



▲ **Vision: the need for speed.** Blumer, K. J. *Nature* 1 January (2004). Mutations in the human genes that mediate the quick turn-off of neurons in the retina in response to light have now been found. This News and Views article discusses how the discovery of these mutations has provided the first picture of the importance of this rapid response in visual perception.



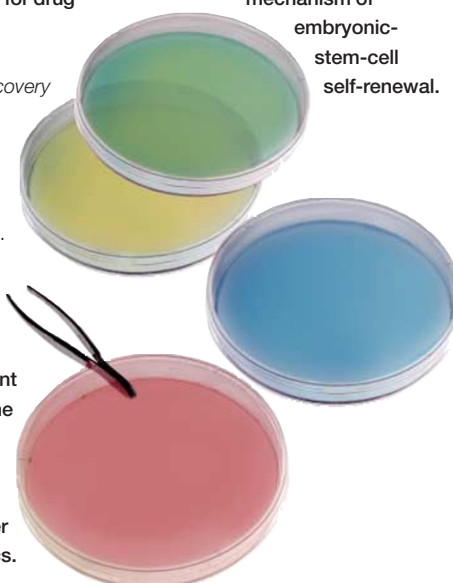
● **Nonsense-mediated mRNA decay: splicing, translation and mRNP dynamics.**
Maquat, L. E.
Nature Reviews Molecular Cell Biology February (2004)

◀ **The four Rs of RNA-directed evolution.**
Herbert, A.
Nature Genetics January (2004)
The author of this Review discusses how quantification of the human genome supports an RNA-centric view of evolution. The four Rs of this RNA-directed evolution are reading, 'riting, 'rithmetic and replication.

● **Unnatural selection of cultured human ES cells?**
Pera, M. F.
Nature Biotechnology January (2004)
A News and Views article on work that concerns the genetic stability of human embryonic stem cells that are maintained in culture.

● **From monoamines to genomic targets: a paradigm shift for drug discovery in depression.**
Wong, M.-L. & Licinio, J.
Nature Reviews Drug Discovery February (2004)

● **The history of human cancer epigenetics.**
Feinberg, A. P. & Tycko, B.
Nature Reviews Cancer February (2004)
This Timeline article traces the field from its conception to the present day. It also addresses the genetic basis of epigenetic changes, an emerging area that promises to unite cancer genetics and epigenetics.



● **Do cloned mammals skip a reprogramming step?**

Fulka, J. Jr., Miyashita, N., Nagai, T. & Ogura, A.
Nature Biotechnology January (2004)

The authors of this Commentary argue that the process of nuclear transfer skips one of the two essential, independent steps that are involved in the reprogramming of cell nuclei, and that this is responsible for the attenuated lifespan of some cloned animals.

▼ **Embryonic stem cells: staying plastic on plastic.**

Nakashima, K., Colamarino, S. & Gage, F. H.
Nature Medicine January (2004)

The undifferentiated state of pluripotent human and mouse embryonic stem cells can be maintained by a new drug that activates the Wnt pathway. This News and Views piece looks at how this finding opens the door to defining the precise molecular mechanism of embryonic-stem-cell self-renewal.