## NEWS & COMMENTARIES

### Breakthrough breast cancer drug approved for NHS

Capivasertib, which was developed in Britain, is the first drug of its kind and has been proven to double the time patients live without their tumours growing

A pill that stops the spread of advanced breast cancer has been approved for routine NHS use in a “triumph” for British science. About 1,100 women each year in England and Wales will benefit from capivasertib, which is taken as a twice-daily tablet, and is proven to double the time patients live without their tumours growing.

**https://www.thetimes.com/article/4485f59d-c3df-4c58-b053-fa61107bb5da?shareToken=1b0a9524ccddf5bc29b0889c3cf05173**

### Antibody Database

Therapeutic antibody database extended with clinical information, with special focus on immunogenicity annotations. Therapeutic antibody data is crucial for characterization of novel biologics therapeutics. Current therapeutic antibody data such as format, sequence and clinical data are spread across different repositories. Cleaning this data allows us to forecast developability and clinical trial outcomes based on the antibody sequence and the said metadata.

**http://dev-natural-antibody-company-page.s3-website.eu-central-1.amazonaws.com/therapeutic-antibody-database/**

### The UK Human Functional Genomics Initiative Inaugural Scientific Symposium

We are happy to share the line up of speakers at our Inaugural Scientific Symposium taking place on Monday 16th June, Includes UK & international leaders in genomic research! Be sure to register via the link below for this free event - you don’t want to miss it! Martin Kircher Delphine Larrieu Lea Starita Ioannis Sarropoulos Roser Vento Tormo

**https://www.eventbrite.co.uk/e/the-uk-human-functional-genomics-initiative-inaugural-scientific-symposium-tickets-1087063138109**

# SELECTED PUBLICATIONS

## Intranasal administration of a panreactive influenza antibody reveals Fc-independent mode of protection

**Anna L. Beukenhorst, ……..Faez A. Nait Mohamed, et al., 2025**

**https://doi.org/10.1038/s41598-025-94314-5**

A new study shows that the way monoclonal antibodies are delivered shapes how they protect against influenza. Intravenous administration of the CR9114 antibody depends on Fc-mediated immune functions, while intranasal delivery relies mostly on direct virus neutralization and boosts potency by up to 50-fold. These findings highlight the potential of local antibody delivery for stronger, Fc-independent protection and better pre-exposure flu prevention strategies.

## These are the most-cited research papers of all time. Some studies have received hundreds of thousands of citations, Nature's updated analysis shows.

**By Richard Van Noorden 2025**

**https://doi.org/10.1038/d41586-025-01124-w**

What is the most highly cited paper in the scientific literature? Chances are slim that most researchers know the answer. It turns out to be a 1951 publication in the Journal of Biological Chemistry describing an assay to determine the amount of protein in a solution1. That has been cited more than 350,000 times in the Web of Science (WoS), a database that includes 98 million papers dating back to 1900.

## Inflammatory and anti-inflammatory cytokines bidirectionally modulate amygdala circuits regulating anxiety

**Lee et al., 2025**

**DOI: 10.1016/j.cell.2025.03.005**

New research shows that peripheral cytokines can directly influence brain circuits controlling anxiety. In the basolateral amygdala, pro-inflammatory cytokines like IL-17A and IL-17C increase neuronal excitability and promote anxiety, while anti-inflammatory IL-10 has the opposite effect. These findings reveal how immune signals can bidirectionally shape mood by acting on specific neural substrates, offering new insights into the link between inflammation and mental health.

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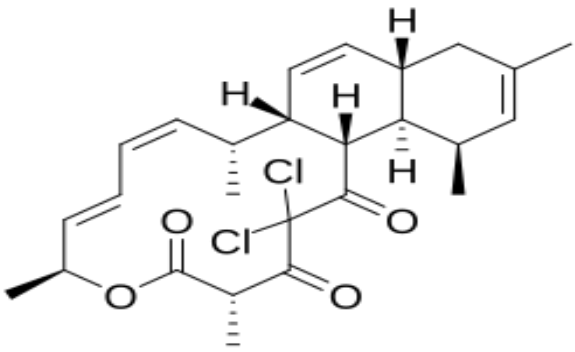
## Brain-wide mapping of immune receptors uncovers a neuromodulatory role of IL-17E and the receptor IL-17RB

**Yunjin Lee et al., 2025**

**DOI: 10.1016/j.cell.2025.03.006**

Researchers have uncovered a brain-specific IL-17 signaling circuit that modulates social behavior. Mapping IL-17 receptor expression, they found that IL-17RA and IL-17RB— but not IL-17RC—are involved in regulating social interactions through cortical neurons. IL-17E, produced in the cortex, enhances sociability by acting on these receptor-expressing cells. These findings reveal how localized cytokine signaling in the brain influences behavior, highlighting new dimensions of neuroimmune communication.

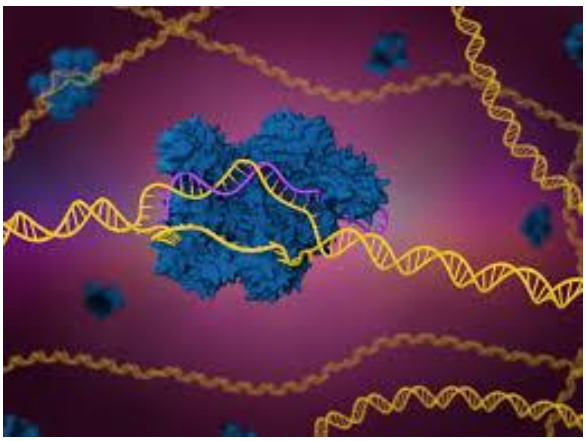



## Natural products chlorotonils exert a complex antibacterial mechanism and address multiple targets

**Felix Deschner et al., 2025**

**DOI: 10.1016/j.chembiol.2025.03.005**

Chlorotonils, a natural product class with broad-spectrum activity, show promise against multi-resistant Gram-positive bacteria and malaria. This study reveals that chlorotonils rapidly disrupt bacterial ion homeostasis by targeting membranes without causing major cell damage and also inhibit key proteins involved in cell wall and protein synthesis. These findings highlight chlorotonils as strong candidates for new antimicrobial therapies urgently needed to combat antibiotic resistance.



## AcrIE7 inhibits the CRISPR-Cas system by directly binding to the R-loop single-stranded DNA

**Kim et al., 2025**

**DOI:10.1073/pnas.2423205122**

The CRISPR-Cas system is a bacterial defence mechanism often targeted by anti-CRISPR (Acr) proteins. Using structural and biochemical analysis, this study shows that AcrIE7 binds directly to the R-loop's single-stranded DNA, preventing Cas3-mediated cleavage. This reveals a distinct inhibition method compared to previously known Acr strategies.

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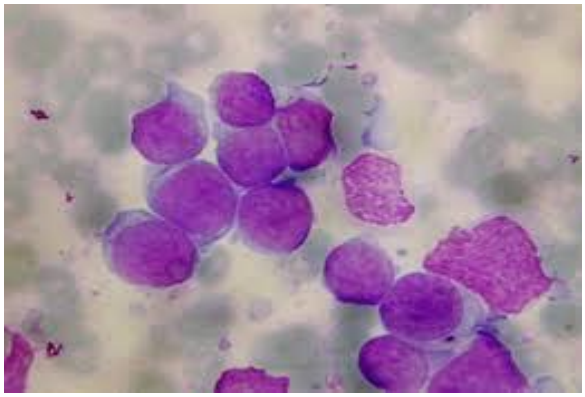


## Therapeutic targeting of the NOTCH1 and neddylation pathways in T cell acute lymphoblastic leukemia

**Bertulfo et al., 2025**

DOI: 10.1073/pnas.2426742122

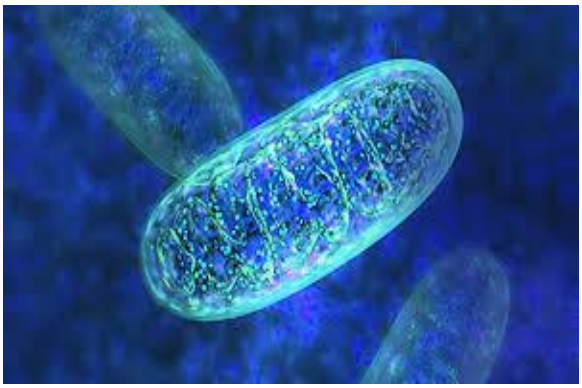
Aberrant activation of NOTCH1 drives T-ALL, and while gamma-secretase inhibitors (GSIs) target NOTCH1, they cause significant gastrointestinal toxicity. This study identifies the neddylation pathway as a regulator of GSI-induced goblet cell differentiation. Combining GSIs with neddylation inhibitor MLN4924 retains efficacy while reducing toxicity in NOTCH1-dependent T-ALL

## Validating new limits for human thermoregulation

**Meade et al., 2025**

DOI:10.1073/pnas.2421281122

As global heat and humidity rise, recent work redefines survivability limits using Twb thresholds lower than the theoretical 35 °C. This study used humidity-step protocols in 12 volunteers to validate Twb thresholds for core temperature rise, supporting their use for assessing human limits under extreme heat exposure.



## Mitochondrial fatty acid oxidation regulates adult muscle stem cell function through modulating metabolic flux and protein acetylation

**Yue et al., 2025**

https://doi.org/10.1038/s44318-025-00397-1

Satellite cells rely on distinct metabolism during activation and differentiation. This study shows that mitochondrial fatty acid oxidation (FAO) is crucial for satellite cell function. Loss of FAO impairs regeneration by reducing acetyl-CoA and protein acetylation, while acetate supplementation can partially restore regeneration, linking lipid metabolism to stem cell integrity.

*By Dr. M. Boudjelal (KAIMRC, KSA), Dr. M. Belhocine (AGU, Bahrain), Dr. F. Amokrane Nait Mohamed (Harvard, USA), Dr. Bilal Djeghout (Quadram Institute, UK), Dr. Ahmed Chenna (monogram Bioscience, USA))*
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## Gen AI and research integrity: Where to now?: The integration of Generative AI in the research process challenges well-established definitions of research integrity

**Sonia Vasconcelos and Ana Marušić , 2025**

**https://doi.org/10.1038/s44319-025-00424-6**

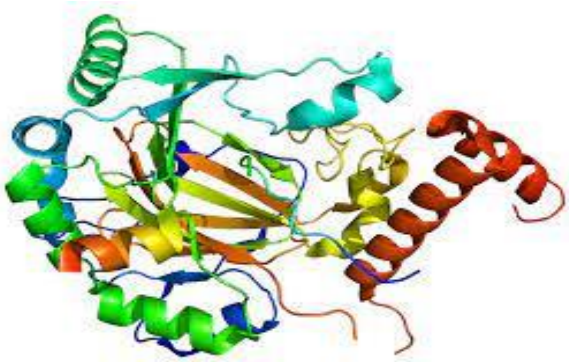
Richard Feynman famously stressed the importance of complete honesty in science, urging researchers to report all findings, even those undermining their interpretations. As Generative AI becomes part of research workflows, it challenges existing notions of research integrity and highlights the need to reaffirm transparency and rigour in scientific reporting.

## Circadian clock features define novel subtypes among breast cancer cells and shape drug sensitivity

**Carolin Ector et al., 2025**

**https://doi.org/10.1038/s44320-025-00092-7**

The circadian clock influences DNA damage responses and drug sensitivity. Deep circadian profiling of 14 breast cancer cell lines revealed four clock-based phenotypes: functional, weak, unstable, and dysfunctional. The study links circadian features to drug responses, paving the way for circadian-guided therapies to improve breast cancer treatment outcomes.



## HIF regulates multiple translated endogenous retroviruses: Implications for cancer immunotherapy

**Jiang et al., 2025**

**DOI:10.1016/j.cell.2025.01.046**

Clear cell renal cell carcinoma (ccRCC), despite having a low mutational burden, is considered immunogenic because it occasionally undergoes spontaneous regressions and often responds to immunotherapies. The signature lesion in ccRCC is inactivation of the VHL tumor suppressor gene and consequent upregulation of the HIF transcription factor. An earlier case report described a ccRCC patient who was cured by an allogeneic stem cell transplant and later found to have donor-derived T cells that recognized a ccRCC-specific peptide encoded by a HIF-responsive endogenous retrovirus (ERV), ERVE-4. We report that ERVE-4 is one of many ERVs that are induced by HIF, translated into HLA-bound peptides in ccRCCs, and capable of generating antigen-specific T cell responses. Moreover, ERV expression can be induced in non-ccRCC tumors with clinical-grade HIF stabilizers. These findings have implications for leveraging ERVs for cancer immunotherapy.

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# RECOMMENDED EVENTS



## DOCTORANTS / JEUNES CHERCHEURS # Alsace, boostez votre avenir ! 🚀

**Date : Mardi 29 avril 2025**

**Heure : 12h30 - 13h30**

Lieu : En ligne, sur inscription

Welcome to doctoral students and young researchers working in public research laboratories of Alsace or supported by the Fablab network of the University of Strasbourg!

**https://www.conectus.fr/webinar-129th-april-how-boost-your-phd-2025**
**https://igbmcevent.sciencesconf.org/**


## Studentships at the UCL School of Pharmacy!!!

We are delighted to announce we are seeking applications for the Thomas Marns Scholarship. This was established following a generous bequest from the Marns family, to support a series of talented graduates to study for a PhD on a cutting-edge topic relating to pharmaceutical science and/or practice.

**https://www.ucl.ac.uk/pharmacy/study/mphil-phd/studentships-and-funding**

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## Postdoc Deep protein representation learning for drug discovery

Eindhoven University of Technology is an internationally top-ranking university in the Netherlands that combines scientific curiosity with a hands-on attitude. Our spirit of collaboration translates into an open culture and a top-five position in collaborating with advanced industries. Fundamental knowledge enables us to design solutions for the highly complex problems of today and tomorrow.

**https://www.tue.nl/en/working-at-tue/vacancy-overview/postdoc-deep-protein-representation-learning-for-drug-discovery**


## Calling all university students!

Join AstraZeneca's Project iDEA and bring innovative solutions to public health challenges. Compete individually or in teams of up to 4 and gain access to exceptional development opportunities!

**Deadline: 23 May 2025**

**Email:**

**azprojectidea@astrazeneca.com.**

***If you want your article of be featured with us email us @ admin@algeriansca-dz.org***


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