

## Cancer Classification using Microarray Data (Yisum)

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### Gene expression data helps to improve diagnostics, therapeutic approach

<b>Categories</b>	<b>Oncology software, cancer diagnosis, personalized medicine</b>
<b>Development Stage</b>	<b>Working prototype</b>
<b>Patent Status</b>	<b>U.S. patent application filed</b>
<b>Market Size</b>	<b>World DNA microarray markets generated revenues worth \$596 million in 2003, likely to reach \$937 million by 2010</b>

### Highlights

- **Current cancer diagnosis methods rely on descriptive histopathological data.**
- **New technology measures patient microarray data against detailed classification of cancer types from database of extracted and analyzed data and tumor gene expression profiles**
- **The method monitors genetic changes enabling improved accuracy of diagnosis**
- **Since molecular changes often precede morphological changes, genetic assessment of cancer patients may be used for early detection of the disease.**

### Our Innovation

- **This new tool measures the similarity between gene expression data derived from DNA microarray tests of a patients malignant tissue with sets of gene expression data from pre-classified malignancies. This graphic presentation of the results forms the genetic signature of the patient and is a powerful and sensitive diagnostic tool.**

### Key Features

- **Increased diagnostic and detection accuracy**
- **Enables cancer diagnosis, prediction of clinical outcomes and formulation of therapeutic approach**
- **General method may be used for any type of disease if an adequate size sample of microarrays from previously classified disease is available**

### Development Milestones

- **Seeking industry cooperation for further development with companies that can prepare datasets**

### The Opportunity

- **25 million people in Japan, Europe and North America have cancer; 10.1 million additional cases diagnosed worldwide each year. By 2020, that number will grow to**

**15 million new cases annually. (World Health Organization)**

- **New diagnostic techniques such as molecular assays, tissue assays and pharmacodiagnosics had sales of \$11 million in 2004, forecasts to reach \$480 million by 2009. (Kalorama)**

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