

## NATURE | RESEARCH HIGHLIGHTS

## INFECTIOUS DISEASE

**Silenced gene keeps malaria out**

Nature 521, 129 (14 May 2015) | doi:10.1038/521129c  
 Published online 13 May 2015

[PDF](#) [Citation](#) [Reprints](#) [Rights & permissions](#) [Article metrics](#)

**Subject terms:** Infection · Microbiology · Drug discovery

Researchers have uncovered a possible target for anti-malarial therapies by suppressing gene expression in blood stem cells.

Malaria-causing parasites attack mature red blood cells, which lack DNA, making it hard to test which genes make the cells vulnerable to malaria infection. Manoj Duraisingh at the Harvard T. H. Chan School of Public Health in Boston, Massachusetts, and his colleagues have sidestepped this problem by studying the stem cells that develop into red blood cells and contain DNA.

They used RNA molecules to knock down gene activity in the stem cells, induced them to develop into red blood cells and then exposed them to *Plasmodium falciparum* — the most deadly malaria pathogen.

They found that the parasite binds to a cell-surface protein called CD55 and could not infect cells that did not produce it. Red blood cells can function normally without CD55, suggesting that the protein could be a therapeutic target.

Science 348, 711–714 (2015)

## More Research Highlights

## PALAEOONTOLOGY

**Early modern bird**

## CHEMISTRY

**Crystal harbours molecular shuttle**

## MICROBIOLOGY

**Gut biofilms could spur cancer**

## CLIMATE SCIENCE

**Growing extremes in California rains**

## EVOLUTION

**Bird beak to dinosaur snout**

## ENTOMOLOGY

**Ants dig differently depending on dirt**

## ASTROPHYSICS

**Farthest galaxy measured**

## EPIGENETICS

**Mammary cells have a memory**

## Microwave oven

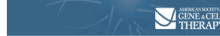
**blamed for radio-telescope signals**

Molecular Therapy  
Oncolytics

Editor-in-Chief:  
Yuman Fong MD, City of Hope, USA

Engineering cells or viruses and other microorganisms to combat cancer

Read the first issue in full >>>



## Editors' pick

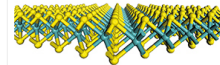


Image credit: H. Terrones et al. Sci. Rep. 3, 1549 (2013)

**Graphene and beyond: the hundreds of 2D materials discovered in the wake of graphene could revolutionize applications from solar cells to quantum computing.**

## Science jobs

## Science events

## nature events directory

**Systems Biology of Infection Symposium - 2nd Edition**

06 September 2015 — 10 September 2015  
Via Collina 84, Ascona, Switzerland

**SCELSCE Biofilm Summer Course 2015**

06 July 2015 — 25 July 2015  
60 Nanyang Drive, SBS-01N-27, Singapore, Singapore

**Stereology and Image Processing in Digital Pathology**

07 September 2015 — 11 September 2015  
P. Baublio 5, LT - 08406 Vilnius, Vilnius, Lithuania

[Post a free event](#) | [More science events](#)

## Most read

**Structural and functional features of central nervous system lymphatic vessels**  
Nature | 01 June 2015

**Let's have a talk**  
Nature | 03 June 2015

**Human body epigenome maps reveal noncanonical DNA methylation variation**  
Nature | 01 June 2015

nature.com  
open innovation pavilion

## Noninvasive Biomarkers for Liver Fibrosis

Deadline: Aug 17 2015  
Reward: \$50,000 USD

Liver disease is a continuum of diseases from viral or toxic insults leading via fibrosis to late stage chronic liver diseases...

## Markers of Transduction and Gene Expression Compatible with Ocular Gene Therapy

Deadline: Jun 20 2015  
Reward: \$45,000 USD

The concept of gene therapy arose decades ago, when researchers postulated that human diseases could be treated by using a t...

Powered by: INNOCENTIVE [View all](#)

npj | Regenerative Medicine

Open for submissions

Publishing high quality research on ways to help the human body repair, replace and regenerate damaged tissues and organs

EDITOR-IN-CHIEF  
Professor Nadia Rosenthal

Part of the Nature Partner Journals series

npj | nature partner journals

Nature ISSN 0028-0836 EISSN 1476-4687

About NPG  
Contact NPG  
Accessibility statement  
Help

Privacy policy  
Use of cookies  
Legal notice  
Terms

Naturejobs  
Nature Asia  
Nature Education  
RSS web feeds

About Nature  
Contact Nature  
About the Editors  
Nature awards

Search:  go