

# **FREE** BioSciTech BiWeekly Newsletter *15 May 2026 (Issue 49)*

**SELECTION  
FROM THE PAST  
TWO WEEKS**



***Hottest News In Biotech, BioResearch, Pharma, BioHealth  
Highly Selected Research Papers  
Best Recommended Events and Job Offers.***



## NEWS & COMMENTARIES



### **Our Mentor, Prof. Pierre Chambon, a pioneer in molecular biology, has died**

The former professor at the Collège de France, who had amassed brilliant distinctions and more than 900 publications, was also an "institution builder." He passed away on Thursday, May 7, at the age of 95. Pierre Chambon, a pioneer in molecular biology and genetics, died on Thursday, May 7, at the age of 95. The Strasbourg native, born in Mulhouse, a former professor at the Collège de France, where he held the chair of molecular genetics, "largely contributed to revolutionizing the fields of embryonic development, endocrinology, metabolism and their disorders, opening new perspectives for drug discovery and interesting applications in biotechnology and medicine," wrote the University of Strasbourg, where he was professor emeritus, online.

[https://www.lemonde.fr/disparitions/article/2026/05/08/pierre-chambon-pionnier-de-la-biologie-moleculaire-est-mort\\_6687102\\_3382.html](https://www.lemonde.fr/disparitions/article/2026/05/08/pierre-chambon-pionnier-de-la-biologie-moleculaire-est-mort_6687102_3382.html)



### **Algerian Success Story: World Mathematical Champion**

Hailing from Tiaret, a young Algerian girl has dazzled the world. Manar Ben Mastoura, a mental math prodigy, captivated the jury of a prestigious talent competition in Russia. Composed, quick, and precise, she solved the most complex equations with astonishing ease. Already ranked fourth in the world in Germany, she now proudly represents Algeria on both the national team and the "Hope" team.

One thing is certain: our country is brimming with talent. Well done, Manar, you make us proud

[https://www.youtube.com/shorts/LU\\_FPCMhqFg](https://www.youtube.com/shorts/LU_FPCMhqFg)

## NEWS & COMMENTARIES

### FDA has approved VEPPANU™ (vepedgestrant)



### FDA approves vepdegestrant for ER-positive, HER2-negative, ESR1-mutated advanced or metastatic breast cancer

Efficacy was evaluated in VERITAC-2 (NCT05654623), a randomized, open-label, active-controlled, multicenter trial in 624 adults with ER-positive, HER2-negative, advanced or metastatic breast cancer, of whom 270 had tumors carrying *ESR1* mutations. Patients were required to have disease progression on one to two lines of endocrine therapy, including one line with a CDK4/6 inhibitor. Patients were randomized (1:1) to receive vepdegestrant orally once daily, or fulvestrant intramuscularly on Days 1 and 15 of Cycle 1 and then once monthly thereafter. Randomization was stratified by *ESR1* mutation status and visceral metastasis. *ESR1* mutational status was determined by blood circulating tumor deoxyribonucleic acid (ctDNA) using central or local testing.

<https://www.fda.gov/drugs/resources-information-approved-drugs/fda-approves-vepedgestrant-er-positive-her2-negative-esr1-mutated-advanced-or-metastatic-breast>

### BioNTech: 1860 workers will be lost as BioNTech closes four mRNA plants.

In 2026, revenue is predicted to fall from €2.9 billion to as low as €2 billion.

The price of shares is around 75% lower than it was during the pandemic.

MODERNA and other companies that produce mRNA have already cut their workforce by 10% and more.

What does all of this signify?

Is there a need for more reliable and less costly platforms to generate mRNA-based vaccines, or is the mRNA era moving toward alternative vaccine types?

<https://lnkd.in/dtznXXSi>

### Regeneron FDA Approves First-Ever Gene Therapy for Treatment of Genetic Hearing Loss Under National Priority Voucher Program.

The first-ever gene therapy for genetic hearing loss. The gene therapy will be offered for free in the US. OTOF-related hearing loss is a rare genetic condition where sound signals cannot be transmitted from the inner ear to the brain. Until now, the hearing loss has been permanent.

<https://www.fda.gov/news-events/press-announcements/fda-approves-first-ever-gene-therapy-treatment-genetic-hearing-loss-under-national-priority-voucher>



## SELECTED PUBLICATIONS



### **Learn from the blame game when AI causes harm**

**Jay Killoran and Andrew Park, 2026**

**DOI: [10.1073/pnas.2528408123](https://doi.org/10.1073/pnas.2528408123)**

In 2023, families of deceased Medicare Advantage patients filed a class action lawsuit against UnitedHealth Group, claiming that the AI algorithm nH Predict wrongly denied necessary post-acute care approved by physicians. The lawsuit asserts that UnitedHealth was aware of the tool's 90% error rate but continued to use it, anticipating minimal appeals. UnitedHealth denies any wrongdoing, stating that nH Predict was only a clinical guide and that human reviewers made coverage decisions. The case has sparked a broader discussion about accountability among engineers, the company, case managers, and the AI system itself.



### **Advancing precision health discovery in a genetically diverse health system**

**Roni Haas et al., 2026**

**DOI: [10.1016/j.cell.2026.03.007](https://doi.org/10.1016/j.cell.2026.03.007)**

Linking genetic data with electronic health records in hospital biobanks enhances precision medicine, although limited ancestral diversity poses challenges. An analysis of 93,936 participants from UCLA's ATLAS initiative revealed unreported gene-phenotype associations, such as FN3K with intestinal disaccharidase deficiency in Europeans and admixed Americans. Polygenic scores effectively predicted common diseases, particularly in Europeans, while a reduction in European bias in clinical variant curation led to new associations, including ANKZF1 and peripheral vascular disease in African Americans.



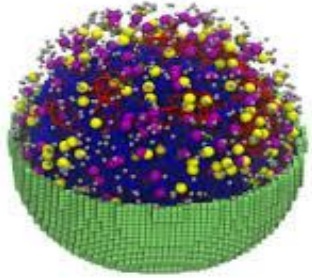
### **Deep-learning-based de novo discovery and design of therapeutics that reverse disease-associated transcriptional phenotypes**

**Jing Xing et al., 2026**

**DOI: [10.1016/j.cell.2026.02.016](https://doi.org/10.1016/j.cell.2026.02.016)**

Linking genetic data with electronic health records in hospital biobanks enhances precision medicine. While drug repurposing based on disease-associated transcriptomic features has been explored, potential for new drug discovery remains underdeveloped. This study introduces GPS, a deep-learning platform that predicts gene expression profiles from chemical structures, screening large compound libraries. Scoring methods and a tree-search optimization approach are utilized to uncover drug mechanisms.

## SELECTED PUBLICATIONS

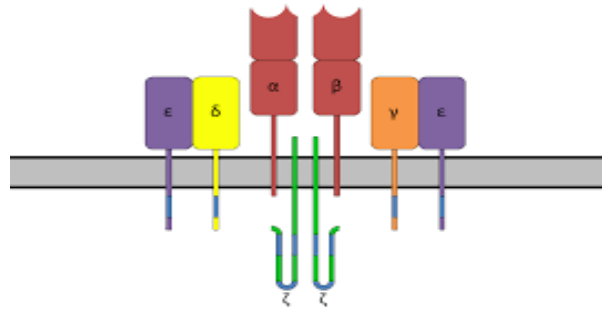


### Bringing the genetically minimal cell to life on a computer in 4D

**Zane R. Thornburg et al., 2026**

**DOI: [10.1016/j.cell.2026.02.009](https://doi.org/10.1016/j.cell.2026.02.009)**

We developed a comprehensive 4D model of the ~100 min cell cycle of the minimal bacterium JCVI-syn3A, encompassing genetic processes, metabolic networks, growth, and cell division. By employing hybrid computational methods, we simulated morphological dynamics, driven by lipid and protein insertion, constrained by fluorescence imaging. Chromosome replication and segregation are mediated by essential proteins similar to condensins, with rates influenced by metabolic dNTP levels. The model aligns with DNA sequencing data, capturing origin-to-terminus ratios, doubling times, mRNA half-lives, protein distributions, and ribosome counts. Due to stochastic factors, each cell replicate exhibits unique characteristics, enabling predictions of both average and heterogeneous partitioning behaviors to daughter cells.

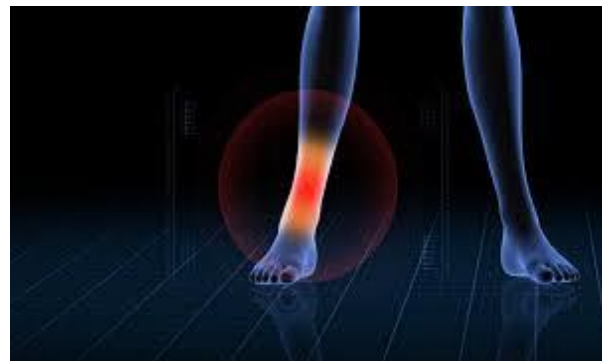


### CD28-driven ex vivo generation of stem-like memory CD8+ T cells bypassing CD3/TCR signaling

**Fumie Ihara et al., 2026**

**DOI : [10.1073/pnas.2524626123](https://doi.org/10.1073/pnas.2524626123)**

Adoptive T cell therapies often use CD3/CD28 stimulation, promoting effector differentiation and limiting cell persistence. This study introduces a CD3-independent method with artificial antigen-presenting cells expressing a CD28 superagonist ( $\alpha$ CD28-aAPCs) to expand CD8+ T cells that exhibit Tscm-like properties. Stimulation with  $\alpha$ CD28-aAPCs initiates a unique transcriptional and epigenetic program, characterized by high TCF1 expression and metabolic fitness, avoiding the exhaustion typically associated with T cell differentiation. This approach bypasses canonical CD3/TCR signaling, preventing the induction of IRF4, which usually promotes effector differentiation markers. Enhanced CD28 signaling reprograms T cells toward a Tscm-like state, allowing them to effectively respond to antigens while maintaining persistence and antitumor efficacy in preclinical models.



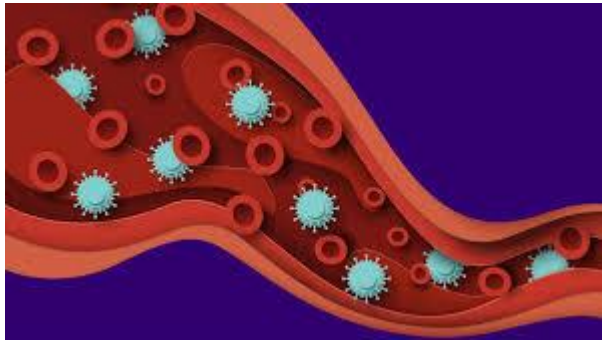
### MEK inhibitor mirdametinib promotes fracture healing in osteofibrous dysplasia RASopathy

**Aysha B. Khalid et al., 2026**

**<https://doi.org/10.1172/JCI199048>**

Osteofibrous dysplasia (OFD) is a skeletal RASopathy characterized by periosteal bone lesions that can lead to fractures and delayed healing. Mutations in the MET gene, specifically MET $\Delta$ JMD, have been shown to impair osteogenic differentiation of skeletal progenitor cells, affecting bone development and stiffness. Conversely, deleting Met enhances osteogenic differentiation. Treatment with the MEK inhibitor mirdametinib led to fracture union in a pediatric patient with OFD and pseudarthrosis. This research highlights MET's dual role in bone differentiation and suggests targeted therapies may improve outcomes for OFD and similar skeletal conditions.

## SELECTED PUBLICATIONS



### **Secreted phospholipase PLA2G5 acts as a hemolytic factor in sepsis**

**Michihiro Takahama et al., 2026**

<https://doi.org/10.1172/JCI195001>

Sepsis triggers a systemic response to infection, leading to severe outcomes such as hemolysis, which correlates with increased mortality risk. This study identifies secreted phospholipase PLA2G5 as elevated in colon cells during sepsis. Genetic deletion of Pla2g5 or its antibody treatment offers protection against lethal sepsis, enhances splenic red pulp macrophages, and improves iron homeostasis. PLA2G5 contributes to intravascular hemolysis via its lipolytic activity on red blood cell membranes. Additionally, elevated serum PLA2G5 levels in humans with sepsis predict disease severity and mortality, indicating that sepsis modifies PLA2G5 into a harmful factor for red blood cells.



### **Running rich: how excess fatty acid oxidation drains the cardiac engine**

**Steven M. Claypool and Carla M. Koehler, 2026**

<https://doi.org/10.1172/JCI204459>

Fatty acid oxidation (FAO) typically supplies 60%–90% of ATP for a healthy heart, with glucose metabolism providing the remainder. In heart failure, a shift to glucose-dependent metabolism is common, suggesting fat is the preferred substrate. However, research by Kim et al. contests this view, revealing that in ACC-deficient mice, excessive FAO caused cardiolipin deficiency by depleting linoleic acid, resulting in mitochondrial dysfunction, dilated cardiomyopathy, and heart failure. These findings suggest new therapeutic strategies could focus on balancing energy sources and restoring cardiolipin levels.



### **Estrogen deficiency and risk of hearing loss in pediatric Turner syndrome**

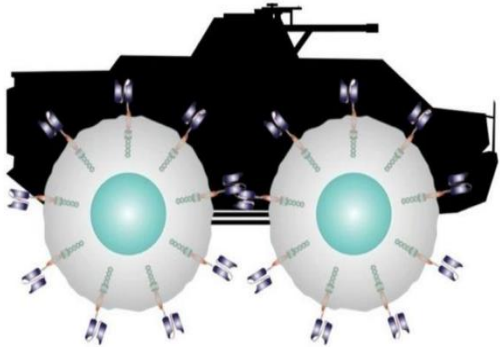
**Yan Huang et al., 2026**

<https://doi.org/10.1172/JCI197932>

Estrogen deficiency is linked to increased hearing loss (HL) in individuals with Turner syndrome (TS). A study of 87 prepubertal TS patients showed 55.2% were estrogen deficient, resulting in a higher HL incidence (56.3% in deficient vs. 28.2% in normal, HR 2.93). Estrogen deficiency also correlated with poorer otoacoustic emissions (HR 3.98). A substudy indicated that starting estrogen replacement therapy (ERT) at age 12 significantly preserved auditory function, with lower rates of hearing deterioration compared to those not receiving ERT. This suggests that treating estrogen deficiency early could be crucial for hearing preservation in TS patients.

## SELECTED PUBLICATIONS

### Cytokine Armored CAR-T Cells



### Cytokine armored CAR T cells for cancer immunotherapy

**Kevin Sek, Kah Min Yap, Woon Xuan Hong, Phillip K. Darcy**

**DOI :/10.1111/imcb.70112**[Digital Object Identifier \(DOI\)](https://doi.org/10.1111/imcb.70112)

Chimeric antigen receptor (CAR) T-cell therapy's effectiveness in solid tumors faces challenges like poor persistence, T-cell exhaustion, and an immunosuppressive tumor microenvironment (TME). To overcome these issues, "cytokine armored" CAR-T cells—fourth-generation CAR-T or TRUCKs—have been developed. These engineered cells produce or respond to specific cytokines, improving their functionality and reshaping the TME to enhance immune response. Key strategies involve the expression of IL-12, IL-15, and IL-18, leading to better immune infiltration, reduced immunosuppression, and sustained antitumor activity. Cytokine armoring has shown to boost CAR-T cell proliferation and persistence, resulting in durable therapeutic responses, with recent clinical trials indicating a favorable safety profile and encouraging effectiveness in both hematologic and solid tumors.

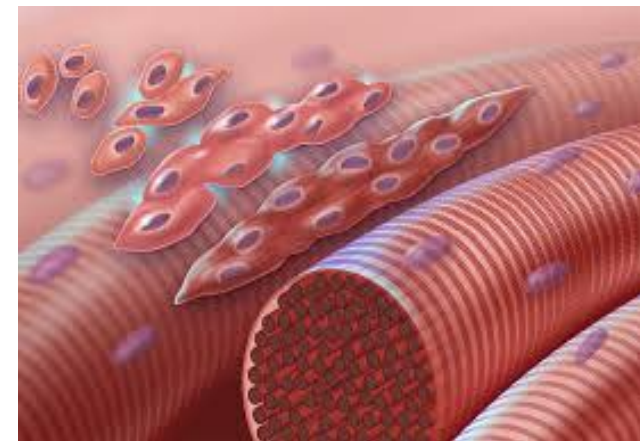
### HuR-mediated regulation of mTOR mRNA stability promotes the commitment of satellite cells towards myogenesis

**Anne-Marie K. Tremblay et al., 2026**

**<https://doi.org/10.1038/s41419-026-08759-1>**

HuR, an RNA-binding protein, promotes muscle cell differentiation by regulating mRNA targets of pro-myogenic factors. However, its in vivo role in muscle formation is less understood. Using a Myf5-Cre loxP system to knock out HuR in muscle precursor cells, researchers found that muscle-specific HuR depletion leads to smaller skeletal muscles and decreased exercise endurance during embryogenesis and post-injury. This impairment is partly due to HuR's regulation of mTOR mRNA stability, aiding satellite cell commitment to myogenesis and preventing adipogenesis. Thus, HuR is identified as a key regulator in myogenic processes, offering a potential target for muscle capacity manipulation in various conditions.

. These findings suggest new therapeutic strategies could focus on balancing energy sources and restoring cardiolipin levels.



## RECOMMENDED EVENTS & JOB CORNER

### EU Funding & Tenders Portal

€605.45 Million for Africa–Europe Research & Innovation Collaboration

The Horizon Europe Africa Initiative IV (2026–2027) is now open — one of the largest EU–Africa funding opportunities available today. It is designed to build strong, long-term partnerships between African and European institutions tackling real-world global challenges.

If you're a researcher, university, startup, or innovation-driven organisation, this is a major opportunity to access large-scale international funding.

📌 At a Glance

✓ Total funding: €605.45 million

✓ Calls for proposals: ~30

✓ Who can apply: Universities, research institutes, startups, private sector, NGOs, and government agencies

✓ Collaboration requirement: Minimum of 3 organisations from different EU Member States or associated countries, with African partners

📅 **Deadlines: Rolling across calls (April 2026 – September 2027)**

🌐 **Official call portal:**

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>



### AACR-Novocure Grants for Cancer Research

The AACR-Novocure Cancer Research Grant is now open for applications. This joint global funding opportunity provides \$350,000 over three years to support independent investigators.

These grants intend to encourage innovative research focused on understanding the anti-cancer modality of Tumor Treating Fields (TTFields) therapy, which uses electric fields tuned to specific frequencies to mediate its anti-cancer effects.

Novocure is a global oncology company working to extend survival in some of the most aggressive forms of cancer by developing and expanding its innovative TTFields therapy.

**The application deadline is June 4.**

[https://proposalcentral.com/?utm\\_source=salesforce-marketing-](https://proposalcentral.com/?utm_source=salesforce-marketing-cloud&utm_medium=email&utm_campaign=M++RGA++Novocure+Grant&utm_term=Apply+Today)

[cloud&utm\\_medium=email&utm\\_campaign=M++RGA++Novocure+Grant&utm\\_term=Apply+Today](https://proposalcentral.com/?utm_source=salesforce-marketing-cloud&utm_medium=email&utm_campaign=M++RGA++Novocure+Grant&utm_term=Apply+Today)

## RECOMMENDED EVENTS & JOB CORNER



### **BIO Middle East 2026 will now take place in Riyadh.**

These new dates allow us to curate a truly unrivaled platform for innovation and expansion, drawing the most prominent voices in biotechnology, premier investors, and the global life sciences community to the Kingdom.

Together, we will ensure this inaugural edition sets a powerful precedent, driving the future of biotechnology both locally and globally.

🌐 **Co-located with CPHI Middle East**

📅 **14-16 December 2026**

<https://biomiddleeast.com/>



### **Principal Scientist / Investigator, Immunology** **New York City, New York**

Ideal candidates will use their scientific acumen and collaborative approach to partner across the interdisciplinary Nilo team on all aspects of the drug discovery process. This is an exciting opportunity to lead innovative research projects and make significant contributions to our mission of advancing therapeutic solutions.

<https://job-boards.greenhouse.io/nilotherapeutics/jobs/5187186008>

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*Produced by Dr. Mohamed Boudjelal*  
**in** [mohamed-boudjelal-mba-ph-d-bb06232/](https://www.linkedin.com/in/mohamed-boudjelal-mba-ph-d-bb06232/)  
*Contact: admin@algeriansca-dz.org*