Human intestinal bacteria (field-of-view width: ~11.4 µm).

The human gut is teeming with symbiotic microbes that interact with their host to maintain health. A joint Science and Science Translational Medicine special section (see page 1245) explores advances in microbial ecology, microbial and host metabolisms, and interactions between gut microbes and the host immune system. Complementary articles discuss how to apply this knowledge to boost health and nutrition, combat infectious disease, and control noncommunicable diseases such as obesity and diabetes.

Front cover image: Copyright Dennis Kunkel Microscopy, Inc.
BREVIA

1274 Crystal Structure of Human Enterovirus 71
P. Plevka et al.
The structure of a virus linked to neurological disease reveals how drugs targeting viruses in this family can be modified.

RESEARCH ARTICLE

1275 The Stomatopod Dactyl Club: A Formidable Damage-Tolerant Biological Hammer
J. C. Weaver et al.
The structure of mantis clubs is optimized to prevent complete failure caused by repetitive impacts.

REPORTS

1280 Quantum Information Storage for over 180 s Using Donor Spins in a $^{28}$Si “Semiconductor Vacuum”
M. Steger et al.
An almost isotopically pure sample of $^{28}$Si provides a vacuumlike environment for $^{31}$P qubits.

1283 Room-Temperature Quantum Bit Memory Exceeding One Second
P. C. Maurer et al.
Defects in diamond can be operated as quantum memories at room temperature.

1287 Bright Coherent Ultrahigh Harmonics in the keV X-ray Regime from Mid-Infrared Femtosecond Lasers
T. Popmintchev et al.
An electron excitation process in a high-pressure gas converts infrared light into a well-confined beam of x-rays.

1291 The Heliosphere’s Interstellar Interaction: No Bow Shock
D. J. McComas et al.
Observations from the Interstellar Boundary Explorer are not consistent with a bow shock ahead of the heliosphere.

1294 Templating Three-Dimensional Self-Assembled Structures in Bilayer Block Copolymer Films
A. Tavakkoli K. G. et al.
An array of posts guides the bilayer assembly of block copolymers with independent control of morphology and orientation.

1298 Titanium and Zinc Oxide Nanoparticles Are Proton-Coupled Electron Transfer Agents
J. N. Schrauben et al.
Protons can play more of a role than previously appreciated in charge-transfer events at nanoparticle interfaces.

1301 Interglacial Hydroclimate in the Tropical West Pacific Through the Late Pleistocene
A. N. Meckler et al.
Precipitation in Borneo, largely invariant during the last four interglacial periods, decreased during glacial terminations.

1304 Global Honey Bee Viral Landscape Altered by a Parasitic Mite
S. J. Martin et al.
The arrival on Hawaii of the mite Varroa has decreased diversity and increased prevalence of deformed wing virus.

1306 Vitamin K$_2$ Is a Mitochondrial Electron Carrier That Rescues Pink1 Deficiency
M. Vos et al.
Adding vitamin K rescues fruit flies bearing a mutation in a Parkinson’s disease gene homolog.

1310 Actin Network Architecture Can Determine Myosin Motor Activity
A.-C. Reymann et al.
Myosin crumples up antiparallel actin fibers and leaves parallel bundles intact.

1314 Interactions Between Commensal Fungi and the C-Type Lectin Receptor Dectin-1 Influence Colitis
I. D. Iliev et al.
Mammals contain resident fungal intestinal populations that influence disease susceptibility.

1317 Chemokine Gene Silencing in Decidual Stromal Cells Limits T Cell Access to the Maternal-Fetal Interface
P. Nancy et al.
Turning off the expression in the placenta of T cell attractants allows the mother to tolerate the fetus.

1321 Innate Lymphoid Cells Promote Anatomical Containment of Lymphoid-Resident Commensal Bacteria
G. F. Sonnenberg et al.
Lymphocytes prevent bacteria from spreading beyond gut-associated lymphoid tissues and causing systemic inflammation.

1325 Regulated Virulence Controls the Ability of a Pathogen to Compete with the Gut Microbiota
N. Kamada et al.
Virulence genes and nutritional requirements determine the course of a gastroenteric bacterial infection in mice.
RESEARCH ARTICLE: Coupled Activation and Degradation of eEF2K Regulates Protein Synthesis in Response to Genotoxic Stress F. Kruiswijk et al.
PERSPECTIVE: F-Box Proteins Elongate Translation During Stress Recovery S. Meloche and P. P. Roux
DNA damage triggers the phosphorylation of factors involved in protein synthesis to regulate polypeptide elongation.

PROTOCOL: Labeling and Identification of Direct Kinase Substrates S. M. Carlson and F. M. White
A strategy that uses analog-sensitive kinases enables the identification of low-abundance kinase substrates.

PHOTO: Aphid Eats Insect with Missing Antenna J. B. Aider

Dramatic shifts in the diet of aphids have led to evolutionary changes in the length of their antennae.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: A Validated Tumorgraft Model Reveals Activity of Dovitinib Against Renal Cell Carcinoma S. Sivanand et al.
An extensively validated tumorgraft model shows activity of investigational agent dovitinib against renal cell carcinoma.

RESEARCH ARTICLE: Noninvasive Whole-Genome Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.

RESEARCH ARTICLE: Sequencing of a Human Fetus J. O. Kitzman et al.
Sequencing of cell-free fetal-derived DNA from maternal plasma provides a noninvasive way to predict the fetal genome sequence.
Science 336 (6086), 1206-1333.