NEWS & COMMENTARIES

The unbased science

The fraudulent ”seminal” article about hydroxychloroquine for COVID-19 patients by Philippe Gautret, Didier Raoult and collaborators, was retracted today.

https://www.medrxiv.org/content/10.1101/2023.04.03.23287649v1.full

International Journal of Antimicrobial Agents 56 (2020) 105949

Contents lists available at ScienceDirect

International Journal of Antimicrobial Agents

journal homepage: www.elsevier.com/locate/ijantimicag

ELSEVIER

Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial ☆

Philippe Gautret[a,b,$], Jean-Christophe Lagier[a,c,$], Philippe Parola[a,b], Van Thuan Hoa… [b,d], Line Meddeb[a], Morgane Mailhe[a], Barbara Doudier[a], Johan Courjon[e,f,g], Valérie Giordanengo[h], Vera Esteves Vieira[a], Hervé Tissot Dupont[a,c], Stép…e Ho…oré[i,j], Philippe Colson[a,c], Eric Chabrière[a,c], Bernard La Scola[a,c], Jean-Marc Rola…, Philippe Brouqui[a,c], Didier Raoult[a,c,*]

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ARTICLE INFO

Editor: Dr. Po-Ren Hsueh

Key words:
2019-nCoV
SARS-CoV-2
COVID-19
Hydroxychloroquine
Azithromycin
Clinical trial

ABSTRACT

Backg… …hloroqu… …d hydroxychloroquine have been found to be efficient on SARS-CoV-2, and rep… to …efficien… Chinese COV-19 patients. We evaluate the effect of hydroxychloroquine on …atory v… loads.

… French Confirmed COVID-19 patients were included in a single arm protocol fro… March … …arch 16th, to receive 600mg of hydroxychloroquine daily and their viral load in nasop…eal swabs was tested daily in a hospital setting. Depending on their clinical presentation, azithrom… was added to the treatment. Untreated patients from another center and cases refusing the protocol we… included as negative controls. Presence and absence of virus at Day6-post inclusion was …nsidered the end point.

…lts: Six patients were asymptomatic, 22 had upper respiratory tract infection symptoms and eight ha… …wer respiratory tract infection symptoms.

…wenty cases were treated in this study and showed a significant reduction of the viral carriage at D6-post inclusion compared to controls, and much lower average carrying duration than reported in the litterature for untreated patients. Azithromycin added to hydroxychloroquine was significantly more efficient for virus elimination.

Conclusion: Despite its small sample size, our survey shows that hydroxychloroquine treatment is significantly associated with viral load reduction/disappearance in COVID-19 patients and its effect is reinforced by azithromycin.

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1. Introduction

In late December 2019, an outbreak of an emerging disease (COVID-19) due to a novel coronavirus (later named SARS-CoV-2) started in Wuhan, China and rapidly spread in China and outside [1,2]. The WHO declared the epidemic of COVID-19 as a pandemic on March 12th 2020 [3]. According to a recent Chinese study,

☆ Given his role as Editor in Chief of this journal, Jean Marc Rolain had no involvement in the peer-review of this article and has no access to information regarding its peer-review. Full responsibility for the peer-review process for this article was delegated to P.R. Hsueh.

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$ equal work

https://doi.org/10.1016/j.ijantimicag.2020.105949
0924-8579/© 2020 Published by Elsevier B.V.

KAIMRC-Flashpoint Therapeutics Announces $50M KAIMRC Partnership and Clinical Pipeline Expansion

Flashpoint Therapeutics, a clinical-stage therapeutics company pioneering structural nanomedicine, today announced significant expansion of its therapeutic pipeline through strategic acquisitions and a new partnership valued at $50M with The King Abdullah International Medical Research Center (KAIMRC) in Saudi Arabia.

https://www.prnewswire.com/news-releases/flashpoint-therapeutics-announces-50m-kaimrc-partnership-and-clinical-pipeline-expansion-302305492.html

Abbvie-Nimble Deal

Nimble entered into a definitive agreement to be acquired by AbbVie. At the closing of the proposed transaction, Nimble and its employees will join AbbVie and advance our innovative pipeline of autoimmune oral therapies.

Proposed acquisition adds Nimble's lead asset, an investigational oral peptide IL23R inhibitor in preclinical development for psoriasis, and a pipeline of other novel oral peptide assets across autoimmune diseases where significant unmet needs remain Acquisition also allows AbbVie to utilize Nimble's proprietary peptide synthesis platform to enable the discovery and optimization of oral peptide therapeutics

https://news.abbvie.com/2024-12-13-AbbVie-to-Acquire-Nimble-Therapeutics,-Further-Strengthening-Immunology-Pipeline

Zelluna-Ultimovacs

Ultimovacs and Zelluna Immunotherapy AS ("Zelluna"), a privately held company pioneering the development of “off the shelf” T- Cell Receptor Natural Killer (TCR-NK) cell therapies for the treatment of solid cancers, announced that Ultimovacs and shareholders of Zelluna representing more than 99% of the total number of issued and outstanding shares in Zelluna (the "Selling Shareholders") have entered into a definitive business combination agreement (the "Business CombinationAgreement") to combine the two companies in a share exchange transaction (the "Business Combination")

https://www.zelluna.com/news/ultimovacs-announces-agreement-to-combine-its-business-with-zelluna-immunotherapy-and-intention-to-launch-fully-committed-private-placement

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BioSciTech biweekly NEWS

Issue: 1 January 2025

AQEMIA Hits $100 Million Funding Milestone, Paving Way to Clinical Trials and Global Expansion Starting with London, UK

AQEMIA, a pioneering techbio that teaches atomic scale physics to a generative AI to invent innovative medicines, announces two major milestones: $100 million in cumulative funding and the beginning of a global expansion starting with London https://www.cathaycapital.com/aqemia-hits-100-million-funding-milestone-paving-way-to-clinical-trials-and-global-expansion-starting-with-london-uk/

Candel Therapeutics Announces CAN-2409 Achieved Primary Endpoint in Phase 3 Prostate Cancer Trial, Showing Significantly Improved Disease-Free Survival

Positive topline data for CAN-2409 viral immunotherapy achieved primary endpoint by demonstrating statistically significant and clinically meaningful benefit when combined with radiation therapy for intermediate-to-high risk, localized prostate cancer. The safety profile of CAN-2409 was generally consistent with previous studies, with no new safety signals identified. The phase 3 clinical trial was conducted under a Special Protocol Assessment (SPA) with the FDA
https://ir.candeltx.com/news-releases/news-release-details/candel-therapeutics-announces-can-2409-achieved-primary-endpoint/

SELECTED PUBLICATIONS

The costs of competition in distributing scarce research funds

Schweiger et al., 2024
https://doi.org/10.1073/pnas.2407644121

Competitive research funding systems influence decision reliability, economic costs, and risky research pursuits. This study examines how such competition impacts scientists and raises ethical concerns. Policy recommendations include empirical testing of decision processes and enhanced data collection to improve funding systems.

By Dr. M.Boudjelal (KAIMRC), Dr. M. Belhocine (AGU), Dr. F. Amokrane Nait Mohamed (Harvard), Dr. Bilal Djeghout (Quadram Institute)
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Issue: 1 January 2025

Human body's ageing 'clock' ticks faster after heat stress

Reported by Heidi Ledford, 2024

A preliminary study suggests that long-term exposure to extreme heat may be associated with molecular changes indicating accelerated ageing. Analysis of DNA markers in over 3,000 individuals highlights a potential connection between heat events and ageing-related processes, warranting further investigation into environmental impacts on health.

https://www.nature.com/articles/d41586-024-04007-8

Temperature-dependent fold-switching mechanism of the circadian clock protein KaiB

Zhang et al., 2025

https://doi.org/10.1073/pnas.2412327121

A study on the cyanobacterial circadian clock protein KaiB reveals how temperature-dependent fold-switching helps maintain accurate timekeeping across varying temperatures. Researchers found that KaiB's free-energy landscape shifts with temperature, aiding in temperature compensation. Proline cis ⇌ trans isomerization was identified as a rate-limiting step in this process, shedding light on the molecular basis of circadian rhythm stability.

Endothelial BMAL1 decline during aging leads to bone loss by destabilizing extracellular fibrillin-1

Yin et L., 2024

https://doi.org/10.1172/JCI176660.

Aging disrupts circadian rhythms and affects skeletal health, as shown in male mice where the circadian protein BMAL1 declines in bone marrow endothelial cells. BMAL1 regulates the balance of ECM proteins, promoting fibrillin-1 (FBN1) stability and preventing excessive TGF-β/SMAD3 signaling. This decline accelerates bone aging by depleting mesenchymal stem cells and increasing osteoclast activity. The findings reveal BMAL1's key role in maintaining bone health by coordinating osteogenic and osteoclastic processes.

By Dr. M.Boudjelal (KAIMRC), Dr. M. Belhocine (AGU), Dr. F. Amokrane Nait Mohamed (Harvard), Dr. Bilal Djeghout (Quadram Institute)
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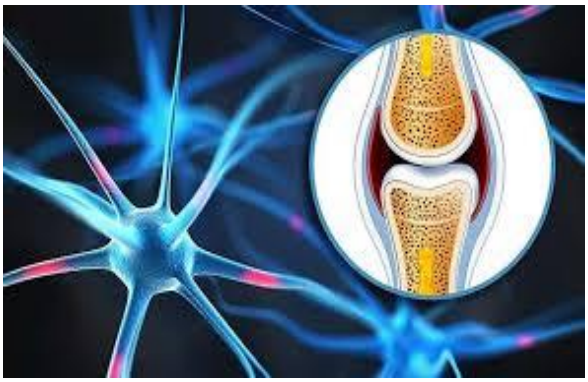
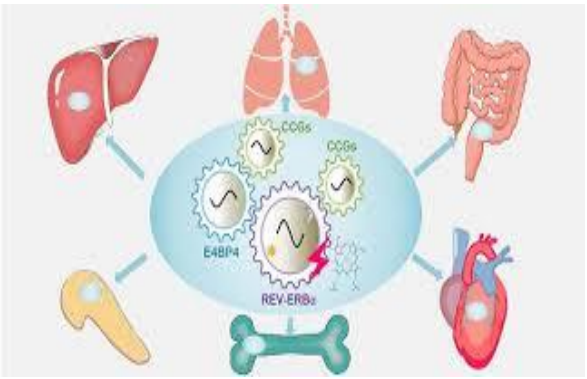


Acute and circadian feedforward regulation of agouti-related peptide hunger neurons

Douglass et al., 2024

https://doi.org/10.1016/j.cmet.2024.11.009

New research reveals that AgRP neurons, key regulators of hunger, are influenced by the circadian clock. Using in vivo recordings in mice, researchers found that AgRP neurons exhibit daily activity peaks aligned with feeding onset, independent of feeding rhythms. This circadian regulation is driven by the suprachiasmatic nucleus (SCN), which activates AgRP neurons via excitatory signals from DMHTrh neurons. These findings highlight a direct link between circadian rhythms and feeding behavior.



Nuclear receptor E75/NR1D2 promotes tumor malignant transformation by integrating Hippo and Notch pathways

Wang et al., 2024

https://doi.org/10.1038/s44318-024-00290-3

Hormone therapy resistance and aggressive tumor progression pose major clinical challenges, but the mechanisms remain unclear. This study shows that Drosophila malignant tumors exhibit reduced ecdysone signaling, similar to steroid hormone inhibition in humans. Overexpression of the nuclear receptor E75 promotes malignant transformation by binding to transcription factors and target genes of the Hippo and Notch pathways. Depleting NR1D2, the mammalian homolog of E75, blocks these pathways and slows glioblastoma progression. These findings reveal a conserved mechanism where hormone inhibition drives malignancy through E75/NR1D2, integrating Hippo and Notch signaling in tumor development

Structure-guided discovery of bile acid derivatives for treating liver diseases without causing itch

Yang et al., 2024

https://doi.org/10.1016/j.cell.2024.10.001

Chronic itch severely affects patients with liver diseases like cholestasis, and bile acids (BAs) activating the MRGPRX4 (hX4) receptor are implicated in this symptom. This study identified elevated 3-sulfated BAs in cholestatic patients with itch and resolved the cryo-EM structure of hX4-Gq bound to a BA mimic, DCA-3P. The structure revealed a novel ligand-binding pocket and the critical role of the 3-hydroxyl (3-OH) group in receptor activation. Using this insight, researchers developed compound 7 (C7), a BA derivative lacking the 3-OH, which alleviates liver injury, fibrosis, and itch in disease models.

By Dr. M.Boudjelal (KAIMRC), Dr. M. Belhocine (AGU), Dr. F. Amokrane Nait Mohamed (Harvard), Dr. Bilal Djeghout (Quadram Institute)
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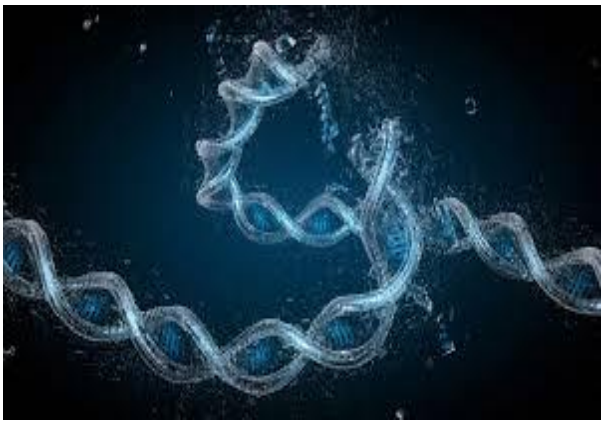
Disruption of cellular plasticity by repeat RNAs in human pancreatic cancer

You et al., 2024

https://doi.org/10.1016/j.cell.2024.09.024

Aberrant expression of repeat RNAs in pancreatic ductal adenocarcinoma (PDAC) triggers viral-like responses, affecting tumor cell states and the surrounding microenvironment. Spatial molecular imaging of 46 primary tumors revealed that high repeat RNA levels correlate with altered epithelial states in PDAC cells and myofibroblast phenotypes in cancer-associated fibroblasts (CAFs). These changes, induced by extracellular vesicles (EVs) and repeat RNAs, highlight cell-cell communication mechanisms. Distinct innate immune signaling via IRF3 drives these responses, modulating cellular plasticity in PDAC and CAFs, and influencing tumor progression

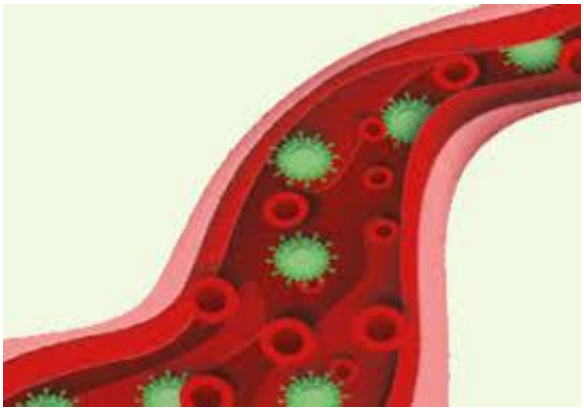


Genome editing with the HDR-enhancing DNA-PKcs inhibitor AZD7648 causes large-scale genomic alterations

Cullot et al., 2024

https://doi.org/10.1038/s41587-024-02488-6

The DNA-PKcs inhibitor AZD7648 improves CRISPR–Cas9-directed homology-directed repair efficiency, showing clinical potential. However, it also induces large-scale genomic alterations, including kilobase- to megabase-scale deletions, chromosome arm loss, and translocations. These alterations often go undetected in standard genome editing assays, highlighting the need for comprehensive evaluation of editing outcomes before therapeutic use.



Red Blood Cells Capture and Deliver Bacterial DNA to Drive Host Responses During Polymicrobial Sepsis

Lam et al; 2024

https://doi.org/10.1172/JCI182127

Red blood cells (RBCs), expressing TLR9, acquire bacterial DNA during sepsis and influence inflammation. Studies in mice and humans reveal RBC-bound DNA correlates with severe inflammatory responses, including elevated IL-6, positioning RBCs as key immune mediators in sepsis.

By Dr. M.Boudjelal (KAIMRC), Dr. M. Belhocine (AGU), Dr. F. Amokrane Nait Mohamed (Harvard), Dr. Bilal Djeghout (Quadram Institute)

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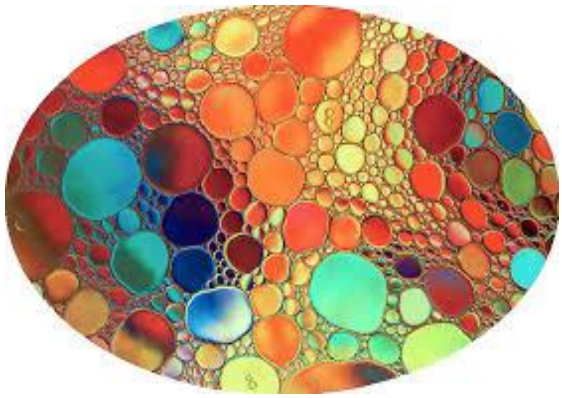
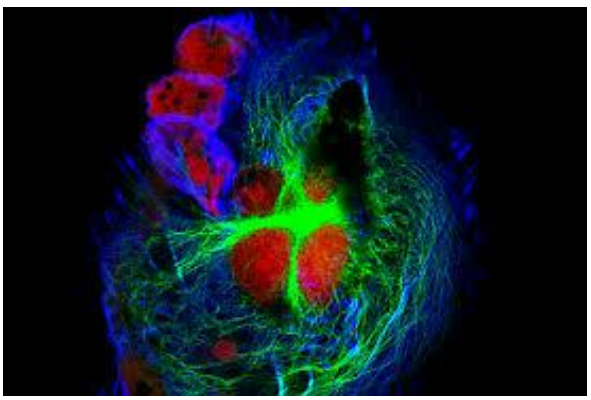


Amino acids modulate liquid–liquid phase separation in vitro and in vivo by regulating protein–protein interactions

Xu et al., 2024

https://doi.org/10.1073/pnas.2407633121

Specific amino acids suppress liquid–liquid phase separation (LLPS) by modulating protein interactions. This effect hinders stress granule formation and coalescence, with potential applications in treating LLPS-associated diseases.



METTL3/MYCN cooperation drives neural crest differentiation and provides therapeutic vulnerability in neuroblastoma

Thombare et al., 2024

https://doi.org/10.1038/s44318-024-00299-8

MYCN recruits METTL3 to posterior HOX genes, maintaining an undifferentiated state in neuroblastoma (NB). METTL3 inhibition restores differentiation, increases chemosensitivity, and highlights its potential as a therapeutic target in MYCN-amplified NB.

RECOMMENDED EVENTS

Director of Apprenticeships - AstraZeneca

AstraZeneca Year 10 virtual work experience registration is now open. **https://www.astrazenecaworkexperience.com**

By Dr. M.Boudjelal (KAIMRC), Dr. M. Belhocine (AGU), Dr. F. Amokrane Nait Mohamed (Harvard), Dr. Bilal Djeghout (Quadram Institute)

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The 2025 Louisa Gross Horwitz Prize for Biology or Biochemistry

The Louisa Gross Horwitz Prize was established under the will of the late S. Gross Horwitz through a bequest to Columbia University and is named to honor the donor's mother. Louisa Gross Horwitz was the daughter of Dr. Samuel David Gross (1805–1889), a prominent surgeon of Philadelphia and author of the outstanding Systems of Surgery, who served as president of the American Medical Association.

Closing date: Jan 24, 2025

https://careers.cell.com/job/13158/the-2025-louisa-gross-horwitz-prize-for-biology-or-biochemistry/

Big molecules to big data…thinking BIG to drive innovation

Royal Society of Medicine, London, 10 – 11 March 2025

https://elrig.eventsair.com/ExhibitionPortal/Account/Login?ReturnUrl=%2FExhibitionPortal%2Fresearch-innovation-2025%2Fexhibition-portal-app

Africa Research Excellence Fund (AREF)

The Africa Research Excellence Fund (AREF) is delighted to announce the launch of the Essential Grant Writing Skills Programme for **Mar/May 2025**

📌 Eligibility requirements:

☑ You are a citizen of a country in Africa.

https://africaresearchexcellencefund.org.uk/funding-calls/the-africa-research-excellence-fund-aref-essential-grant-writing-skills-programme-march-may-2025/

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Cambridge Healthtech Institute's Inaugural

Emerging Technologies for Discovery ChemistryCovalent Approaches and New Biophysical Tools

April 15 - 16, 2025 ALL TIMES PDT

https://www.drugdiscoverychemistry.com/emerging-discovery-technologies

JOBS CORNER

Chairperson for the Department of Cell and Molecular Biology

The Chair is expected to: (1) maintain a nationally and internationally recognized, federally funded research program and other responsibilities

https://careers.cell.com/job/13160/chairperson-for-the-department-of-cell-and-molecular-biology-/?LinkSource=TopJob

Postdoctoral Fellow

A postdoctoral fellowship position is available immediately in the Innate Cells and Th2 Immunity Section (ICTIS) within the Laboratory of Allergic Diseases, NIAID.

https://careers.cell.com/job/13135/postdoctoral-fellow/

Group Leader in Molecular Infection Medicine

Umeå University, Faculty Office of Medicine

The tasks include primarily leading and conducting research in molecular infection medicine within the MIMS research environment. The research tasks also include seeking external funds for funding one's own research.

https://umu.varbi.com/en/what:job/jobID:778888/

We only ask you to co-sponsor scientific event for the emerging countries contact us: admin@algeriansca-dz.org

By Dr. M.Boudjelal (KAIMRC), Dr. M. Belhocine (AGU), Dr. F. Amokrane Nait Mohamed (Harvard), Dr. Bilal Djeghout (Quadram Institute)

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