FREE
BiWeekly BioSciTech Newsletter
Issue 47: 15 April 2026

Selection From The Past Weeks:

- ***Hottest News In Biotech, BioResearch, Pharma, BioHealth***
- ***Highly Selected Research Papers Published in The Past 15 days***
- ***Best Recommended Events and Job Offers.***

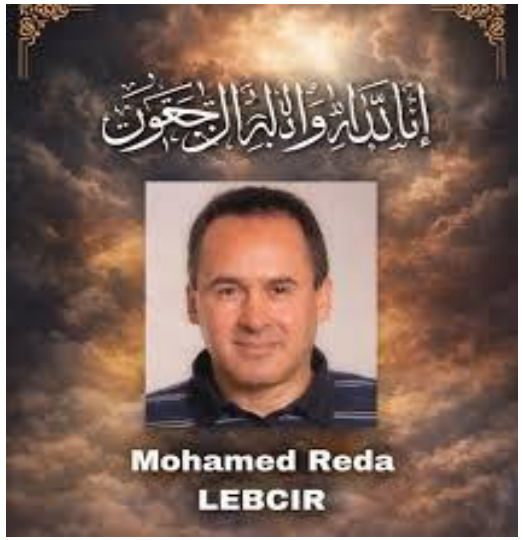
https://algeriansca-dz.org/bioscitech

Produced by Dr. Mohamed Boudjelal
ASCA Founder

CONDOLENCE

The Algerian Scholars and Competences Abroad (ASCA) expresses profound sorrow upon the passing of **H.E. Liamine Zeroual, former President of the People's Democratic Republic of Algeria** on March 28, 2026 (age 84 years).

ASCA members extends heartfelt condolences to the Government and people of Algeria, as well as to the family of the late President, and we express our full solidarity with the nation during this moment of mourning. ASCA pays solemn tribute to a steadfast statesman whose life was defined by sacrifice, dignity, and an unwavering commitment to the sovereignty and unity of Algeria. President Zeroual's leadership during a critical period in Algeria's history reflected courage, restraint, and a deep sense of responsibility to his people and nation. We ask Allah to accept his soul with mercy and enter him paradise.



The Algerian Scholars and Competences Abroad (ASCA) present profound grief of the death of our colleagues and ASCA network member, **Professor Mohamed Reda Lebcir, University of Hertfordshire, UK.** Prof. Lebcir was a man of great character, passed away the morning o 24 March 2026 at Stevenage Hospital, north of London, in Hertfordshire, where he had been living and teaching at the University of Hertfordshire for the past twenty years in the field of management and health information systems.

We pray that God grants him His vast mercy, admits him into Paradise, and grants his family and loved ones patience and comfort.

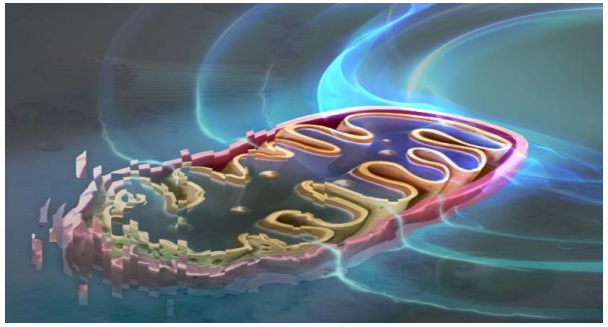
SELECTED PUBLICATIONS

GLP-1 Receptor Agonists

Clifford J. Rosen, M.D., and Julie R. Ingelfinger, 2026

DOI: 10.1056/NEJMra2500106

Glucagon-like peptide-1 (GLP-1) receptor agonists are drugs that help regulate insulin release and are used to treat type 2 diabetes and obesity. They work by slowing gastric emptying, reducing glucagon secretion, improving the intestinal microbiome, and enhancing feelings of fullness, thus aiding weight loss. Research shows GLP-1 receptor agonists also lower cardiovascular risk and slow kidney failure progression in high-risk patients. Side effects mainly include gastrointestinal issues and potential loss of muscle and bone. Questions remain about long-term use, weight regain after stopping, and muscle and bone implications. Ongoing studies may explore additional uses for these drugs.



Pluripotent stem-cell-based screening uncovers sildenafil as a mitochondrial disease therapy

Zink et al., 2026

DOI: 10.1016/j.cell.2026.02.008

Mitochondrial disease includes inherited disorders affecting how mitochondria work. Leigh syndrome (LS) is a severe, untreatable form that leads to psychomotor regression and metabolic crises. To find new drugs for LS, researchers tested 5,632 compounds in neural cells from LS patients' induced pluripotent stem cells (iPSCs). They found that sildenafil, a phosphodiesterase type 5 (PDE5) inhibitor, improves mitochondrial function and extends lifespan in LS models. Off-label treatment with sildenafil in six LS patients also improved motor function..

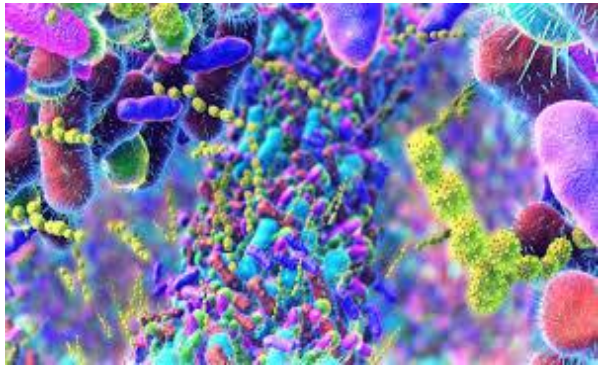
β-hydroxybutyrate enhances the metabolic fitness of CAR T cells in cancer

Liu et al., 2026

DOI: 10.1016/j.cell.2026.02.004

The impact of lifestyle factors like diet on T cell-mediated cancer therapies is still not fully understood. This study shows that β-hydroxybutyrate (BHB), derived from a ketogenic diet, enhances chimeric antigen receptor (CAR) T cell function in various preclinical cancer models. BHB boosts the tricarboxylic acid (TCA) cycle in CAR T cells, promoting energy production through oxidative phosphorylation, which improves T cell proliferation and cytokine release for better tumor control. Additionally, BHB leads to transcriptional and epigenetic changes in activated CAR T cells, enhancing their effectiveness. In healthy volunteers, BHB administration also increased T cell oxygen consumption and ATP production. Overall, BHB supplementation emerges as a promising method to enhance adoptive T cell therapy against different cancers.

SELECTED PUBLICATIONS



A tumor-resident bacterium promotes cervical cancer progression through lysoPC-mediated c-Jun/c-Fos activation

Li et al., 2026

DOI: 10.1016/j.celrep.2026.117079

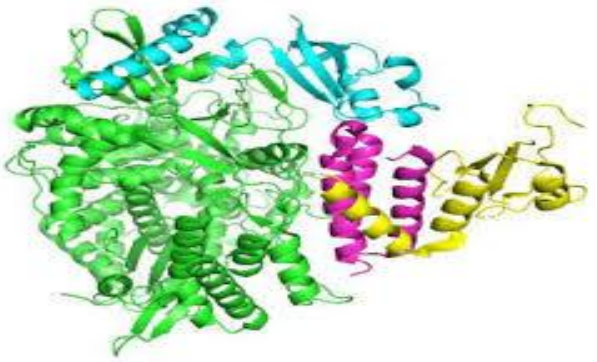
Tumor-resident microbiota are important in the development and progression of cervical cancer, but their specific roles are not well understood. This study shows that cervical cancer patients have a greater variety of microbiota, with eight unique bacterial species identified. A specific strain, Gordonia polyisoprenivorans GP-2, was found to enhance cancer growth and spread in mice. GP-2 metabolizes choline to create lysophosphatidylcholine (lysoPC), which activates tumorigenic genes in cervical tumor organoids. This highlights the interplay between microbiota and cancer and suggests a potential treatment target.

Small-molecule enhancement of METTL3 S-palmitoylation as a therapeutic strategy for osteoarthritis

Qin et al., 2026

DOI: 10.1016/j.celrep.2026.116993

METTL3 is an important enzyme involved in RNA modification and cell regulation. This study examines S-palmitoylation during stem cell differentiation and finds that METTL3 S-palmitoylation increases during mesoderm formation. This process is influenced by the enzyme ZDHHC24 and reversed by ABHD17A. Mice lacking METTL3 C376S show cartilage issues and worsen osteoarthritis (OA). An AI screening identified Isoborneol, which increases METTL3 S-palmitoylation, improving joint health in OA models. S-palmitoylation aids METTL3 stability and localization, providing a potential treatment for OA.



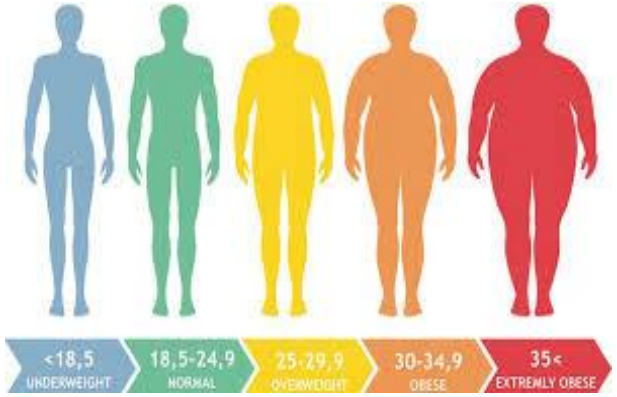
Motif V is an allosteric couple between the SARS-CoV-2 nsp13 nucleotide triphosphatase and helicase active sites

Michael A. Mingroni et al., 2026

DOI: 10.1016/j.jbc.2026.111198

Non-structural protein 13 (nsp13), the helicase in coronaviruses, is a key target for antiviral treatment because it is crucial for viral genome replication and is highly conserved. Nsp13 unwinds dsRNA using energy from ATP hydrolysis, causing changes in its structure. Motif V, a key region in nsp13, regulates how energy is transferred between its ATPase and helicase functions. This study explored Motif V's role in SARS-CoV-2 nsp13. Specific mutations in Motif V increased the rate of RNA unwinding, showing that the T532-S535 interaction helps control energy transfer. Changes to D534 disrupt connections vital for helicase function, highlighting Motif V as a regulator in nsp13's activity and mechanism.

SELECTED PUBLICATIONS

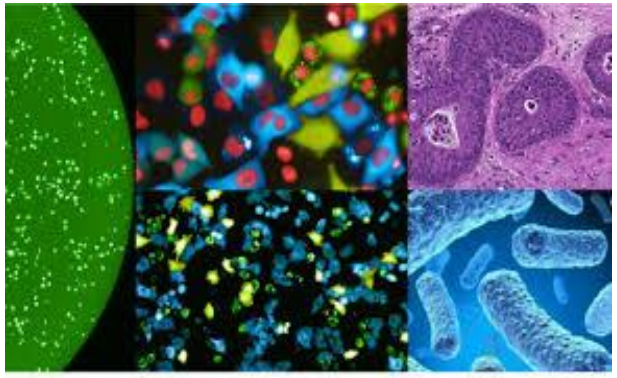


PPARα–NF-κB heterodimer mediates obesity-induced diastolic dysfunction through autocrine production of IL-6

Shin-ichi Oka et al., 2026

https://doi.org/10.1172/JCI196238

Obesity leads to increased free fatty acids (FFAs) in the bloodstream, causing cardiac issues known as obesity cardiomyopathy, which includes cardiac hypertrophy and diastolic dysfunction. Proinflammatory cytokines, particularly IL-6, are linked to this dysfunction. A high-fat diet (HFD) can cause diastolic dysfunction within one month by increasing IL-6 production in heart cells before inflammation occurs. The protein PPARα is crucial for IL-6 transcription during HFD, as it forms a complex with p50/RelA and interacts with the NF-κB element in heart cells. Reducing either PPARα or IL-6 in the heart lessens HFD-induced diastolic dysfunction.

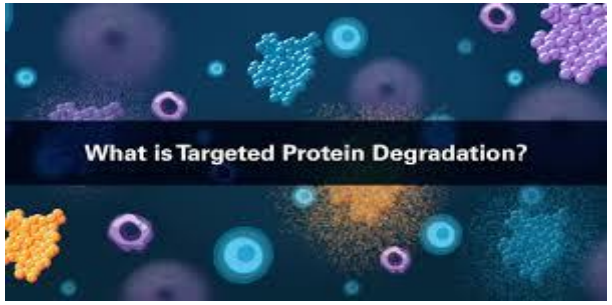


Profiling the pancreatic cancer secretome with metabolic glycoengineering

Dammen-Brower et al., 2026

DOI: 10.1016/j.jbc.2026.111243

Profiling the secretome for biomarkers is a promising, less invasive method to detect and monitor cancer. However, challenges include the wide range of molecules and the need for selective detection of cancer markers. This study used a metabolic glycoengineering (MGE) strategy with 1,3,4-O-Bu3ManNAz to label the glycome of pancreatic near-normal and cancer cells, enhancing LC–MS/MS proteomics for biomarker discovery. The MGE-LC–MS/MS method helped identify unique proteins from cancer cell secretomes, including both secreted and non–N-glycosylated intracellular proteins linked to pancreatic cancer. The study also found that MGE increased extracellular vesicle production, aiding in secretome profiling and demonstrating clinical relevance by analyzing glycoproteins in plasma from mice with human pancreatic tumors.



Emerging biologic modalities for targeted protein degradation

Alana G. Caldwell, · Harshil Parmar, · Xiaoyu Zhang, 2026

DOI: 10.1016/j.jbc.2026.111248

Targeted protein degradation (TPD) uses the ubiquitin–proteasome system to remove harmful proteins. Biologic degraders are designed to recruit this system, offering specific targeting and modular designs for hard-to-reach proteins. This review covers different TPD methods, including E3 ligase and E2 enzyme degraders, and discusses peptide-based strategies. It also suggests future improvements for biologic degraders in TPD.

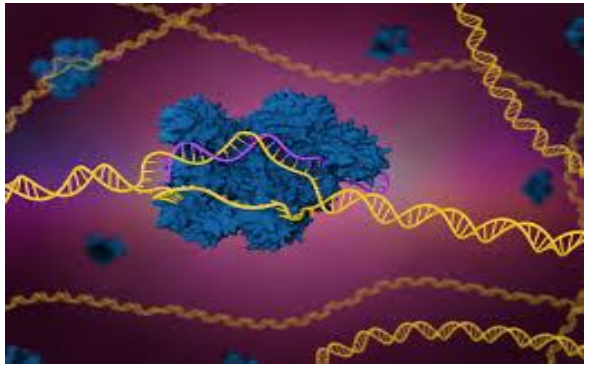
SELECTED PUBLICATIONS

An oral, liver-restricted LXR inverse agonist for dyslipidemia: preclinical development and phase 1 trial

Xiaoxu Li et al., 2026

https://doi.org/10.1038/s41591-025-04169-6

Atherosclerotic cardiovascular disease continues to be the top cause of death, indicating the need to address remaining risks despite advances in treatment. Targeting triglyceride-rich lipoproteins through liver X receptor (LXR) repression shows promise in lowering plasma triglycerides and cholesterol while improving insulin sensitivity. This study evaluates the impact of LXR inverse agonists on lipid metabolism. TLC-2716 was developed as a gut- and liver-restricted LXR inverse agonist. In human liver organoids, it decreased lipid buildup and inflammation. In a phase 1 trial, TLC-2716 was well tolerated and led to significant reductions in plasma triglycerides and cholesterol, showing potential for treating dyslipidemia and cardiovascular disease risk.



CRISPR-Cas12a Gene Editing of HBG1 and HBG2 Promoters to Treat Sickle Cell Disease

Rabi Hanna et al., 2026

DOI: 10.1056/NEJMoa2415550

Renizgamglogene autogedtemcel (reni-cel) is a gene-edited therapy aimed at treating sickle cell disease by increasing fetal hemoglobin production. A phase 1–2 study involved 28 patients aged 12 to 50 with severe sickle cell disease, all experiencing multiple vaso-occlusive events. Patients received reni-cel after treatment with busulfan and were monitored for 24 months. As of October 29, 2024, neutrophil engraftment occurred after a median of 23 days, while platelet engraftment happened after a median of 25 days. At 6 months, hemoglobin levels increased significantly, and 27 out of 28 patients did not experience vaso-occlusive events post-infusion, indicating potential for further research on this treatment.

CRISPR-Cas12a Gene Editing of HBG1 and HBG2 Promoters to Treat β-Thalassemia

Haydar Frangoul et al., 2026

DOI: 10.1056/NEJMoa2501277

Renizgamglogene autogedtemcel (reni-cel) is a CRISPR–Cas12a gene therapy for treating transfusion-dependent β-thalassemia by reactivating fetal hemoglobin. A phase 1–2 study involved participants aged 18 to 35 who received myeloablative conditioning before the therapy. The main goals were neutrophil engraftment by 42 days and monitoring adverse events. The study ended early due to sponsor priorities. Nine participants were analyzed, with a median follow-up of 17.5 months. All achieved neutrophil and platelet engraftment, and all were transfusion-free at their last visit. Adverse events were mostly grade 3 or 4 and aligned with treatment expectations. Further studies on reni-cel are warranted.

RECOMMENDED EVENTS & JOB CORNER

Postdoctoral Fellowships for Research in Japan(Short-term(PE)

Applications are now open for the FY2026 Postdoctoral Fellowships (Short-term (PE), 3rd Call). This program is designed to provide opportunities for outstanding postdoctoral researchers from outside Japan to conduct collaborative research with leading research groups at universities and research institutions in Japan. Applications should be submitted by host researchers through their institutions in Japan.

Deadline: Friday, June, 5, 2026, 5 p.m. (JST)

https://www.jsps.go.jp/english/e-fellow/application.html

BIO KOREA

The premier global convention where technologies, insights, and collaborations in the bio-health industry come together
Explore the evolving landscape of the bio industry and open the door to exceptional new business opportunities.

April 28 (Tue) ~ 30 (Thu), 2026 COEX, SEOUL

https://www.biokorea.org/en/index.do

Science & SciLifeLab Prize for Young Scientists

The prize is awarded annually to one young scientist for outstanding life science research for which they were awarded a doctoral degree in the previous two years. The topic of the entrant's thesis research must be in one of the following categories: Cell and Molecular Biology; Genomics, Proteomics, and Systems Biology approaches; Ecology and Environment; Molecular Medicine.

https://www.science.org/content/prize-award/science-and-scilifelab-prize-young-scientists?utm_medium=email&utm_source=publishing-sfmc&utm_campaign=SciLifeLab2026&utm_content=Email&utm_id=recfCJPmAtRodsLsg&et_rid=51389519&et_cid=5916537

RECOMMENDED EVENTS & JOB CORNER

NOVARTIS Training: Don't Miss Out: Present, Learn & Connect at Novartis

Join the Young Scientists Network for a unique 1,5-day meeting hosted at the Novartis Campus in Basel, right at the heart of one of Europe's most dynamic R&D ecosystems.

This event offers a rare chance to: step directly inside a world-class research facility, engage with leading scientists & researchers from industry, and connect with peers who are shaping the future of medicinal chemistry, chemical biology, and drug discovery.

Submit an abstract before May 13

https://www.efmc-ymcs.org/

Head of TARGET TO PATIENT 2026 (T2P26)

The SMR is pleased to announce the return of the popular two day Target to Patient 2026 (T2P26) conference which will be held at the Wellcome Genome Campus, Hinxton, nr Cambridge, UK. This is the third occurrence of this biennual meeting which will focus on ground-breaking advances during the following sessions following the drug discovery journey from Target to Patient:

Monday 20th - Tuesday 21st April 2026

Hinxton Hall Conference Centre, Wellcome Genome Campus, Hinxton CB10 1SA, UK

https://www.smr.org.uk/Meetings/20260420/programme.asp

African Bioinformatics Institute

ABI Bioinformatics Summer School - Application Call for Participants Open!

The African Bioinformatics Institute will be hosting an in-person Summer School from **08 - 19 June 2026** at the African Center of Excellence in Bioinformatics and Data Intensive Sciences (ACE-Uganda), in partnership with the Uganda Virus Research Institute (UVRI), and the MRC/UVRI & LSHTM Uganda Research Unit. The aim is to provide comprehensive training on bioinformatics computational resources and domain-specific tools and workflows to improve participants' proficiency in executing, interpreting, and communicating analyses for major bioinformatics studies.

Any queries may be sent to: info@bioinformaticsinstitute.africa.

If you are interested in being a participant in the upcoming ABI Summer School, please submit your application here: **https://www.bioinformaticsinstitute.africa/**

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