

Press Release

febit announces “PCR on a chip”: oligonucleotide arrays with free 3´ ends

- **New product in the GENIOM line-up: the 3´-Inversed Synthesis Set for the GENIOM DNA analysis system merges polymerase-based reactions with the world of highly parallel microarrays and dynamic microfluidic reaction carriers**
- **German Cancer Research Center successfully pioneers routine use of 3´-Inversed Synthesis Set**
- **febit expands marketing cooperation with Sigma-Aldrich Germany**

Heidelberg, Oktober 16, 2006. febit biotech gmbh starts shipping a novel tool for the GENIOM bioanalysis platform - the 3´-Inversed Synthesis Set for GENIOM biochips. This innovative technology enables reverse synthesis of DNA oligonucleotides on the biochip, thus providing a broad spectrum of new applications for DNA microarrays. For the first time, enzymes can be directly applied in a biochip synergistically exploiting advantages of these diverse biochemical methodologies.

GENIOM allows the highly flexible synthesis of user-specified biochips that can be applied in the same system within one day. This approach provides utmost flexibility of test parameters, a high degree of automation as well as ultra-small volumes due to cutting-edge microfluidics.

The applications of this technology are now greatly expanded by the addition of enzymatic procedures to the GENIOM biochip, a microfluidic reaction carrier: oligonucleotides with a free 3´ end are accessible to nucleic acid polymerases. They may serve as primers for polymerase-based assays. This enzyme-on-chip approach shares many features with the widely used PCR technology, thus offering a substantial marketing potential.

Dr. Jörg Hoheisel at the German Cancer Research Institute already started using the new 3´-Inverse Synthesis Set in his research that employs GENIOM as a key tool: “We opted for GENIOM since it provides us with the required flexibility and complete

independence from third-party chip providers. Using the novel 3'-Inverse Synthesis Set we are able to pursue a radically new approach: oligonucleotides with any sequence can now be synthesized in 5'-3' direction providing a free 3' end. We use these e.g. for primer extension reactions enhancing the capacity and intensity in detection."

The 3'-Inverse Synthesis Set is marketed by febit biotech gmbh. As with all GENIOM consumables, the logistics is handled by the renowned Sigma-Aldrich Chemistry Germany.

For more detailed information please refer to our websites www.febit.de or www.geniom.com.

Background information

With the **GENIOM® bioanalysis system**, febit provides the user with a whole new world of experimental opportunities: it enables the design, synthesis, application and analysis of user-specified biochips in his own laboratory. In a fully integrated benchtop device, GENIOM offers unparalleled speed and flexibility plus complete privacy of sensitive research data.

Within a single day, DNA sequence information is translated into microarray experiments – and results. These features render GENIOM a unique system on the worldwide market. Currently, GENIOM is used primarily for basic research in molecular biology and medicine.

Further information:

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