IN BRIEF

GENETIC MODIFICATION

Efficient transgenesis in farm animals by lentiviral vectors.

Hofmann, A. *et al*. *EMBO Rep*. **4**, 1054–1060 (2003)

Hofmann *et al.* infected single-cell pig embryos with recombinant lentiviral vector that carried a ubiquitously active promoter and a green fluorescent protein (GFP) reporter transgene. Of the piglets born, 65% expressed the transgene. GFP was detected in all tissues, including germ cells, and the transgene was transmitted through the germline. This first successful application of lentiviral vectors to livestock promises to reduce the cost of producing transgenic farm animals.

CANCER GENETICS

The generation and utilization of a cancer-oriented representation of the human transcriptome, using expressed sequence tags.

Brentani, H. *et al. Proc. Natl Acad. Sci. USA* 30 October 2003 (doi:10.1073/pnas.1233632100)

The Cancer Genome Anatomy Project and the Human Cancer Genome Project have deposited approximately two million ESTs from tumour tissues into public databases. The ESTs represent >99% of known cancer-related genes. The authors summarize the data that they have generated and the studies that have used it. However, their data, and particularly the thousands of SNPs and alternative spliced gene variants that the ESTs define, are still under-exploited.

DISEASE GENETICS

Gene expression profiling in Werner syndrome closely resembles that of normal aging.

Kyng, K. J. *et al. Proc. Natl Acad. Sci. USA* **100**, 12259–12264 (2003)

Werner syndrome (WS) is a recessive genetic disorder that is characterized by premature ageing. In this study, 6,912 genes and ESTs were compared between cells that were derived from young donors, old donors and WS patients. The results show that the transcription defect in WS is specific to certain genes. Moreover, the transcription alterations that are seen in WS are similar to those that occur during normal ageing.

DEVELOPMENTAL GENETICS

Regulation of flowering time by histone acetylation in *Arabidopsis*.

He, Y. *et al. Science* 30 October 2003 (doi:10.1126/science.1091109)

Flowering in *Arabidopsis* is controlled by several pathways, one of which promotes flowering independently of light and exposure to cold temperatures. A key step in this autonomous pathway involves the repression of a MADS-box transcription factor, *FLOWERING LOCUS C* (*FLC*), which normally prevents flowering. He *et al.* show that one way to regulate FLC involves histone deacetylation. Mutations in a plant homologue of histone deacetylase *FLOWERING LOCUS D* result in the hyperacetylation of *FLC* and upregulation of *FLC* expression, which subsequently delays flowering.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=14527998&dopt=Abstract