



Biological Imaging and Analyzing DNA Chips

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Biological Imaging Apparatus for Full Imaging of Samples

Electronic light detectors can be used to image and/or map biological samples and for DNA chip analysis. In contrast to conventional biological imaging techniques, this method scans across the sample and detects multiple images constructed from light emitted by the biological sample. The detector may be a linear charged-couple device (CCD) which gathers slices of the sample to be combined electronically into the full image. The light emitted from the sample may include light generated by the sample itself, including chemi-luminescence, fluorescence adsorption and quenching.

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DNA Chip Analysis

Conventional approaches to visualize the surface of DNA chips place the DNA chip on a stage under a microscope, the stage is moved to bring the chip into focus and a visual image is then taken. Conventional microscopes are expensive instruments that require training and maintenance and their large size can be problematic. The light detector system offers a simpler and less expensive method of DNA chip and biological sample analysis.

BENEFITS OF BIOLOGICAL IMAGING AND SCANNING DNA CHIPS:

- The apparatus is able to take a full image of the sample.
- Several 'slices' are built up to a full image.
- Less expensive than conventional techniques.

Phase of Development Proof of concept. Prototype built and tested.

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