



COVER

A mouse embryo at 9 days of gestation, stained for α -fetoprotein in the liver bud and yolk sac (upper left and right green domains) and for the transcription factor Pdx-1 in the ventral and dorsal pancreas buds (upper and lower red domains). Understanding the basis for organ development can provide insights into disease and stem cell programming. See the special section beginning on page 1489.

Image: Ewa Wandzioch and Ken Zaret

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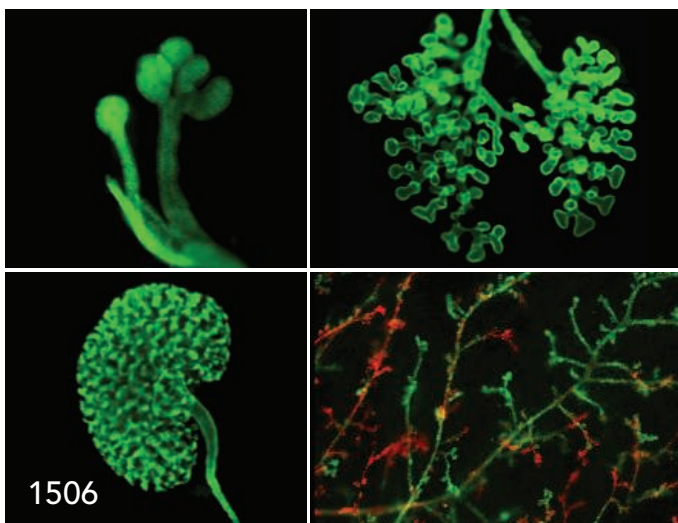
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A way to reactivate a fetal form of γ -globulin in adults—by releasing it from repression by an inhibitor—may prove useful for treating certain genetic anemias.

10.1126/science.1165409

CELL BIOLOGY

Nascent RNA Sequencing Reveals Widespread Pausing and Divergent Initiation at Human Promoters

L. J. Core, J. J. Waterfall, J. T. Lis

RNA sequencing identifies antisense transcription immediately upstream of genes with transcriptionally engaged RNA polymerase.

10.1126/science.1162228

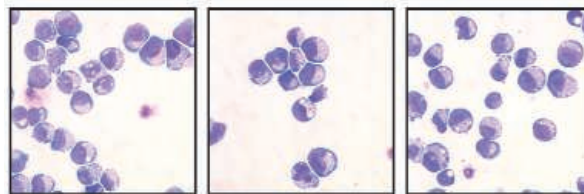
CELL BIOLOGY

Divergent Transcription from Active Promoters

A. C. Seila et al.

Active genes produce promoter-localized sense and antisense short RNAs, suggesting frequent transcription by divergently oriented RNA polymerase II complexes at mammalian promoters.

10.1126/science.1162253



CELL BIOLOGY

RNA Exosome Depletion Reveals Transcription Upstream of Active Human Promoters

P. Preker et al.

Highly unstable transcripts exist upstream of active human promoters.

10.1126/science.1164096

CELL BIOLOGY

The Antisense Transcriptomes of Human Cells

Y. He, B. Vogelstein, V. E. Velculescu, N. Papadopoulos, K. W. Kinzler

The abundance and nonrandom genomic origin of antisense transcripts in human cells suggest that these RNAs are an important feature of gene regulation.

10.1126/science.1163853

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J. E. Mold et al.

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>> *News story p. 1450; Science Podcast*



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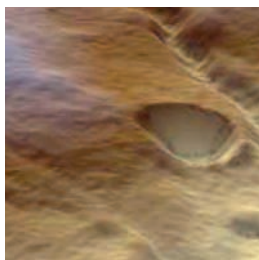
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Ligand-binding pocket of PPAR γ .

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PERSPECTIVE: Ligand-Dependent and -Independent Regulation of PPAR γ and Orphan Nuclear Receptors

H. E. Xu and Y. Li

It is too soon to conclude that the physiological activities of PPAR γ are truly ligand-independent.

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S. W. Lee, P. P. Ongusaha, A. M. VanHook

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>> *Organ Development* section p. 1489 and www.sciencemag.org/organdevlopment/



How will scientists fare in the new administration?

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FREE CAREER RESOURCES FOR SCIENTISTS

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K. Hede

Job opportunities make a bright future for scientists with clinical degrees.

Taken for Granted: Can Scientists Believe in Change?

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Science is one of many priorities for the new presidential administration.

Beating the Odds

G. Sinha

Cinzia Casiraghi won €1.65 million for setting up her own lab in Germany.

December 2008 Funding News

J. Fernández

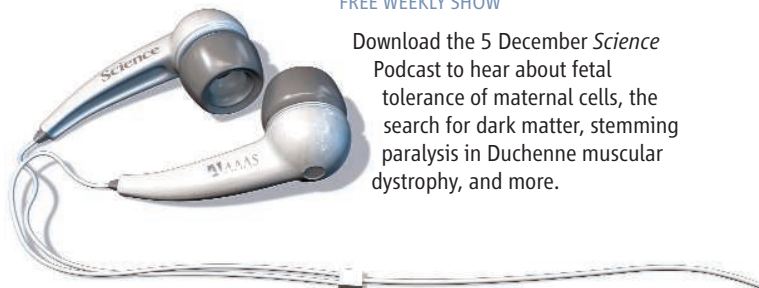
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