realm/research.jhtml?realmId=1&cid=21700020>

STRATEGIC RELATIONSHIPS

Subcategory: M&A Activities

Big Pharma Launches into RNAi

Rabiya S. Tuma, Ph.D.

Pharma DD

01-Sep-06

Following several major advances in the RNAi field, including the first clinical data and evidence from animal studies that systemic delivery is possible, large companies don't want to miss the opportunity as

Abbott, Merck and others are doing deals.

<http://www.pharmaceuticaldiscovery.com/archives/Sept%202006/DM%20%20Big%20Pharma%20Launches.asp>

THERAPEUTIC CATEGORY

Subcategory: Metabolism: Obesity, Diabetes

Eating Protein Boosts Hormone that Staves Off Hunger

Bio.com

05-Sep-06

The amount of a hunger-fighting hormone known as peptide YY (PYY) can be increased by eating a higher protein diet, researchers report.

<http://www.bio.com/realms/research.jhtml?realmId=2&cid=21400063>

Subcategory: Pain Management

Cooling Compounds Conquer Chronic Pain

Sophie L. Rovner

Chemical & Engineering News

04-Sep-06

Researchers have found a way to treat chronic pain from an injury or arthritis using menthol, the cooling ingredient in mint, and icilin, a synthetic cooling compound. Findings may point to therapeutic interventions that are less invasive.

<http://pubs.acs.org/cen/news/84/i36/8436cooling.html>

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