

**Product Fact Sheet**

# Isis mFISH / mBAND

## *Software module for multicolor FISH and multicolor chromosome banding*

MetaSystems provides an integrated system-plus-reagents (24 XCyte mFISH / XCyte mBAND kits) solution for multicolor chromosome analysis.

mFISH analysis is based on a DNA probe kit comprising whole chromosome painting probes labeled with different fluorochromes or fluorochrome combinations. The mFISH software analyzes the color information and identifies the chromosomal origin of each individual pixel within the image. With this method even complex rearrangements are readily detectable, fully documented and easily prepared for posters or publications.

MetaSystems proprietary high resolution multicolor banding technique mBAND provides precise information on intra-chromosomal rearrangements and exact break-point mapping. mBAND answers the questions that mFISH leaves unanswered. Providing highly reproducible, high resolution pseudocolor bands, mBAND is the method of choice for the detection of intrachromosomal rearrangements, i.e., inversions, insertions and deletions.

### **mFISH functionality**

- Metaphase capture with up to 9 simultaneous fluorochromes and full support of many automated microscopes or microscope / filterwheel combinations
- Original fluorescence images are always present in the system and can be revised for better identification of rearrangements
- Automatic metaphase preprocessing
- Full karyotyping support with automatic DAPI banding or color ratio classification
- Display of false color images in three different modes
- Differential translocation highlighting in three colors ("Binary Display")
- "Point and Identify" function (color classification is displayed as mouse-cursor tool tip)
- User-configurable fluorochrome assignment and false color coding
- Automatic false color classifiers training provides adaptation to any probe kit
- False color classifiers are stored as text files to allow easy exchange between systems
- Simultaneous display of pseudo color image, single color channels, fluorochrome profile, chromosome ideogram, and inverted DAPI image ("Single Color Gallery") with the option to highlight and localize breakpoints

### **mBAND functionality**

- Metaphase capture with up to 9 simultaneous fluorochromes and full support of many automated microscopes or microscope / filterwheel combinations
- Original fluorescence images are always present in the system and can be revised for better identification of rearrangements
- High resolution fluorochrome banding of human chromosomes (~500 bands for the total haploid karyotype)
- Automatic chromosome preprocessing
- Automatic color analysis and pseudo color assignment to chromosome bands
- Automatic chromosome sectioning and color ratio classification
- Trainable false color classifiers
- Banding pattern is independent of chromosome length
- Simultaneous display of pseudo color image, single color channels, fluorochrome profile, chromosome ideogram, and inverted DAPI image ("Single Color Gallery") with the option to highlight and localize breakpoints

The Isis mFISH / mBAND software requires the color karyotyping module.