

## GeneChip® Tomato Genome Array

The GeneChip® Tomato Genome Array is designed specifically to monitor gene expression in tomato (*Solanum lycopersicum*, formerly *Lycopersicon esculentum*). The comprehensive array consists of more than 10,000 *S. lycopersicum* probe sets to interrogate more than 9,200 *S. lycopersicum* transcripts. The Tomato Genome Array is particularly useful for agricultural researchers studying tomato genetics.

This array was created in collaboration with leading tomato researchers through the Affymetrix GeneChip® Consortia Program and was designed based on content from UniGene and GenBank® mRNAs.

### Applications

Tomato is an important food crop worldwide. Many research programs utilize genomic approaches to aid selective breeding programs to identify the underlying genetic mechanisms that are important for high crop yield,

resistance to diseases and insects, and response to environmental factors that influence the productive growing areas for tomato plants. The Tomato Genome Array is a tool that enables researchers to elucidate these complex genetic traits in the tomato plant to determine how crop production can be improved.

### Array profile

The GeneChip Tomato Genome Array is a 169-format, 11 µm array design and contains 11 probe pairs per probe set. The sequence information for this array was selected from public data sources including UniGene and GenBank mRNAs.

The array contains more than 10,000 *S. lycopersicum* probe sets to monitor gene expression for more than 9,200 *S. lycopersicum* genes.

### Instrument/software requirements

- GeneChip® Scanner 3000
- Affymetrix® GeneChip® Command Console® Software (AGCC)

### Specifications

Number of probe sets	10,038 tomato probe sets + 11 tomato control probe sets
Number of transcripts	9,254 tomato transcripts + 10 tomato control transcripts
UniGene clusters	~4,600 tomato UniGene 3' clusters ~3,400 tomato non-UniGene clusters
Number of arrays in set	One
Array format	169
Feature size	11 µm
Oligonucleotide probe length	25-mer
Probe pairs per sequence	11
Hybridization controls	<i>bioB</i> , <i>bioC</i> , <i>bioD</i> from <i>Escherichia coli</i> and <i>cre</i> from P1 bacteriophage
Poly-A controls	<i>dap</i> , <i>lys</i> , <i>phe</i> , <i>thr</i> , <i>trp</i> from <i>Bacillus subtilis</i>
Housekeeping/control genes	beta-actin, elongation factor 1, GAPDH Test3 controls: 17S rRNA, 25S rRNA, glutathione S-transferase, phytochrome B2, ubiquitin
Detection sensitivity	1:100,000*

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

### Ordering information

Part number	Description
<b>GeneChip<sup>®</sup> Tomato Genome Array</b>	
900737	Contains 2 arrays
900738	Contains 6 arrays
900739	Contains 30 arrays

### Supporting products

Part number	Description
<b>GeneChip<sup>®</sup> 3' IVT Express Kit</b>	
901228	10 reactions
901229	30 reactions

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P/N 701943 Rev. 2

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