



Red light

GRNOPC1 (stem cell therapy)

Geron's pioneering study using stem cells to treat spinal cord injuries, in phase I, was halted in November as the company pulled out of the stem cell arena, citing financial difficulties.

Azilect (rasagiline)

An FDA committee unanimously voted against expanding Azilect's indications to treating Parkinson's disease progression. The drug, made by Teva Pharmaceuticals, gained approval in 2006 to treat symptoms of the

disease, but the panel was not convinced that it has disease-modifying effects.

Natrecor (nesiritide)

A 7,000-person clinical trial confirmed what doctors long suspected: that Johnson & Johnson's drug for acute decompensated heart failure, approved in 2001, does not work better than standard treatments.

Xigris (drotrecogin alfa)

After a decade on the market, Eli Lilly pulled

its drug for treating septic shock after a post-approval study requested by the EMA found that it did not reduce mortality compared to placebo.

Movectro (cladribine)

Once set to be the first oral pill for multiple sclerosis in the US, Movectro is no longer in the game. After the FDA requested additional trial data, Merck KGaA pulled its new drug application and withdrew the drug in countries where it was already marketed.

Timeline of events: A brief history of what made news this year

JANUARY—The NCATS out of the bag: The US National Institutes of Health (NIH) moved quickly with its initial plan to create a new center for translational medicine, releasing a "straw model" on 16 January that showed how pieces of the National Center for Research Resources would be redistributed. The controversial plan is slated to move ahead pending congressional budgetary approval.

FEBRUARY—Gallic grab: The French drugmaker Sanofi agreed to buy the US biotechnology company Genzyme for at least \$20.1 billion, with additional payments possible based on the success of Genzyme's drug pipeline. The deal, struck on 16 February, ended months of haggling and is likely to propel Paris-based Sanofi to the top of the pharma league tables (see page 1533).

MARCH—Reactor reaction: Pharmacies around the world sold out of potassium iodide tablets as people began to stockpile the drugs in the aftermath of Japan's devastating 11 March earthquake and subsequent nuclear crisis. The pills protect the thyroid gland from the ills of radiation exposure but do nothing to ward off the extreme radiation sickness that would result in the event of a meltdown.

APRIL—Prevention tactic: Rwanda became the first country in Africa with a comprehensive national scheme for preventing cervical cancer. On 26 April, the Rwandan government, in collaboration with two foreign companies, launched a program to vaccinate 12- to 15-year-old girls against human papilloma virus and to screen for it with molecular diagnostic tests in women aged 35 to 45.

MAY—Sprouting sickness: German health authorities scrambled to contain a deadly outbreak of enterohemorrhagic *Escherichia coli* in May. The new strain of the bacterium, which wreaked havoc in Europe, was ultimately linked to contaminated fenugreek sprouts. It killed at least 50 people and sickened some 4,000 others, around a quarter of whom developed a rare, life-threatening complication known as hemolytic uremic syndrome.

JUNE—Pledge of allegiance: The GAVI Alliance's first-ever pledging conference on 13 June was touted as an overwhelming success,

with the Geneva-based organization raising millions more in support than it expected to. At the event, private and public donors committed \$4.3 billion toward childhood immunizations for the world's poorest countries. Three months later, GAVI announced funding for 37 developing countries to receive discounted vaccines.

JULY—Making PrEPArations: The results of two studies in Africa showed for the first time that daily doses of antiretroviral pills taken by uninfected heterosexual men and women can prevent the spread of HIV. Previous work indicated the preexposure prophylaxis (PrEP) strategy as effective in men who have sex with men.

AUGUST—Losing the race: The NIH launched an investigation into whether its reviewers are racially biased after an agency-backed study found that black scientists were far less likely to win grant support than their white counterparts. The study of R01 awards, published on 18 August in *Science*, found that only 16% of applications from black researchers were funded, compared with success rates exceeding 25% for other racial groups.

SEPTEMBER—Inventive legislation: The US brought its patent process in line with that of other industrialized nations on 16 September when President Barack Obama signed the America Invents Act, the first major overhaul of the US patent system in nearly 60 years. The change from a 'first to invent' rule to a 'first to file' system should reduce bureaucratic delays and costly litigation.

OCTOBER—Patently improper: The European Court of Justice ruled that procedures involving human embryonic stem cells cannot be patented in the EU. The opinion, which upheld a preliminary judgment issued in March, left some worried that the lack of patent protection will hinder the growth of stem cell-based therapeutics.

NOVEMBER—Chip off the old blockbuster: On 30 November, generic manufacturers began selling low-cost versions of Pfizer's cholesterol-lowering agent Lipitor (atorvastatin). With sales of around \$130 billion since the drug's launch in 1997, Lipitor was the world's top-grossing medicine of all time.