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- 1158 **Massive Trials to Test Inflammation Hypothesis**
- 1159 **ENCODE Project Writes Eulogy for Junk DNA**
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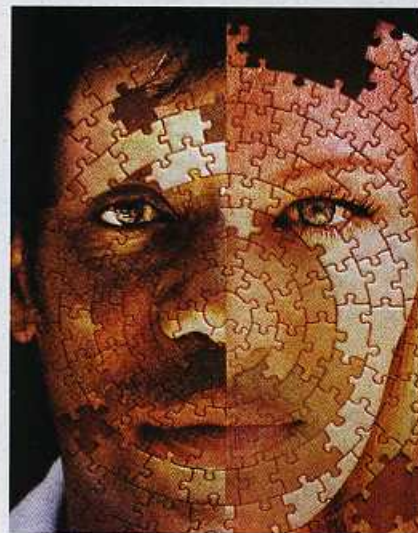
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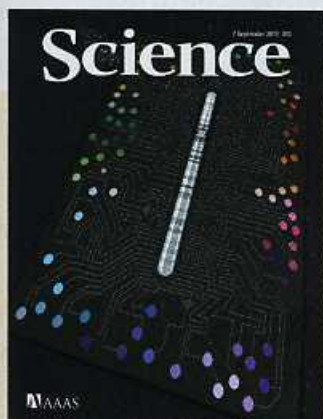
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COVER

Artist's conception of the complex network of relationships between disease and the human genome. Hundreds of diseases and traits (represented by colored dots) have been mapped to specific chromosomal positions in the genome. Most disease-associated genetic variants fall outside of protein-coding genes, instead affecting the genome's regulatory circuitry by modifying the DNA "switches" (some of which are depicted here as gray triangles, many others not shown) that control gene activity. See page 1190.

Image: Rachael Ludwig and John Stamatoyannopoulos

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- 1190 **Systematic Localization of Common Disease-Associated Variation in Regulatory DNA**
M. T. Maurano et al.
Genetic variants that have been associated with diseases are concentrated in regulatory regions of the genome.
>> *News story p. 1159; Perspective p. 1179; Science Podcast*

REPORTS

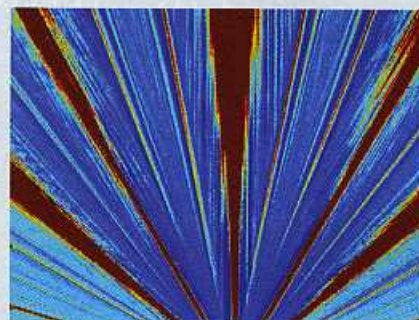
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- 1200 **Electron Small Polarons and Their Mobility in Iron (Oxyhydr)oxide Nanoparticles**
J. E. Katz et al.
X-ray spectroscopy highlights the influence of local structure on electron transport in iron minerals.
- 1203 **Photo-Tautomerization of Acetaldehyde to Vinyl Alcohol: A Potential Route to Tropospheric Acids**
D. U. Andrews et al.
Enol tautomers may play a bigger role in atmospheric chemistry than previously suspected.
- 1207 **Direct Mapping of Nuclear Shell Effects in the Heaviest Elements**
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S. Gozem et al.
In rhodopsin, the transition state for thermal activation has the same electronic structure as that for photoexcitation.
- 1228 **Ecological Populations of Bacteria Act as Socially Cohesive Units of Antibiotic Production and Resistance**
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Natural antibiotics enforce competition between, rather than within, bacterial populations.
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D. Singh et al.
A fusion gene detected in a small subset of human brain tumors encodes a potentially druggable target.

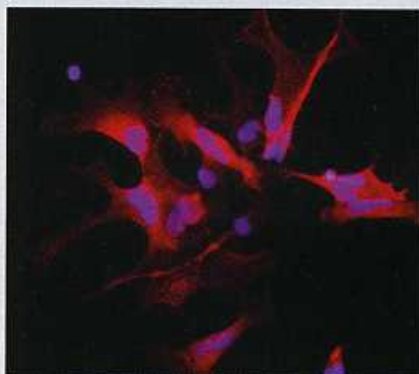
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