



nature publishing group



► **COVER:** 'Alternative splicing' by Vicky Summersby, inspired by the Review on p741



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The past month was particularly exciting for molecular and cell biologists. First, Elizabeth H. Blackburn, Carol W. Greider and Jack W. Szostak were awarded the Nobel Prize in Physiology or Medicine for the discovery of “how chromosomes are protected by telomeres and the enzyme telomerase”. In the 1980s, Blackburn and Szostak discovered that a unique DNA sequence at chromosome ends (telomeres) protects chromosomes from degradation. In 1984, Greider and Blackburn identified telomerase — the enzyme that adds DNA repeats to chromosome ends. As telomere shortening speeds up cell ageing and high telomerase activity delays cellular senescence, these findings opened new avenues for ageing and cancer research (see the [Review](#) by Eric Gilson and Vincent Géli on telomere replication and the recent [Focus on Ageing](#)).

Thomas Steitz, Venkatraman Ramakrishnan and Ada E. Yonath then scooped the Nobel Prize in Chemistry in honour of their “studies of the structure and function of the ribosome”. They used X-ray crystallography to map the position of the hundreds of thousands of atoms that make up a ribosome. These data helped us understand how ribosomes translate genetic information into proteins and aided the design of antibiotics that block bacterial ribosomes (to learn more about Tom Steitz’s work see his [Review](#)).

Finally, this year’s Albert Lasker Basic Medical Research Award, the winners of which are often considered to be strong contenders for future Nobel Prize awards (Blackburn, Greider and Szostak shared this award in 2006), went to John Gurdon and Shinya Yamanaka for their discoveries on nuclear reprogramming. This process reverts a differentiated cell to an embryonic-like state, thus potentially providing a patient-specific source of pluripotent stem cells (see In the news on page [736](#)).

Congratulations to these outstanding scientists!

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