



CGH

LUCIA Cytogenetics

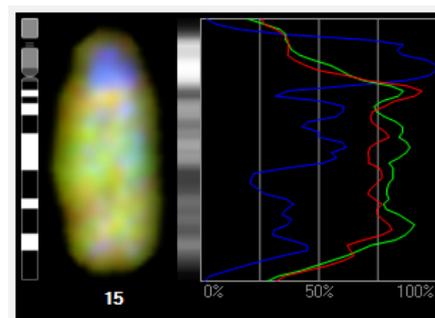
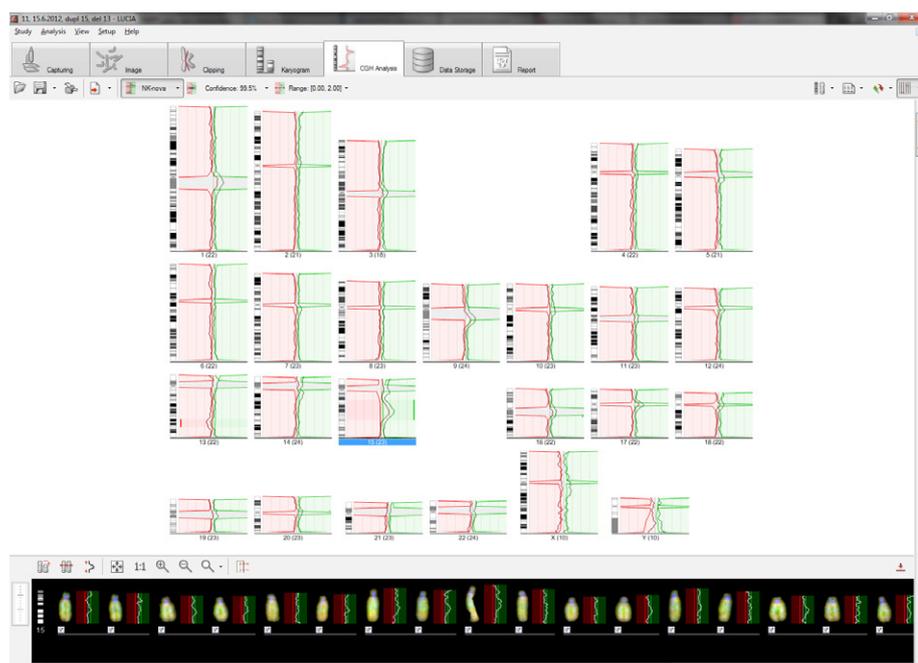
LUCIA Cytogenetics™ is able to detect small DNA gains and losses using statistical analysis of CGH samples.

Comparative genomic hybridization (CGH) is a molecular-cytogenetic method based on fluorescence in situ hybridization (FISH) which analyses copy number changes (gains and losses) in the DNA content. This method is very useful for examination of tissues which cannot be cultivated easily or in cases where viable cells are not available (solid tumours, hematological malignancies, etc.). This method is based on the in situ hybridization of total genomic DNA from subject tissue (tested material) and DNA from normal control tissue (reference), each labeled differently, and subsequent hybridization to normal metaphase chromosomes. Copy number variation is detected by measuring regional differences of the tested vs. reference fluorescence intensity ratio for each chromosome locus.

This technique only detects imbalances (gain or loss of DNA) in the genome. Balanced rearrangements such as translocations, inversions and other aberrations, which do not change the copy number, cannot be detected.

Standard chromosomal CGH can detect changes that are present in 30 – 50% or more of the specimen cells and where size of the chromosomal region affected exceeds 5-10 Mb. For improving specificity and sensitivity of the method, high resolution CGH using advanced statistics can be applied.

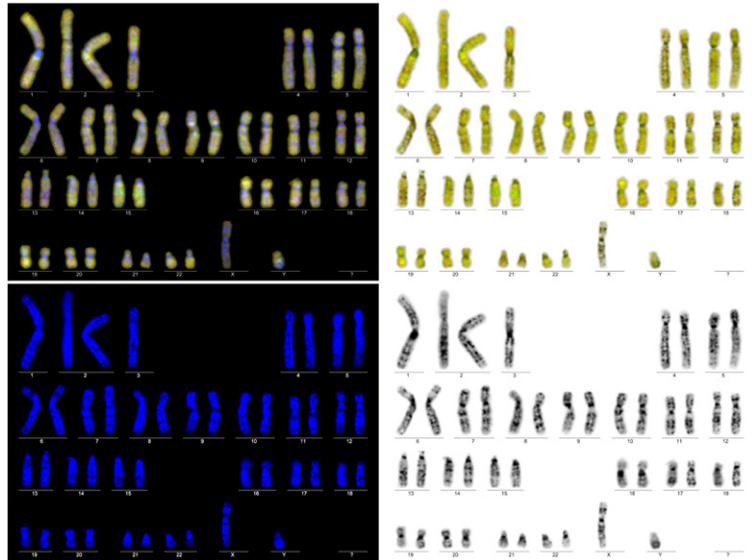
LUCIA Cytogenetics™ can work with fluorescent probe kits from different manufacturers and with home-made kits as well.



Use profile graphs to study intensity profile of each individual color channel

Fast and Easy Image Acquisition

- Get high-quality images using scientific digital CCD cameras with 14bits analog-to-digital conversion.
- Perfect linearity of the camera ensures that the results of the analysis are not deformed.
- Maximum possible image information is transferred to the computer with no loss of details thanks to the automatic camera exposure control.
- The completely software-controlled motorization of the microscope speeds up image acquisition and reduces the risk of human-caused errors.



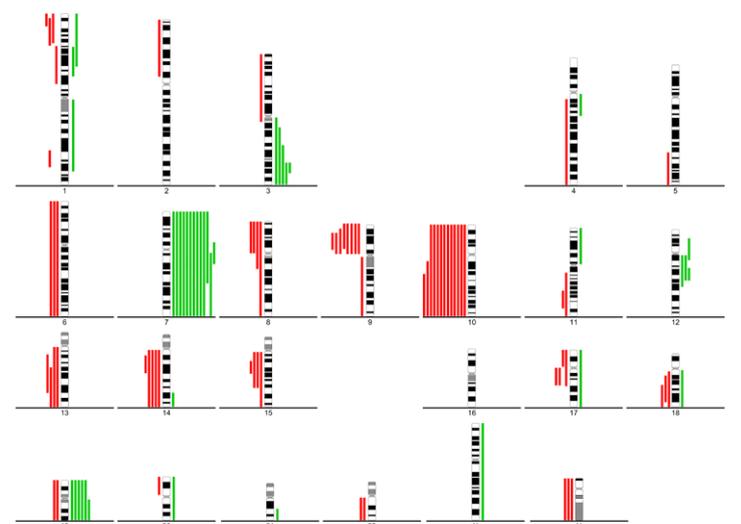
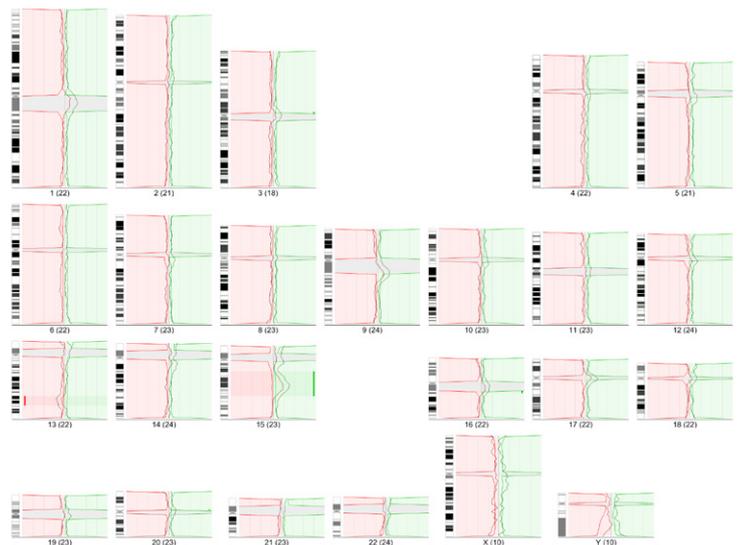
See All Details

- Any combination of the individual color images can be displayed as one composed image.
- Create karyograms using the full-featured karyotyping module.
- Check and correct chromosome axes manually to get even better results.
- Use profile graphs to study intensity profile of each individual color channel.

Analyze

With LUCIA Cytogenetics™, you can:

- Use standard CGH or high resolution CGH.
- Analyze multiple images of the same sample to get reliable results.
- Manage the reference sets for high resolution CGH comfortably.
- Check the influence of each individual chromosome and exclude it from the result if needed.
- Set various user-defined analysis and display parameters.
- Use summary lines to indicate DNA gains and losses.



Database and Report

- Fully compatible with LUCIA Cytogenetics™ Database.
- Fully compatible with LUCIA Cytogenetics™ Report Tool including all CGH display options and CGH summary graphs.