

# ILLUMINA ANNOUNCES \$1000 WHOLE HUMAN GENOME SEQUENCING MACHINE

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(Phys.org) —Genome sequencing-technology company, Illumina, based in San Diego has announced (at the annual JP Morgan Healthcare Conference) that its new machine, called the HiSeq X Ten is able to sequence whole human genomes in assembly line fashion at a pace of \$1000 each. If the company's claims pan out, the machine will mark a major milestone in medical research technology.

Scientists who do [medical research](#) have long hungered for a massive database filled with the complete genomes (and [medical history](#)) of millions of random people. Such a database would allow for spotting genetic patterns that would almost certainly lead to breakthroughs in very wide variety of [medical applications](#). Sadly, such a database is still but a dream, as far too few people have had their genomes sequenced,

which is due in large part, to the huge expense. For that reason, the science and medical community has established a watermark cost for sequencing an entire [genome](#)—at \$1000. At that price-point, it is assumed that huge numbers of genomes would be sequenced, eventually leading to that elusive database. Now, it appears, that day might have come. The new machine by Illumina (which is actually a system of ten identical machines that cost \$10 million each), its makers say, is able to partially sequence five human genomes in a single day, or 16 full and complete [human genome](#) sequences over the course of three days.

To ensure accuracy, the HiSeq X Ten scans every single base pair 30 times. It does so courtesy of what's known as a flow cell, which holds DNA sample templates. The samples themselves are prepared using dyes that allow for precise photographing of the results which are then analyzed. Illumina reps report that the company has found a way to pack more templates into a smaller space, allowing for faster sequencing. The net result is a machine that can sequence genomes in a way that combines speed and accuracy in a way no other machine can, leading to its much lower price.

Researchers around the world are likely holding their collective breath upon hearing the announcement of the sequencer—other companies have made such claims before, but none have panned out. This time may be the charm, however, as the company says it has sold four systems thus far and will deliver them during the first quarter of this year.

**More information:** [www.illumina.com/systems/hiseq ... quencing-system.ilmn](http://www.illumina.com/systems/hiseq...quencing-system.ilmn)

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