very open-minded and the Germans want to block everything," says Fischer. At this point, he adds, it seems reasonable to halt gene-therapy trials that use retroviruses to target bone-marrow cells.

Retroviruses insert themselves randomly into DNA, but scientists have long worried that this activity has the potential to promote uncontrolled cell growth.

In the French child's case, Fischer says, the retroviral vector has inserted itself into a stretch of DNA that regulates the gene *LMO2*. This gene can cause leukaemia, and the boy's defective immune cells seem to be expressing *LMO2*. This raises the possibility that the retroviral vector activated the gene, leading to the boy's illness.

The suspension of German trials earlier this year followed a report that a retroviral gene therapy had caused leukaemia in mice (Z. Li *et al. Science* **296,** 497; 2002). Christopher Baum, the study's principal investigator, who is currently at the Cincinnati Children's Hospital Medical Center, says that the German authorities will let the trials continue after doctors revise their informed-consent documents to tell patients about the risk of cancer.

Baum and his co-authors suspect that a particular marker gene used in their study played a part in causing leukaemia. Therefore, Baum and Fischer say, the *Science* finding by itself did not justify halting all trials that use retroviral vectors.

"Until now, this was a perfect therapy for SCID. Now there are risks," says Don Kohn, a paediatrician at Children's Hospital of Los Angeles who was leading a gene-therapy trial for SCID. Kohn has treated four children, all of whom are still healthy, but the FDA has now suspended his trial. ■

Additional reporting by Quirin Schiermeier.

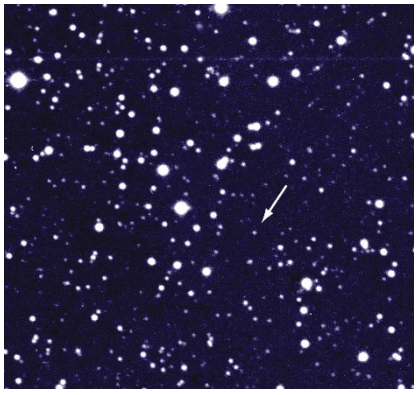
Discovery of giant asteroid gives Pluto a rocky outlook

Tony Reichhardt, Washington

Two astronomers at the California Institute of Technology have found a 1,200-kilometre-wide rock in the Kuiper Belt that circles in the region of Neptune's orbit.

The rock — named Quaoar after the creation force of the tribe that once inhabited the Los Angeles area, where the institute is based — is the largest of the 600-plus Kuiper-belt objects (KBOs) so far identified. And with a diameter half as big as Pluto's and roughly the same size as that of its moon Charon, Quaoar bolsters the argument that Pluto can also be considered a KBO.

Chad Trujillo and Mike Brown found Quaoar on a digital image taken on 4 June with the Palomar Observatory's 1.2-metre Oschin Telescope, which they set up to search for objects moving against the background star field. The pace of KBO discovery has accelerated in recent years, thanks to this and other Kuiper-belt searches that can spot even fainter objects.



C. TRUJILLO & M. BROWN/CALTECH

Big issue: the large size of Quaoar raises the question of whether Pluto is a Kuiper-belt object.

Since the discovery, Trujillo and Brown have used the Hubble Space Telescope, the Keck telescope in Hawaii, and the IRAM millimetre-wave telescope in Spain to collect further details about Quaoar. With the benefit of hindsight, they have identified Quaoar in astronomical images taken as far back as 1982. It appears to be spherical, or nearly so — unlike another large KBO, the 900-kilometre Varuna, which is elongated.

Quaoar is also relatively bright, reflecting 10% of the light that hits it. This adds to evidence that the 4% reflectivity assumed for KBOs may be wrong. And because the size of such objects is often inferred from their brightness, Trujillo says that many KBOs may be smaller than originally believed. Two other KBOs — Ixion and 2002 AW197 — were once thought to be as big as Quaoar, assuming 4% reflectivity. But Trujillo says that Quaoar's size has been confirmed by measurements from Hubble, whereas the others' haven't.

Alan Stern, a planetary scientist at Southwest Research Institute in Boulder, Colorado, and leader of the New Horizons spacecraft mission to reach Pluto by 2015, called Quaoar "a wonderful discovery". But its size record may turn out to be short-lived. Stern won't be surprised if someone eventually finds an Earth-sized object in the Kuiper belt. In fact, he adds, "I'd be surprised if we don't". ■

Call for clinical-trial reform leaves critics unmoved

Kendall Powell, Washington

Medical watchdog groups in the United States say they are becoming frustrated that reforms of the clinical-research system have failed to materialize, despite repeated calls for tougher regulation.

On 3 October, the Institute of Medicine released a report calling for modest reforms of the system. The report, "Responsible Research: A Systems Approach to Protecting Research Participants", was written by a panel chaired by Daniel Federman, senior dean for alumni relations and clinical teaching at Harvard University.

The report calls for all research on human subjects to be federally regulated, and recommends the creation of an independent office to oversee such research, and a national registry to track participants and adverse events in all clinical trials. But critics says that this is the fourth such report in five years, and that little has changed in the way that clinical research is regulated.

As the report was released, Senator Edward Kennedy (Democrat, Massachusetts) was introducing legislation to implement some of its main recommendations. But similar legislation has previously languished in the face of opposition from drug firms, medical schools and biomedical researchers.

"We've been talking about this for too long," says John Mather, chief officer for research oversight at the Department of Veterans Affairs. "Who is going to take that report off the table and do something with it?"

Critics of the existing system have nevertheless welcomed the report. It will get "everyone on the same page to deal with problems in clinical research", says Paul Gelsinger, whose son Jesse died while participating in a 1999 gene-therapy clinical trial at the University of Pennsylvania.

But some argue that the report fails to recommend the tough new rules that they would like to see applied to clinical trials. "When things aren't mandatory, nobody pays attention, and that's not going to change the rate of violations, death or harm," says Vera Sharav, president of the Alliance for Human Research Protection.

The report was commissioned by the Department of Health and Human Services after Jesse Gelsinger's death, in response to concerns that institutional review boards do not provide adequate protection for research subjects. ■