Improved human genomic hybridization based on novel bioinformatically defined unique genomic sequences. Avalable products include DNA probes for fluorescence in situ hybridization, genomic microarrays, hybridization enrichment pools and software for cytogenetic biodosimetry and high throughput DNA sequencing.

Software and reagents for **chromosome and genome analysis**

Licensing
Consulting
R & D

Our products include:

- FISH probes
- Array comparative genomic hybridization
- Hybridization enrichment pools
- Genome interpretation software
- Cytogenetic biodosimetry software

Our DNA probes more accurate and reproducible results with array CGH, higher genomic coverage with our hybridization enrichment pools for targeted gene capture, and unprecedented diagnostic precision using FISH. Our software products find chromosome abnormalities produced by radiation exposures, and significant mutations in complete exomes and genomes, unrecognized by other products. We produce essential tools for genomics that noone else can.

CYTOGNOMIX

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CYTOGNOMIX

Genomic biotechnology products that stand out

ADVANCED GENOMIC AND CYTOGENETIC CAPABILITIES:

FLUORESCENCE IN SITU HYBRIDIZATION

MICROARRAY – IMPROVED COMPARATIVE GENOMIC HYBRIDIZATION

NEXTGEN SEQUENCING – ENRICHMENT POOLS – BIODOSIMETRY

CYTOGNOMIX

Many diagnostic genomic hybridization and sequencing technologies rely on identification of single copy DNA sequence content. Repetitive sequences in the genome are blocked. Blocking reagens used in fluorescence in situ hybridization and array comparative genomic hybridization produce noisy data. *Cyto*gnomix has developed, patented and implemented the *ab initio* method for deriving unique genomic sequence intervals that obviates the need to block repeats. Fluorescence in situ hybridization (FISH) probes are available throughout the genome. Genome-wide microarray and capture enrichment designs have also been validated.

AB INITIO SINGLE COPY TECHNOLOGIES FOR GENOMICS:

- MORE COMPREHENSIVE
- MORE REPRODUCIBLE
- BETTER GENOMIC COVERAGE
- MORE SAMPLE MULTIPLEXING

SOFTWARE SOLUTIONS:

- INTERPRETING VARIANTS OF UNKNOWN SIGNIFICANCE
- DETERMINING RADIATION EXPOSURE

Better quality data & denser genomic coverage at lower cost per sample

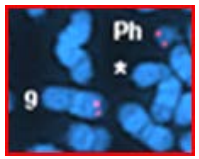
COMPREHENSIVE BIOINFORMATIC DESIGNS

- 223,000 probes designed for fluorescence *in situ* hybridization
- 979,347 intervals designed for array comparative genomic hybridization
- Targeted enrichment pools for 200 genes mutated at high frequencies in cancer
- Software and algorithms for repeat catalog independent design for any genome.

ADVANTAGES

- More accurate and reproducible results providing higher quality data than competitor products. Important for filing of medical device application to regulatory agencies.
- Call copy number genotypes and detect abnormalities with fewer DNA probes.
- Because fewer probes are required, more samples are analyzed per array (sectored arrays), resulting lower per sample costs, without compromising performance.

APPLICATIONS

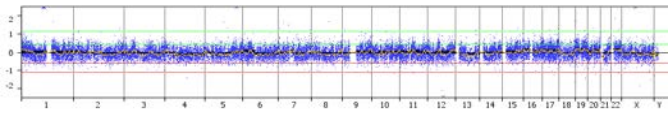


FISH

Ab initio single copy FISH probes cover genomic regions previously inaccessible by traditional repeat masking.

MICROARRAY

aCGH microarrays that are more reproducible than other commercial products.



HYBRIDIZATION ENRICHMENT

Designs that produce next generation sequencing capture reagents with more mappable sequence reads and higher sequence quality scores than other approaches.

OPPORTUNITIES FOR LICENSING, CONSULTING OR TECHNOLOGY DEVELOPMENT…

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