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FOR IMMEDIATE RELEASE**454 Life Sciences and Max Planck Institute
to Sequence Neandertal Genome**

- *Sequencing of the Neandertal Genome Will Help to Identify
Genetic Changes Responsible for Human Evolution* -

BRANFORD, Conn. – July 20, 2006 – 454 Life Sciences Corporation, a majority-owned subsidiary of CuraGen Corporation (NASDAQ:CRGN), in collaboration with scientists at the Max Planck Institute for Evolutionary Anthropology, announced today in Leipzig, Germany the launch of a project to sequence the complete Neandertal genome. Neandertal is the closest relative to humans and knowledge of its genetic composition will significantly enhance the understanding of human biology. The project is estimated to take two years and is made possible by 454 Sequencing™ technology and a grant from the Max Planck Society.

“The Max Planck Institute and 454 Life Sciences are working together to sequence the Neandertal genome. Our expertise with ancient DNA and the Neandertal, coupled with 454 Sequencing, a next generation sequencing technology with unparalleled throughput, makes this an ideal collaboration,” explained Svante Pääbo, Ph.D., Director of the Department of Evolutionary Anthropology at the Max Planck Institute. “The advent of 454 Sequencing has enabled us to move forward with a project that was previously thought to be impossible.”

Neandertal inhabited Europe and the Near East until about 30,000 years ago then disappeared after his successor, *Homo sapiens*, migrated to Europe. This year marks the 150th anniversary of the discovery of the first Neandertal fossil in Germany’s Neander Valley near Düsseldorf. Dr. Pääbo was the first to sequence DNA from a Neandertal fossil in 1997 while at the University of Munich.

“We are excited to collaborate with the Max Planck Institute to sequence the Neandertal genome, as it promises to yield more insight into human biology than the sequencing of any individual human,” said Christopher McLeod, President and CEO of 454 Life Sciences. “This ambitious project is further validation of 454 Sequencing technology and demonstrates that we can sequence any genome, even one from highly degraded samples.”

Extracting, identifying and sequencing ancient DNA from fossils is a technically challenging task. When an organism dies, its tissues are overrun by bacteria and fungi. Much of the DNA is simply destroyed, and the small amount remaining is broken into short pieces and chemically modified during the long period of fossil formation. This means that when scientists mine tiny samples of ancient bones for DNA, much of the DNA obtained is actually from contaminants such as bacteria, fungi and even scientists who have previously handled the bones.

Over the last twenty years, Dr. Pääbo's research group has developed methods for demonstrating the authenticity of ancient DNA results, as well as technical solutions to the problems of working with short, chemically-modified DNA fragments. Together with 454 Life Sciences, they will now combine these methods with high-throughput DNA sequencing. By enabling a method of sequencing that is more comprehensive and less expensive than conventional sequencing methods, 454 Sequencing is well suited for such a project.

"Unlike the human genome project, Neandertal samples are extremely scarce and have been contaminated with microbial DNA over tens of thousands of years. Therefore, this project is only possible with 454 Sequencing technology," said Michael Egholm, Ph.D., Vice President, Molecular Biology, 454 Life Sciences.

Due to such sample contamination, the task of sequencing the Neandertal genome is much more extensive than the task of sequencing the human genome. 454 Life Sciences' Genome Sequencer 20 System makes such an endeavor feasible by allowing approximately a quarter of a million single DNA strands from small amounts of bone to be sequenced in only about five hours by a single machine. The DNA sequences determined by the Genome Sequencer 20 System are 100-200 base pairs in length, which coincides neatly with the length of ancient DNA fragments.

Over the next two years, the Neandertal sequencing team will reconstruct a draft of the 3 billion bases that made up the genome of Neandertals. For their work, they will use samples from several Neandertal individuals, including the type of specimen found in 1856 in Neander Valley and a particularly well-preserved Neandertal from Croatia. The Max Planck Society's decision to fund the project is based on an analysis of approximately one million base pairs of nuclear Neandertal DNA from a 45,000-year-old Croatian fossil, sequenced by 454 Life Sciences.

The Neandertal is thought to have been reasonably sophisticated, forming crews and burying its dead; however, Neandertal is believed to have lacked the higher reasoning function of modern day humans. Approximately 99% of the *Homo sapiens* genome is identical to the chimpanzee genome, our closest living relative. It is estimated that the Neandertal shares 96% of the 1% difference with *Homo sapiens*. The Neandertal shares the remaining 4% of the difference with the chimpanzee.

"The analysis of the estimated 4% of genome variation that Neandertal shares with the chimpanzee will help us to understand the evolution of characteristics specific to the *Homo sapiens* and perhaps even aspects of cognitive function," added Dr. Pääbo. "This next leap in Neandertal research will also identify those genetic changes that enabled modern humans to leave Africa and rapidly spread around the world."

"When I conceived the 454 Sequencing technology, I envisioned sequencing personal genomes to help with personal medical care. It is wonderful to be on the road toward that goal and sequencing of the Neandertal will certainly be a major milestone, both for the insight it gives us into the origins of *Homo sapiens* as a species, as well as into what makes humans special," said Jonathan Rothberg, founder and Chairman of 454 Life Sciences.

About 454 Life Sciences

454 Life Sciences, a 66% majority-owned subsidiary of CuraGen Corporation (Nasdaq: CRGN), is commercializing novel instrumentation and measurement services for rapidly and comprehensively conducting high-throughput nucleotide sequencing, with specific application to sequencing of whole genomes and ultra-deep sequencing of target genes. 454 Life Sciences' Genome Sequencer 20 System™ enables one individual to prepare and sequence an entire genome. The hallmark of 454 Life Sciences' technology is the PicoTiterPlate, which allows a single instrument using patented light emitting sequencing chemistries to produce over 20 million nucleotide bases per five-hour run, totaling more than 60 times the capacity of instruments using the current macro-scale technology. The Genome Sequencer 20 system is exclusively distributed for 454 Life Sciences by Roche Diagnostics.

For additional information on 454 Life Sciences, please visit <http://www.454.com>. For additional information on the Genome Sequencer 20 System and reagents, please visit <http://www.roche-applied-science.com>.

Safe Harbor

This press release contains forward-looking statements that are subject to certain risks and uncertainties. These statements include statements regarding the estimated length of the project, the impact of the project, the impact of the 454 Sequencing technology, including its ability to sequence any genome, even from highly degraded samples. These statements include statements regarding the impact of the 454 Sequencing technology. Such statements are based on management's current expectations and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. 454 Life Sciences and CuraGen caution investors that there can be no assurance that actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements as a result of various factors, including, but not limited to, the following: the early stage of development of 454 Life Sciences' products and technologies; customer acceptance of 454 Life Sciences' products and technologies; 454 Life Sciences' ability to scale-up production of its products and technologies; disputes between 454 Life Sciences and CuraGen; the success of competing products and technologies; technological uncertainty and product development risks; uncertainties of clinical trials, government regulation and healthcare reform; uncertainty of additional funding with respect to both CuraGen and 454 Life Sciences; 454 Life Sciences' and CuraGen's history of incurring losses and the uncertainty of achieving profitability; CuraGen's stage of development as a biopharmaceutical company; patent infringement claims against 454 Life Sciences' and CuraGen's products, processes and technologies; the ability to protect 454 Life Sciences' and CuraGen's patents and proprietary rights; uncertainties relating to commercialization rights; product liability exposure; and competition. Please refer to CuraGen's Annual and Quarterly Reports on Forms 10-K and 10-Q for a complete description of these risks. 454 Life Sciences and CuraGen disclaim any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise, unless required by law. Such statements are based on management's current expectations and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements.

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Note to editors: A press conference announcing the collaboration will be held today from 9 AM EST/3 PM CET until 12 PM EST/6 PM CET at the Max Planck Institute in Leipzig, Germany. For the convenience of those unable to travel to Leipzig, the event will be broadcast LIVE over the Internet via a link available on <http://www.eva.mpg.de/english/events.htm>.