IN BRIEF

HUMAN GENETICS

Special Issue: Human Genome Variation

Genome Research **15**, 1463–1600 (2005)

To coincide with the publication of the HapMap paper in *Nature* (see the Highlight on p874) *Genome Research* have devoted their November issue to describing how the data emerging from the project have been applied to understanding human biology, genome structure and disease. As well as research updates on diseases such as prostate cancer, and technical papers on the gene-mapping methods themselves, the issue includes useful resources, such as a guide to using the analysis tools on the International HapMap Project web site.

CANCER GENETICS

The tumour suppressor HIC1 directly regulates SIRT1 to modulate p53-dependent DNA-damage response.

Chen, W. Y. *et al. Cell* **123**, 437–448 (2005)

HIC1 — hypermethylated in cancer 1 — suppresses age-dependent tumorigenesis in mice by functionally cooperating with p53. The authors show that a HIC1–SIRT1 (sirtuin 1) complex represses transcription of the stress-responsive SIRT1 deacetylase. Cells that lack HIC1 do not apoptose in response to DNA damage because SIRT1 deacetylates and inactivates p53. The authors point out that in ageing cells, in which *HIC1* is more likely to be epigenetically silenced, SIRT1 overexpression promotes cell longevity while increasing cancer risk.

CHROMOSOME BIOLOGY

Telomere-binding protein Taz1 establishes Swi6 heterochromatin independently of RNAi at telomeres.

Kanoh, J. *et al. Curr. Biol.* **15**, 1808–1819 (2005)

Despite much attention, the mechanism of heterochromatin formation at telomeres is far from clear. Working in fission yeast, these authors show that telomeric repeats are required to establish HP1 heterochromatin, and that this process is mediated by Taz1, a telomere binding protein that, as shown here, also mediates subtelomeric heterochromatin formation. Establishment of telomeric heterochromatin also requires a *cis* element that lies in the subtelomeric region and is regulated by RNAi–RITS, which in fission yeast initiates heterochromatin formation at the centromere and the silent *mat* locus.

RNA WORLD

Silencing of microRNAs *in vivo* with 'antagomirs'.

Krützfeldt, J. *et al. Nature* 30 October 2005 (doi:10.1038/nature04303)

This paper reports important progress in our ability to investigate the *in vivo* functions of microRNAs (miRNAs) and to manipulate their levels therapeutically. The authors generated synthetic RNA analogues — antagomirs — that are complementary to miRNAs, chemically modified for stability, and conjugated to cholesterol to enable *in vivo* delivery. As a test, antagomirs that target endogenous miRNAs were administered to mice intravenously. This resulted in the specific downregulation of the miRNAs and allowed the identification of several miRNA target genes through their increased expression.

URLs for web team

***Genome Research* Special Issue:** http://www.genome.org/content/vol15/issue11/?etoc

International HapMap Project: http://www.hapmap.org

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