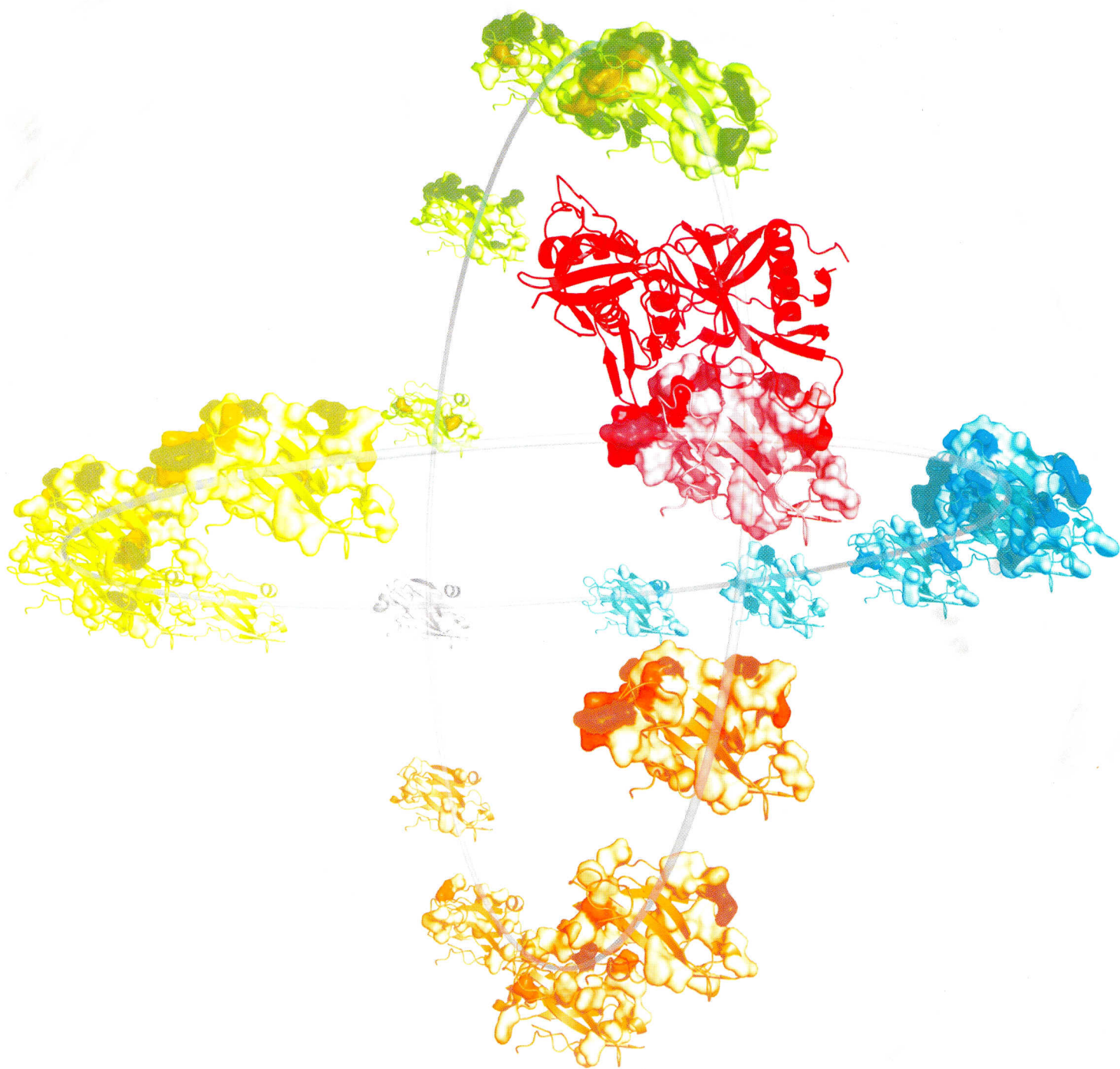


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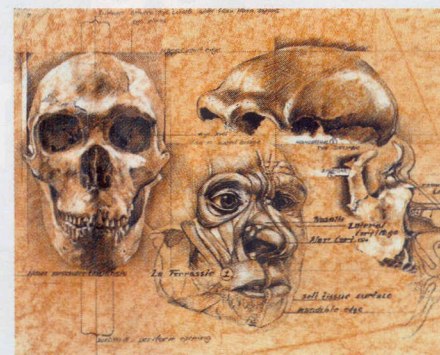
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Maturation of human antibodies from germline recombinant (gray ribbon structure), along four lineages (orange, yellow, green, and blue), into potent neutralizers of HIV-1. A mature antibody variable domain is shown binding its target, HIV-1 envelope glycoprotein gp120 (red ribbon structure). Deep sequencing and structural bioinformatics of the antibody repertoires of HIV-infected individuals uncover the genetic record for the development of broadly neutralizing HIV-1 immunity. See page 1593.

Image: Jonathan Stuckey/Vaccine Research Center, National Institute of Allergy and Infectious Diseases/NIH

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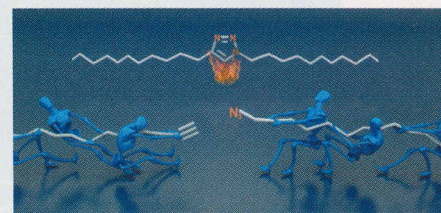
- 1593** Focused Evolution of HIV-1 Neutralizing Antibodies Revealed by Structures and Deep Sequencing
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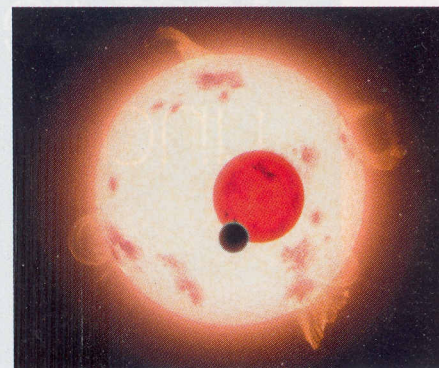
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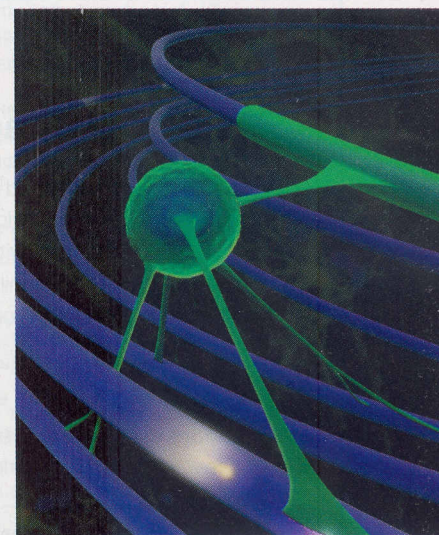
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Deep Mantle Cycling of Oceanic Crust: Evidence from Diamonds and Their Mineral Inclusions

M. J. Walter et al.

Tiny minerals trapped inside Brazilian diamonds show that Earth's carbon cycle extends down to the lower mantle.

10.1126/science.1209300

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The Influence of Nonlinear Mesoscale Eddies on Near-Surface Oceanic Chlorophyll

D. B. Chelton et al.

Large ocean eddies are the cause of some sea surface height and chlorophyll anomalies previously ascribed to Rossby waves.

10.1126/science.1208897

Information Transduction Capacity of Noisy Biochemical Signaling Networks

R. Cheong et al.

Noise limits information transfer through a single signaling pathway in a single cell to just one bit.

10.1126/science.1204553

Acetylcholine-Synthesizing T Cells Relay Neural Signals in a Vagus Nerve Circuit

M. Rosas-Ballina et al.

A neural circuit that involves a specialized population of memory T cells regulates the immune response.

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Functional Innervation of Hepatic iNKT Cells Is Immunosuppressive Following Stroke

C. H. Y. Wong et al.

Neurotransmitters relay immunosuppressive signals to natural killer T cells after stroke.

10.1126/science.1210301

Transgenerational Epigenetic Instability Is a Source of Novel Methylation Variants

R. J. Schmitz et al.

Spontaneous methylation rates that may affect phenotype in the plant *Arabidopsis* are higher than the mutation rate.

10.1126/science.1212959

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Full text at www.sciencemag.org/cgi/content/full/333/6049/1576-b

Response to Comment on "A Test of the Snowball Theory for the Rate of Evolution of Hybrid Incompatibilities"

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Full text at www.sciencemag.org/cgi/content/full/333/6049/1576-c

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Scientists who discovered a cell 'machine' involved in protein folding and a life-saving treatment for malaria are this year's recipients.

http://scim.ag/_Laskers

Glowing Kittens Fight Feline AIDS

Researchers find an easier way to make genetically modified cats.

<http://scim.ag/glowcats>

The Sky Is Falling! But No Big Deal

The UARS satellite will soon fall to Earth, but then, everything eventually does.

<http://scim.ag/UARSfall>

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The Signal Transduction Knowledge Environment

13 September issue: <http://scim.ag/ss091311>

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Arginine methylation of RAF determines the response to growth factors that activate the same cascade.

RESEARCH ARTICLE: Feedback Circuits Monitor and Adjust Basal Lck-Dependent Events in T Cell Receptor Signaling

J. R. Schoenborn et al.

Signaling molecules downstream of the TCR are poised to rapidly respond to receptor activation.

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TEACHING RESOURCE: Introduction to Statistical Methods to Analyze Large Data Sets—Principal Components Analysis

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TEACHING RESOURCE: Introduction to Statistical Methods for Analyzing Large Data Sets—Gene-Set Enrichment Analysis

N. R. Clark and A. Ma'ayan

TEACHING RESOURCE: Introduction to Network Analysis in Systems Biology

A. Ma'ayan

Lecture notes and problem sets provide materials for teaching systems biology.

PERSPECTIVE: Met Receptor—A Moving Target

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Endosomal recycling pathways dictate the signaling capacity of wild-type or mutant Met receptor.

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14 September issue: <http://scim.ag/stm091411>

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A fibronectin fragment enhances the regenerative effects of growth factors in animal models.

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Inflammation after heart attack impairs the ability of bone marrow cells to improve cardiac function.

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Tooling Up: Are You Likable?

D. Jensen

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Research Careers at Community Colleges?

M. Price

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