FREE

BIOSCITECH BiWeekly Newsletter

1 September 2026 (Issue 52)

SELECTION FROM THE PAST TWO WEEKS

Hottest News In Biotech, BioResearch, Pharma, BioHealth
Highly Selected Research Papers & Patents
Best Recommended Events and Studentship.

BIOTECH-PHARMA GLOBLE NEWS

Inside Moderna and Merck's cancer vaccine triumph

The drugmakers overcame rampant doubts, logistical challenges, and the pandemic

By Matthew Herper, Jason Mast, and Angus Chen

At an off-site leadership meeting held by Moderna in March 2023 — after mid-stage results of the biotech company's cancer vaccine showed promise — CEO Stéphane Bancel had the floor. He asked if any of the 100 or so executives present had expected the experimental treatment to succeed. If they did, he said, please stand up.
https://www.statnews.com/2026/08/24/inside-moderna-and-merck-cancer-vaccine-triumph/

Bristol Myers wins 'milestone' FDA approval of myeloma drug acquired from Celgene

The clearance of Zenbexus is the first for a group of protein-degrading "CELMoD" medicines that could help Bristol Myers rejuvenate a key drug franchise.

The approval is a "milestone" for medicines like Zenbexus, which are called "CELMoDs" and harness the body's waste disposal system to trash diseased cells, wrote William Blair analyst Matt Phipps wrote in a note to clients. Bristol Myers has multiple CELMoDs in development, including a second myeloma treatment nearing approval. Inherited through an acquisition of Celgene, that portfolio is "underappreciated byinvestors," wrote RBC Capital Markets analyst Trung Huynh.
https://finance.yahoo.com/healthcare/articles/bristol-myers-wins-milestone-fda-120200478.html

Lilly files six lawsuits in bid to shut down 'black market' for retatrutide

Ahead of an approval filing, the drugmaker is amping up a fight against sellers who claim to offer versions of its highly anticipated "triple-G" weight loss medicine. Eli Lilly on Wednesday said it's filed six new lawsuits as part of an effort to combat black-market sales of one of its still-experimental obesity medicines. The drug, called retatrutide, has delivered powerful results in Lilly's research to date, in some cases offering weight loss on par with bariatric surgery. But the company is still compiling data and doesn't even plan to submit an application for Food and Drug Administration approval of the medication until next year.
https://www.biopharmadive.com/news/lilly-lawsuit-retatrutide-black-market-obesity-drug/827659/

BIOTECH-PHARMA GLOBLE NEWS

Relation Therapeutics secures $110m research pact with GSK

The collaboration centers on producing high-quality perturbation datasets that capture how human cells respond to genetic and pharmacological interventions.

Relation and GSK have expanded their strategic research collaboration to generate large-scale, time-resolved human cellular datasets for AI-enabled drug discovery.

Relation will use its integrated laboratory automation to measure how therapeutically relevant human cells respond to genetic and pharmacological interventions, producing high-resolution multi-omic data designed to strengthen biological understanding and improve confidence in therapeutic target discovery.

https://www.bioxconomy.com/partnering/relation-therapeutics-secures-110m-research-pact-with-gsk

Is China Going to Control Your Medicine?

China is quietly taking control of US medicine. We must stop helping it.

What would it mean if China controlled the supply chain for the medicines keeping Americans alive? That is not a hypothetical question. It is the trajectory we are on — and our own regulatory framework is helping to get us there.

The U.S. government is rewarding pharmaceutical companies for doing business in China. This is not a competitiveness problem or a trade problem. It is a national security problem.

https://thehill.com/opinion/5923996-us-china-medicine-control-risk/

Rebalancing innovation, affordability, and access for orphan drugs in the European Union

Hilde Stevensa et al., 2026

DOI: 10.1016/j.lanepe.2026.101778

Orphan drug policy in the European Union has issues with pricing and innovation, with few rare diseases receiving funding while most remain neglected. Many rare disease patients have unmet medical needs. The European Commission is proposing reforms like the Pharma Package and the European Biotech Act to better balance market exclusivity and incentives. However, these reforms are not enough to ensure innovation and affordability. Additional proposals include establishing an EU HTA Coordination Office, a US-style EU ARPA-H, public-private Special Purpose Vehicles, and EU joint procurement to enhance affordability and demand predictability. A comprehensive framework is necessary to support all rare disease patients.

PATENTS WATCH

US20260241023A1 disclosing antibody–oligonucleotide conjugates based on the cell-penetrating antibody 3E10-D31N for intracellular delivery of siRNA and antisense cargo.
Inventor: Yale University

WO2026174189A2 disclosing a new class of LDLR-recruiting bispecific molecules designed to route extracellular and membrane proteins into lysosomes for degradation.
Inventor: University of California

US20260242419A1 disclosing a large family of cyclic peptide inhibitors designed to block IL-1β signalling without using a conventional antibody scaffold.
Inventor: Merck

WO2026171242A1 disclosing high-affinity cyclic peptide inhibitors of IL-23R for potential use in psoriasis, inflammatory bowel disease and other IL-23-driven disorders.
Inventor: Syneron Bio

WO2026169926A1 discloses anti-amyloid-β/anti-transferrin-receptor bispecific antibodies designed to increase brain exposure.
Inventor: Biogen

WO2026167227A1 discloses hashtag#HER2 CAR-T cells whose antigen engagement induces secretion of a CEACAM6-binding scFv.
Inventor: University of Debrecen

US20260242801A1 disclosing quadricistronic CAR-NK constructs that combine tumour recognition with CCR7-mediated homing and additional cell-support functions.
Inventor:ImmunityBio, Inc.

US20260226123A1 discloses IL-4/IL-10-based cytokine agents intended to control cytokine-release syndrome while preserving T-cell cytolysis.
Inventor: Deka Biosciences, Inc

US20260232834A1 discloses cytotoxicity-targeting chimeras—small molecules that connect a selected cell-surface receptor to cotinine.
Inventor: GSK

US20260234258A1 discloses anti-CD8 antibodies fused to IL-2 in defined molecular orientations.
Inventor: Repertoire Immune Medicines.

WO2026167093A1 discloses chimeric human CD95/Fas switch receptors for adoptive T-cell therapy
Inventor: T-Knife

SELECTED PUBLICATIONS

ilegal markets: An important domain for applied science

Jonathan P. Caulkins et al., 2026

https://doi.org/10.1073/pnas.2513028123

This Special Feature compiles research from leading experts on nine distinct illegal markets. The focus is on their structure and operations, with two additional papers synthesizing findings and discussing policy implications. The compilation highlights the need for more scholarly attention on illegal markets, which generate significant revenues—estimated at around $1 trillion annually worldwide, comparable to the global consumer electronics market.

Key points include the lack of quality estimates due to the nature of these markets and the idea that illegal markets have not received adequate analysis from economists. The premise of this feature is that understanding these markets could lead to valuable insights and improve scientific inquiry in this area

The money laundering market: An economic analysis

Joras Ferwerda, 2026

https://doi.org/10.1073/pnas.2512080123

This document explores how criminals launder their illegal earnings to hide the connection between themselves and their crimes. The money laundering market is demand-driven and fragmented, featuring different laundering methods that vary in risk. Due to high search costs and specialized services, local monopolies form, resulting in higher prices. There is inelastic demand because criminals ultimately need these services. Trust and information issues also create long-lasting relationships within this illegal market.

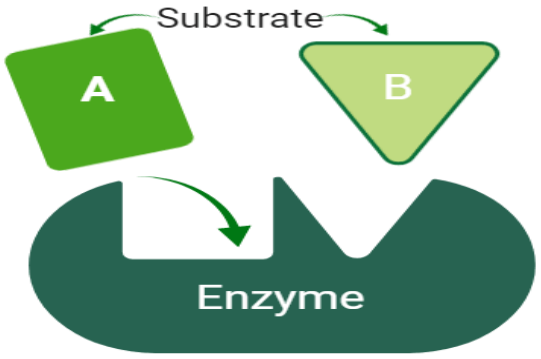
A budding science of illegal markets

Jonathan P. Caulkins, 2026

https://doi.org/10.1073/pnas.2511780123

Illegal markets pose significant challenges to society but have not received much scientific study. This paper looks at different types of illegal markets to find common features and differences. It focuses on nine markets: human smuggling, commercial sex, firearms, money laundering, illegal fishing, wildlife trafficking, counterfeit goods, drugs, and tobacco. These markets vary widely due to factors like the nature of the goods and different enforcement pressures. While there is not much true innovation, they quickly adopt new trends from the larger economy. The markets are grouped based on their impacts, like supplying stolen goods, facilitating crime, undermining authority, or causing harm to users and sellers.

SELECTED PUBLICATIONS

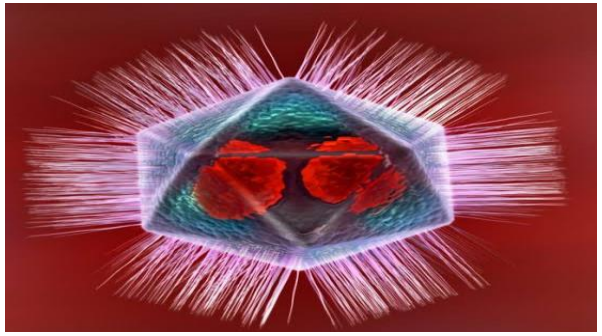


The history of enzyme evolution embedded in metabolism

Tatsuya Corlett et al., 2026

https://doi.org/10.1073/pnas.2609531123

Enzyme emergence has been happening for about 4 billion years. This study shows that the current network of metabolic reactions and enzymes reflects a history of enzyme development linked to the evolution of life. It predicts the order in which enzymes appeared, starting from before the last common ancestor and leading to the use of molecular oxygen. The research finds that early metabolism relied heavily on α/β proteins, along with contributions from other protein structures like the cradle-loop barrel. The findings suggest that early metabolisms were primarily based on these proteins and that adaptations, rather than new folds, drove metabolic evolution.



Giant viruses encode vitamin K–based redox modules for lipid modification

Rebecca Collins et al., 2026

https://doi.org/10.1073/pnas.2610764123

Viruses with large DNA genomes can change the way host cells work, but their effects on host redox and membrane balance were unclear. This study found that giant viruses have a vitamin K epoxide reductase (VKOR) and related enzymes that may help alter lipids in host cells. Researchers showed that VKOR works in E. coli, proving these enzymes are active. They also detected VKOR expression in amoebas infected by two giant viruses. This discovery reveals how giant viruses connect vitamin K recycling with fatty acid changes, enhancing our understanding of their influence on host cell functions during infection.

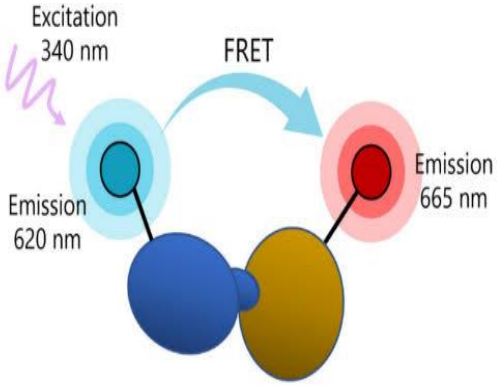
XiyingFirst-line PD-1/VEGF bispecific antibody plus chemotherapy in triple-negative breast cancer: a phase 2 trial

Shao et al., 2026

https://doi.org/10.1038/s41591-026-04564-7

Triple-negative breast cancer is a severe form of cancer, making up 10–20% of cases and having a poorer outlook compared to other types. A clinical trial tested ivonescimab with chemotherapy as a first treatment for women with advanced triple-negative breast cancer who had not received prior therapy. Patients received ivonescimab and either paclitaxel or nab-paclitaxel in a specific schedule. The trial enrolled 36 patients, with a median follow-up of 22.1 months. Results showed 100% experienced treatment-related side effects, with 58.3% having severe issues, but no deaths occurred. The treatment achieved an 80% response rate, indicating potential effectiveness and warranting additional research.

SELECTED PUBLICATIONS

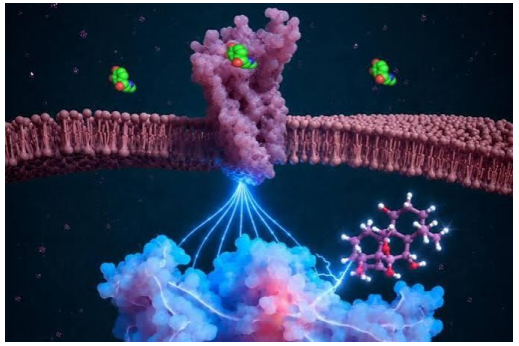


A real-time FRET ubiquitin transfer assay for quantitative characterization of ternary complexes in targeted protein degradation

Corey H. Yu1 et al., 2026

DOI: 10.1016/j.crmeth.2026.101505

Targeted protein degradation (TPD) is a new therapy that removes harmful proteins using the body's E3 ubiquitin ligases. The goal was to create a highly sensitive, high-throughput test to study how these protein complexes form and their activity in transferring ubiquitin. The highlights of this work include using FRET-active E2-Ub conjugates as a useful way to measure protein ubiquitination and a FRET assay that evaluates multiple aspects of complex formation. The approach uses open-source SciPy for quantitative analysis and supports the analysis of PROTACs and molecular glues. The described assay allows real-time monitoring of ubiquitin transfer without needing to modify proteins, making it valuable for understanding degrader characteristics and improving drug discovery.



Small-molecule modulation of β-arrestins

Alem W. Kahsaiet al.,2026

https://doi.org/10.1038/s41586-026-10683-5

β-Arrestins are key regulators of G-protein-coupled receptor (GPCR) signaling and influence various physiological responses. Despite advances in GPCR pharmacology, direct methods to modulate β-arrestin activities have been lacking. This study identifies small-molecule inhibitors that specifically target β-arrestins and explains their action through various analyses. These inhibitors prevent β-arrestin from engaging with activated GPCRs, affecting processes like desensitization and internalization without interfering with G protein interaction. One modulator, Cmpd-5, was shown to stabilize a conformation that disrupts full β-arrestin–receptor engagement, paving the way for new GPCR-targeted drugs.

IAN, an intelligent system for omics data analysis and discovery

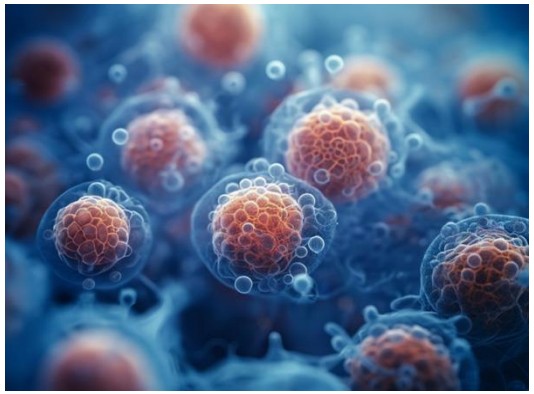
Vijayaraj Nagarajan et al., 2026

DOI: 10.1016/j.crmeth.2026.101503

IAN is an innovative AI-driven R package designed to enhance the analysis and interpretation of gene expression data.

- IAN integrates various datasets, including KEGG and GO, for comprehensive pathway analysis.
- It utilizes a multi-agent architecture and large language models (LLMs) to produce enriched summaries from individual results.
- Evaluations show that IAN is robust across different LLMs, and expert feedback indicates its outputs are clear and relevant.
- The system aims to generate deeper biological insights beyond traditional enrichment tools.

SELECTED PUBLICATIONS



Tumor cell–derived extracellular vesicles foster the immunosuppressive landscape of pancreatic cancer

Zainab Hussain et al., 2026

https://doi.org/10.1172/JCI197733.

Pancreatic cancer is a severe disease with few treatment options. Research suggests that cancer-associated fibroblasts (CAFs) and tumor-associated macrophages in pancreatic cancer hinder the body's immune response against tumors. This study shows that tumor cell-derived extracellular vesicles (TC-EVs) cause monocytes to become M2-like, immunosuppressive macrophages, which we identified as a poor-prognosis marker in pancreatic cancer. TC-EVs also change human primary CAFs, affecting extracellular matrix composition. Additionally, SFRP1-enriched ECM causes monocytes to become immunosuppressive macrophages, limiting T cell activation and anticancer responses.

Combined FAK and MEK inhibition suppresses chromosome 8 gain malignant peripheral nerve sheath tumors

Guangfeng Wang et al., 2026

https://doi.org/10.1172/JCI201331

Aneuploidy is common in cancer and often leads to poor outcomes. Chromosome 8 (chr8) gains are frequently seen in several cancers, including MPNSTs, which are aggressive tumors linked to Neurofibromatosis type 1 (NF1). A study using a CRISPR knockout screen identified 58 essential genes on chr8, highlighting PTK2, which codes for focal adhesion kinase (FAK). The research tested FAK inhibitors alone or with RAF/MEK inhibitors, showing that both methods reduced MPNST cell growth.

First-Line Sunvozertinib in NSCLC with EGFR Exon 20 Insertion Mutations

Caicun Zhou et al., 2026

DOI: 10.1056/NEJMoa2604461

Sunvozertinib has been approved for patients with advanced non-small-cell lung cancer (NSCLC) who have specific genetic mutations. A phase 3 trial examined its effectiveness as a first-line treatment compared to chemotherapy. In the study, 324 patients were divided into two groups, receiving either sunvozertinib or chemotherapy. Results showed that sunvozertinib offered significantly longer progression-free survival (10.3 months) compared to chemotherapy (7.5 months). The objective response rate was also higher in the sunvozertinib group (58.9%) than in the chemotherapy group (31.1%). However, adverse events were more frequent with sunvozertinib, but no related deaths occurred. Overall, sunvozertinib was more effective than chemotherapy for this patient group.

RECOMMENDED EVENTS & STUDENTSHIP

Reframing Precision Medicine: Innovation to Implementation is a flagship Nature Conference that brings together leaders across science, medicine and policy to ask a simple question: how do we make truly personalised care in the next decade the norm, not the exception?
Over three days, we'll move beyond theory to show how multi-omics, artificial intelligence and big data are already reshaping diagnosis, treatment and recovery across the human life course.
13-15 October 2026 | The Royal Institution, London
https://precision-medicine.conferences.nature.com/

ELRIG: Maximising the impact of your scientific poster

- How to design a clear, engaging scientific poster.
- Tips for presenting your poster and starting conversations with delegates.
- Common mistakes to avoid when preparing and displaying posters.
- Making the most of poster sessions for networking and career development.

https://us06web.zoom.us/webinar/register/WN_1GFII_0mQ--ZPCwt5fjtOg?utm_source=Master+List&utm_campaign=1a7d50d0a8-EMAIL_CAMPAIGN_2026_06_08_03_48_COPY_01&utm_medium=email&utm_term=0_-9d49341812-113230101#/registration

FOOD SAFETY RESEARCH NETWORK

New funding available for collaborations on using AI for food safety and sustainability
At the UK Food Safety Research Network, we are pleased to announce a new funding opportunity.
Funding is available for current Food Safety Research Network members and must represent a new collaboration between an academic lead applicant eligible to receive BBSRC funding and at least one non-academic partner.
https://fsrn.quadram.ac.uk/new-funding-available-for-collaborations-on-using-ai-for-food-safety-and-sustainability/

RECOMMENDED EVENTS & STUDENTSHIP

IGBMC PhD position in Functional Genomics, in Raphaël Pantier's lab:
Interplay between transcription factors and genome architecture in embryonic stem cells
In this PhD project, you will exploit state-of-the-art genomics techniques to dissect the molecular function of the transcription factor SALL4 in embryonic stem cells: regulation of transcription via long range enhancer-promoter looping (1), regulation of 3D genome structure via modulation of lamina-associated domains (2)..
https://lnkd.in/eThaJ4uD

Four-year funding scheme
NSF rolls out 'industry PhD' programme — joining a global trendThe US National Science Foundation (NSF) has kicked off a sweeping effort to deepen the ties between PhD students and industry. The pilot programme will provide participants with hands-on industry research experience and funding from universities, companies and the NSF. It will serve more than 250 students, who will receive funding for four years.
https://www.nature.com/articles/d41586-026-02437-0

Ten (10) Fully Funded PHD Positions
The Cologne Graduate School of Ageing Research (CGA) in Germany
Applicants with an MSc or equivalent degree in biology, cell / molecular biology, biochemistry, bioengineering, bioinformatics, biophysics, genetics, medical biology, translational medicine, or a related field
Application period: August 11–November 3, 2026
Online application: https://application.ageing-grad-school.de
Contact: cga-coordination@uni-koeln.de
Website: https://www.ageing-grad-school.de

Your BIOSCITECH Newsletter Issue 52: 1 September 2026

https://algeriansca-dz.org/bioscitech

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