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GTP-bound tubulin is found at microtubule ends in living cells and also within microtubules, where it may promote repolymerization and avert microtubule collapse.
10.1126/science.1165401

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Conservation and Rewiring of Functional Modules Revealed by an Epistasis Map in Fission Yeast A. Roguev et al.
Comparison of genetic wiring in two types of yeast reveals that protein complexes are conserved, but the interactions between them can change radically between species.

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Reanalysis of archived samples of an experiment simulating production of organic molecules in volcanic gases by lightning shows that they contain many amino acids. >> Science Podcast

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CHEMISTRY
Catalytic Conversion of Biomass to Monofunctional Hydrocarbons and Targeted Liquid-Fuel Classes E. L. Kunkes et al.
A set of two reactors, one that breaks down biomass sugars and a second that directs chain formation, can synthesize various hydrocarbon fuels.
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Two allosterically regulated proteins can be engineered to interact so that when light activates one, it triggers the enzymatic output (dihydrofolate reductase) of the other. J. Lee

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Surface Sites for Engineering Allosteric Control in Highly Ordered Square Arrays C. Tang et al.

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S. Chaumont, V. Compan, E. Toumel, E. Richler, G. D. Housley, F. Rassendren, B. S. Khakh
Optics and electrophysiology reveal the dynamics of an ATP-gated ion channel signaling complex.

RESEARCH ARTICLE: BDNF Selectively Regulates GABAA Receptor Transcription by Activation of the JAK/STAT Pathway
Brain-derived neurotrophic factor regulates a GABA receptor subunit through the repressor ICER.

PERSPECTIVE: Acetylation of MKP-1 and the Control of Inflammation
H. Chi and R. A. Flavell
Toll-like receptor signaling is inhibited by acetylated MKP-1, a mitogen-activated protein kinase phosphatase.

PREVIEW
Get a sneak peek at articles coming up in the 21 October issue related to this week’s Science special issue on cell signaling.
>> Cell Signaling section p. 389 and www.sciencemag.org/cellsignaling08/

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