GeneChip® Rat Genome U34 Set

Rat Genome Expression Analysis

The Rat Genome U34 Set provides gene expression data for >24,000 known genes and EST clusters, the most comprehensive rat genome coverage available.

Applications

The Rat Genome U34 Set is a powerful tool for toxicology, neurobiology, immunology and other specific research applications using rat as a model system.

**Define Signaling Pathways and Molecular Mechanisms**

Evaluate ~7,000 known genes to better understand the molecular mechanisms of phenotypic endpoints. Massively parallel expression analysis facilitates the identification of gene associations to define key players in signaling pathways.

All full length or annotated genes are located on the A array in the three array (A,B,C) set.

**Gene Discovery**

Analyze >17,000 EST clusters to discover new genes involved in a biological response. EST clusters are represented on all three arrays in the Rat Genome U34 Set.

**Improve Lead Compound Discovery**

Use the Rat Genome U34 Set to identify gene expression “fingerprints” of efficacy and toxicity. Develop screening assays that will improve the quality of leads in discovery by early elimination of compounds with a high probability of failure.

**Build Quantitative Databases**

GeneChip® expression arrays allow for highly parallel, reproducible, quantitation of gene expression levels. The Rat Genome U34 Set is an ideal tool for developing robust rat expression databases.
Data Sets Profiled

The Rat Genome U34 Set represents >24,000 genes and EST clusters. The sequences include all rat sequence clusters from Build #34 of the UniGene Database (created from Genbank 107/dbEST 11/18/98) and supplemented with additional annotated gene sequences from Genbank 110. UniGene clusters are represented by an exemplar sequence that is the most complete and most 3' sequence in the cluster.

Relationship of Arrays in Set and Portfolio

The Rat Genome U34 Set contains 3 arrays (RG-U34A, RG-U34B, and RG-U34C). The A array contains probes representing all full-length or annotated genes as well as thousands of EST clusters. The B and C arrays contain only EST clusters. In addition, all sequences represented on the Rat Toxicology U34 Array are also represented on the A array of this set.

Other Critical Specifications:

- Number of Arrays in Set: 3
- Array Size: Standard format
- Feature Size: 24 µm
- Oligonucleotide probe length: 25mer
- Probe pairs/sequence: 16
- Detection sensitivity: 1:100,000*
- Control sequences included:
  - Hybridization controls: bioB, bioC, bioD and cre
  - Poly A controls: dap, lys, phe, thr, trp
  - Housekeeping Genes: actin, GAPDH, hexokinase

* As measured by detection in a comparative analysis between a complex target containing spiked control transcripts, and a complex target with no spikes.

Ordering Information:

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<thead>
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<th>Part No.</th>
<th>Name</th>
<th>Description</th>
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</thead>
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<td>900249</td>
<td>Rat Genome U34A</td>
<td>Contains 5 Rat Genome U34A Arrays</td>
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<td>900250</td>
<td>Rat Genome U34B</td>
<td>Contains 5 Rat Genome U34B Arrays</td>
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<td>900251</td>
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