Tumor-penetrating transport of cancer drugs is activated by the peptide iRGD (multicolored ring), which binds to integrin receptors (blue and yellow) in tumor blood vessels, and is subsequently cleaved. The cleaved peptide then binds to neuropilin-1 receptors (purple), activating a transport system that carries coadministered drugs, such as antibodies (green), deeper into tumor tissue. See page 1031.

Image: Peter Allen/University of California, Santa Barbara
BREVIA
993 Adaptive Evolution of an sRNA That Controls Myxococcus Development
Y.-T. N. Yu et al.
Mutation of a small noncoding RNA drives adaptive evolution in a social bacterium.

RESEARCH ARTICLE
994 A Catalog of Reference Genomes from the Human Microbiome
The Human Microbiome Jumpstart Reference Strains Consortium
Standardized protocols and methods are being established for large-scale sequencing of the microorganisms living on humans.

REPORTS
999 Observation of Plasmarons in Quasi-Freestanding Doped Graphene
A. Bostwick et al.
Doping of graphene introduces two new crossing points of the conduction and valence-electron bands.

1003 Large Angular Jump Mechanism Observed for Hydrogen Bond Exchange in Aqueous Perchlorate Solution
M. Ji et al.
Water molecules shift orientation between dissolved ions and the surrounding liquid by taking large, sudden steps.

1006 Cooperativity in Ion Hydration
K. J. Tielrooij et al.
When salts dissolve in water, the separated cations and anions can still collectively impact the liquid structure.

1009 Self-Assembly of Janus Dendrimers into Uniform Dendrimersomes and Other Complex Architectures
V. Percec et al.
Amphiphilic, spherically shaped polymers self-assemble into larger hollow complexes that could be used for drug delivery.

1014 Lopsided Growth of Earth’s Inner Core
M. Monnereau et al.
The asymmetry of the inner core is explained by iron crystallization on one side and melting on the other.

1018 Regional Variation of Inner Core Anisotropy from Seismic Normal Mode Observations
A. Deuss et al.
Seismic data from the inner core reveal that anisotropic regions overlap with gravitational anomalies.

1021 The Onset of Collective Behavior in Social Amoebae
T. Gregor et al.
Stochastic pulsing of individual cells plays a critical role in initiating cyclic adenosine monophosphate pulses.

1025 Structural Insights into the Assembly and Function of the SAGA Deubiquitinating Module
N. L. Samara et al.
Structures give insight into how a regulator of eukaryotic gene expression achieves one of its chromatin-modifying functions.

1029 Network Diversity and Economic Development
N. Eagle et al.
Social diversity is associated with economic development.

1031 Concomitant Inhibition of a Tumor-Penetrating Peptide Enhances the Efficacy of Cancer Drugs
K. N. Sugahara et al.
Anticancer drugs are more effective in mice when they are injected with a peptide that helps the drugs penetrate the tumor.

1036 Five-Vertebrate ChIP-seq Reveals the Evolutionary Dynamics of Transcription Factor Binding
D. Schmidt et al.
Binding of two liver-specific transcription factors in several vertebrate species reveals complex regulatory evolution.

1040 pH Sensing by Intracellular Salmonella Induces Effector Translocation
X.-J. Yu et al.
Intravacuolar Salmonella sense host cytosolic pH, resulting in degradation of a regulatory complex and effector translocation.

1043 A Global Proteo Kinase and Phosphatase Interaction Network in Yeast
A. Brietkreutz et al.
Phosphorylation reactions in budding yeast reveal the regulatory architecture of a fundamental cellular control system.
SCIENCEONLINE

SCIENCEXPRESS
www.sciencexpress.org

Creation of a Bacterial Cell Controlled by a Chemically Synthesized Genome
D. G. Gibson et al.
A synthetic Mycoplasma mycoides genome transplanted into M. capricolum was able to control the host cell.
10.1126/science.1189731

SCIENCEFEATURE
www.sciencemag.org

ATP-Binding Cassette Transporters and HDL Suppress Hematopoietic Stem Cell Proliferation
L. Yuan-Charet et al.
Pathways that reduce cholesterol in atherosclerosis also suppress increased immune cell numbers associated with the disease.
10.1126/science.1189413

SCIENCEFORUM
www.sciencenow.org

REVIEW: Deciphering Genetic Disease in the New U.S. Health Care Legislation
E. G. Nabel
The new U.S. health care legislation includes surface postage; bulk rates on request.
Published by AAAS
www.sciencemag.org
CONTENTS

Published by AAAS
www.sciencemag.org
SCIENCE VOL 328 21 MAY 2010

947