

## Frost & Sullivan Award for Technology Innovation

2005

FROST &amp; SULLIVAN

Technology Innovation Award

### AWARD DESCRIPTION

The Frost & Sullivan Award for Technology Innovation is given to the company that has demonstrated technological superiority within its industry. This Award recognizes the ability of the company to successfully develop and introduce new technology, formulate a well-designed product family, and make significant product performance contributions to the industry.

### RESEARCH METHODOLOGY

To choose the recipient of this Award, the analyst team tracks emerging and existing technologies, as well as R&D developments. This is accomplished through interviews with major market participants and extensive secondary research. Also considered are elements such as product launches, customer acceptance, penetration rates, and time to market. Finally, competitors are compared and ranked for relative position. Frost & Sullivan then presents the Award to the company that received the number one industry rank.

### MEASUREMENT CRITERIA

In addition to the methodology described above, specific criteria are used to determine the final competitor rankings in this industry. The Award recipient has excelled based on one or more of the following criteria:

- Technology innovation contrasted against competitors
- R&D expenditures
- New product/process introduction
- Price premium
- First to market
- Adoption rate
- Penetration rate

# Genisphere®

SIGNAL + SAMPLE AMPLIFICATION PRODUCTS

## AWARD RECIPIENT: GENISPHERE

The 2005 Frost & Sullivan Award for Technology Innovation is presented to Genisphere for its success in the U.S. DNA microarrays market for the fiscal year 2005. The Award is in recognition of the company's leadership, technological acumen, and breadth in high-end labeling technology used in the life science industry.

Microarray technology is widely utilized for important studies, such as disease diagnostics, pathway analysis, gene-expression profiling, and gene identification. Sensitive labeling technology for high quality images and proper analysis of data is of crucial importance for microarray research.

Genisphere's innovative labeling method is called the 3DNA dendrimer technology. One of the principal causes of variability in microarray experiments is in consistent incorporation of labeled nucleotides into the cDNA. The efficiency of incorporation varies from dye to dye and from sample to sample. Genisphere's 3DNA dendrimer technology does not rely on incorporation of fluorescent dyes into the cDNA, therefore eliminating the variability factor. This particular feature sets Genisphere apart from other competitors in the field.

In addition, the 3DNA dendrimer technology demonstrates great flexibility and specificity. The architecture of the 3DNA dendrimer has no limitations on the type of specificity or label used. The label may be fluorescent, enzymatic, or radioactive. The application specificity may take the form of a generic sequence, targeted specific sequence, or antibody. Furthermore, the 3DNA dendrimers are labeled with an average of at least 200 labels. The dendrimer carries this number of labels with it every time it binds to a complementary molecule, resulting in up to a 200-fold passive enhancement of signal intensity.

Since the inception of 3DNA dendrimer technology, the technology has been used in multiple research applications. Researchers are learning the advantages of the novel technology and quickly incorporating it into their research. This technology offers a cost-effective solution for researchers due to the high sensitivity. The increased sensitivity enables researchers to use less starting material, decreasing costs associated with experimentation. Currently, the 3DNA dendrimer technology is used by approximately 10 percent of researchers using labeling technologies. This percentage is expected to dramatically increase over the next few years.

Genisphere has vastly contributed to the DNA microarray market through its inventive technology. Therefore, Genisphere is the deserving recipient of the 2005 Frost & Sullivan Technology Innovation Award in the U.S. DNA Microarrays Market.