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Physiology or Medicine

[Multiple independent activations of the neu oncogene by a point mutation altering the transmembrane domain of p185](#) Cornelia I. Bargmann, Mien-Chie Hung & Robert A. Weinberg

Cell, Volume 45, Issue 5, p649–657, 6 June 1986

This study characterized for the first time tumor associated, activating single point mutations in the transmembrane domain of the neu oncogene.

[Identification of a mammalian protein that binds specifically to DNA containing methylated CpGs](#)

Richard R. Meehan, Joe D. Lewis, Stewart McKay, Elke L. Kleiner, Adrian P. Bird

Cell, Volume 58, Issue 3, p499–507, 11 August 1989

Meehan et al. discovered a mammalian methyl-CpG binding protein with differential expression in normal versus cancer cells.

[The small GTP-binding protein rho regulates the assembly of focal adhesions and actin stress fibers in response to growth factors](#)

Anne J. Ridley, Alan Hall

Cell, Volume 70, Issue 3, p389–399, 7 August 1992

Results in this paper uncover the Rho-GTPase activity as regulator of focal adhesion- and stress-fiber formation, both elementary to cellular migration and cancer cell invasion.

[Interleukin-10-deficient mice develop chronic enterocolitis](#)

Ralf Kühn, Jürgen Löhler, Donna Rennick[‡], Klaus Rajewsky, Werner Müller

Cell, Volume 75, Issue 2, p263–274, 22 October 1993

The first genetic abrogation of interleukin-10 reveals specific immuno-modulatory roles in the colonic epithelium in-vivo.

[The *C. elegans* heterochronic gene *lin-4* encodes small RNAs with antisense complementarity to *lin-14*](#)

Rosalind C. Lee, Rhonda L. Feinbaum, Victor Ambros

Cell, [Volume 75, Issue 5](#), 3 December 1993, Pages 843–854

Report on the discovery of lin-4 as new regulator of translation that encodes a short, antisense mRNA-transcript recognizing complementary sequences in the 3'UTR of target loci.

[The ubiquitin-proteasome pathway is required for processing the NF- \$\kappa\$ B precursor protein and the activation of NF- \$\kappa\$ B](#)

Vito J. Palombella, Oliver J. Rando, Alfred L. Goldberg, Tom Maniatis

Cell, [Volume 78, Issue 5](#), 9 September 1994, Pages 773–785

First evidence for the ubiquitin-proteasome system to contribute to Nf- κ B precursor processing and TNF α -signaling.

[22 genes from chromosome 17q21: cloning, sequencing, and characterization of mutations in breast cancer families and tumors](#)

Lori S. Friedman, Elizabeth A. Ostermeyer, Eric D. Lynch, Piri Welcsh, Csilla I. Szabo, Jose E. Meza, Lee A. Anderson, Patrick Dowd, Ming K. Lee, Sarah E. Rowell, Jay Ellison, Jeff Boyd, Mary-Claire King

Genomics [Volume 25, Issue 1](#), 1 January 1995, Pages 256–263

One of the seminal studies that eventually led to the discovery of BRCA-1 gene mutations, revealing that inherited alleles are causally linked to human cancer.

[Toward a cDNA Map of the Human Genome](#)

Julie R. Korenberg, Xiao-Ning Chen, Mark D. Adams, Craig J. Venter

Genomics [Volume 29, Issue 2](#), September 1995, Pages 364–370

Technical advances described in this study enabled rapid definition of a high-resolution map of the transcribed human genome and mapping of disease-causing mutations, respectively.

[The TAF_{II}250 Subunit of TFIID Has Histone Acetyltransferase Activity](#)

Craig A Mizzen, Xiang-Jiao Yang, Tetsuro Kokubo, James E Brownell, Andrew J Bannister, Tom Owen-

Hughes, Jerry Workman, Lian Wang, Shelley L Berger, Tony Kouzarides, Yoshihiro Nakatani, C. David Allis

Cell, [Volume 87, Issue 7](#), 27 December 1996, Pages 1261–1270

The discovery of an enzymatic activity that grants transcription factors access to literally silent/repressed parts of an animals genetic information.

[Targeted Disruption of the MyD88 Gene Results in Loss of IL-1- and IL-18-Mediated Function](#)

Osamu Adachi, Taro Kawai, Kiyoshi Takeda, Makoto Matsumoto, Hiroko Tsutsui, Masafumi Sakagami,

Kenji Nakanishi, Shizuo Akira

Immunity [Volume 9, Issue 1](#), 1 July 1998, Pages 143–150

Discovery of MyD88 as integrator and molecular scaffold in both IL-1 and IL-18 mediated signaling.

[Malignant effusions and immunogenic tumour-derived exosomes](#)

Fabrice Andre, Noel EC Schartz, Mojgan Movassagh, Caroline Flament, Patricia Pautier, Philippe Morice, Christophe Pomel, Catherine Lhomme, Bernard Escudier, Thierry Le Chevalier, Thomas Tursz, Sebastian Amigorena, Graca Raposo, Eric Angevin, Laurence Zitvogel

The Lancet [Volume 360, Issue 9329](#), 27 July 2002, Pages 295–305

An intriguing report on “membrane vesicles” (also called tumor-derived exosomes), which contain tumor-antigens for cross-presentation to cytotoxic T-lymphocytes.

[Genomics of microRNA](#)

V. Narry Kim, Jin-Wu Nam

Trends in Genetics [Volume 22, Issue 3](#), March 2006, Pages 165–173

An expert summary on microRNAs in general and mechanistic discoveries regarding their biogenesis in particular.

[Rare De Novo and Transmitted Copy-Number Variation in Autistic Spectrum Disorders](#)

Dan Levy, Michael Ronemus, Boris Yamrom, Yoon-ha Lee, Anthony Leotta, Jude Kendall, Steven Marks, B. Lakshmi, Deepa Pai, Kenny Ye, Andreas Buja, Abba Krieger, Seungtai Yoon, Jennifer Troge, Linda Rodgers, Ivan Iossifov, Michael Wigler

Neuron [Volume 70, Issue 5](#), 9 June 2011, Pages 886–897

Systematic and comparative genomics on families affected by Autism to discover hundreds of disease-associated loci and points of their functional convergence. The paper offers unprecedented new insights into the underlying networks of a multifactorial disease .

[FMRP Stalls Ribosomal Translocation on mRNAs Linked to Synaptic Function and Autism](#)

Jennifer C. Darnell, Sarah J. Van Driesche, Chaolin Zhang, Ka Ying Sharon Hung, Aldo Mele, Claire E. Fraser, Elizabeth F. Stone, Cynthia Chen, John J. Fak, Sung Wook Chi, Donny D. Licatalosi, Joel D. Richter, Robert B. Darnell

Cell, [Volume 146, Issue 2](#), 22 July 2011, Pages 247–261

Mutations in FMRP are causally linked to the fragile X syndrome and autistic features. The discovery of pre- and postsynaptic protein-transcripts as FMRP-targets suggests ribosome stalling as disease mechanism and reveals very valuable targets for future therapeutic interventions.

[Blessings in disguise: biological benefits of prion-like mechanisms](#)

Gregory A. Newby, Susan Lindquist

Trends in Cell Biology, [Volume 23, Issue 6](#), June 2013, Pages 251–259

A state of the art review on protein folding/self-templating conformational changes both in physiology and disease, that integrates the role of governing chaperones.

[Repurposing CRISPR as an RNA-Guided Platform for Sequence-Specific Control of Gene Expression](#)

Lei S. Qi, Matthew H. Larson, Luke A. Gilbert, Jennifer A. Doudna, Jonathan S. Weissman, Adam P. Arkin, Wendell A. Lim

Cell, [Volume 152, Issue 5](#), 28 February 2013, Pages 1173–1183

Landmark paper on the functional deployment of a bacterial endonuclease for genetic engineering.

Chemistry

[A novel synthesis of functional dithioesters, dithiocarbamates, xanthates and trithiocarbonates](#)

San H. Thang, Y.K. Chong, Roshan T.A. Mayadunne, Graeme Moad, Ezio Rizzardo

Tetrahedron Letters, [Volume 40, Issue 12](#), 19 March 1999, Pages 2435–2438

[Functionalisation of nanoparticles for biomedical applications](#)

Nguyen T.K. Thanh, Luke A.W. Green

Nano Today, [Volume 5, Issue 3](#), June 2010, Pages 213–230

Physics

[On the role of classical and quantum notions in channeling and the development of fast positrons as a solid state probe of valence electron and spin densities](#)

Lene Vestergaard Hau, J.A. Golovchenko, R. Haakenaasen, A.W. Hunt, J.P. Peng, P. Asoka-Kumar, K.G. Lynn, M. Weinert, J.C. Palathingal

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms,

[Volume 119, Issues 1–2](#), 2 October 1996, Pages 30–41

Nanowire photonics

Peter J. Pauzauskie, Peidong Yang

Materials Today, Volume 9, Issue 10, October 2006, Pages 36–45

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