



# **bio**view Testimonial



Ranked by Newsweek as the number one hospital in the Middle East and Gulf regions, in addition to the World's Best Smart Hospitals rankings.





## ABOUT THE LAB

The cytogenetic laboratory at Sheba Hospital, Israel, under the management of Dr. Victoria Marcu, specializes in diagnosing a broad range of hematological conditions, including hemat oncology, using classic cytogenetic methods such as karyotype, molecular cytogenetics, and morphology. The laboratory is engaged in research and development of diagnostic and treatment methodologies. Sheba has been ranked by Newsweek as the number one hospital in the Middle East and Gulf regions, in addition to the World's Best Smart Hospitals rankings.

### Can you explain your lab's involvement in the field of Cytogenetics?

Our laboratory specializes in conducting Karyotype tests on various cell types. Our primary focus is analyzing cultures derived from bone marrow and peripheral blood samples, extracted from both adults and children, affected by hematological conditions. Additionally, We receive pathology cases, involving solid tumors, requiring a comprehensive examination of chromosomal aberrations. We also analyze karyotype of different cell lines, such as endothelial, fibroblastic, mesenchymal, or induced stem cells. In those cases, we provide services to research laboratories or biotech companies that develop cell-based products and are required to prove that the cells do not undergo genetic changes.

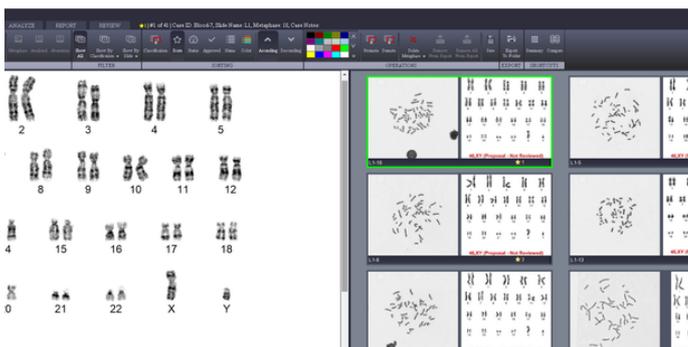
### What benefits does the BioView system offer when integrated into your lab routine?

The system boasts two significant advantages. The first is its complete automation, making it incredibly easy to use, and its operation is barely noticeable during scans. Simply preparing the barcodes and slides, placing them on the tray, and the system scan them independently in a short time. The second advantage is the system's analysis capabilities. It has a remarkable accuracy rate of almost 99.9%, subject to the sample type and preparation. In some cases, the severity of the patient's illness can reflect a decrease in the quality and the "beauty" of their mitosis, making it more difficult to analyze. It's important to note that a specialist reviews every cell, and the process is relatively fast.

One of the software's key features is its capability to connect to our network from anywhere, allowing us to employ a half-time remote lab specialist.

### Are there any specific features in the BioView system you find particularly useful?

One of the software's key features is its capability to connect to our network from anywhere, allowing us to employ a remote half-time lab specialist, who has retired and would otherwise stop working. This employee analyzes ~ 30% of cases from the comfort of her home. In addition, the software is user-friendly and convenient, with automated ISCN and a built-in database of hematology and oncology atlas, which we frequently use to compare our results. Another valuable tool is the "Aberration Tool Analysis." It enables me to describe the chromosomal aberrations I see and adds them to the ISCN nomenclature for the cell description. I also use the "summary tool" to summarize cases.



## What is the average number of examples that you process in a month?

Our lab processes approximately 1,100 slides each month. Among these, we handle between 100 to 150 hematological cases and 40 to 60 genetics cases. These samples are primarily related to the investigation of genetic diseases, constitutional diseases, and fertility (those are scanned on our instrument and analyzed by the genetics lab, using BioView software). For hematological cases we initially begin with four slides per case. However, there are cases where the sample size is insufficient, or the quality of the cells is not optimal, making it necessary to increase the number of slides to achieve an adequate number of cells for a full analysis. In genetics cases, we use up to 15 slides per case, with up to five slides for each of the three types of mediums.

Overall, our analysis time has decreased by 30% compared to previous devices used.

## What is the estimated time saved per case analysis by utilizing the BioView system?

Overall, our analysis time has decreased by 30% compared to previous devices used. Over the past three months, we have utilized the BioView system with one full-time analysis station and one partially utilized analysis station, as opposed to our previous system which required the use of three working stations.



## How long does it take you to analyze a full Karyotype case?

We analyze a full karyotype case with two lab technicians. In simple cases, it takes 20 minutes to finish 10 cells.

The software itself is intuitive, providing clear guidance on what to click on and where to navigate.

## What is the duration of the system scanning process?

To scan 120 slides, it would take approximately 24 hours, assuming an average time of 12 minutes per slide, each with 50 metaphases captured.

## How long does it take to train a new operator to use the system?

The software itself is intuitive, providing clear guidance on what to click on and where to navigate. The learning curve is minimal, with only slight modifications in communication channels.

## When you began working with the system, were barcodes already in use?

Previously, we had integrated barcodes into our FISH system. With BioView we can now include the patient's name in our native language in our LIMS system. The patient's information can be easily transmitted between systems. Our karyotype Barcode offers the option to include the name and ID together with a sample number to employ a double ID system.

## What are your thoughts on the future of karyotyping?

No substitute test can fully replace it. In simple terms, it's here to stay, and the demand for it is growing with an increasing number of samples.

The service team ensures that every request and call is addressed within a few hours, and I am granted access to engineers and developers who can help resolve any complex issues.

## How do you estimate the improvement in the analysis and report time compared to manual analysis of FISH cases?

The conventional method of analyzing a slide takes considerable time spent in front of a fluorescent microscope, followed by processing the data and editing a clinical report. In contrast, with the BioView system, the user's interactions with the microscope are minimal, limited to loading the slide onto the loader trays. straightforward cases can be analyzed and reported within 5-10 minutes, whereas complex cases may require up to 20 minutes. It's important to note that following the analysis and report, the case is documented with a digital clinical report and an image archive of hundreds of classified cells, for future reference.

## What are the different types of FISH probes utilized in your lab?

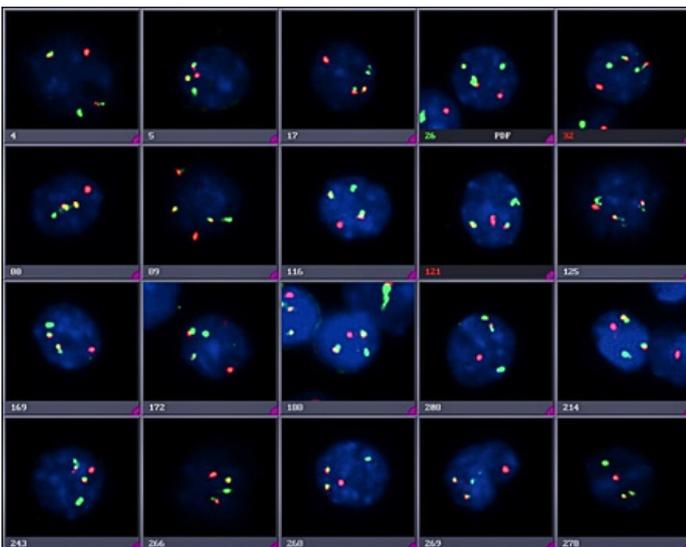
We use approximately 50 different probes from Abbott, Cytocell, and Metasystems.

## How long does it take the BioView Device to scan the average FISH case?

The duration required for capturing cells depends on the complexity of the case and the probe utilized. In less complex cases, the capture of 400 cells can require a few minutes, while in complicated cases, displaying low cellular content and poor signal quality, may take up to 30 minutes.

## How do you compare the quality of the image received by BioView to a manual microscope?

The BioView device produces image quality that is comparable to that of the microscope eyepiece. However, it's worth noting that BioView captured images are better equipped to display faint or dispersed signals with greater clarity.



## How do you find the accuracy of the automated classification?

In general, the automated classification system accurately classifies around 80% of cells, streamlining case analysis and expediting the process. an expert carefully reviews the gallery of automatically classified cells to verify the system's classification and make any necessary corrections.



## How is the automated case review in comparison to the manual process?

Aside from the convenience and efficiency of digital analysis and reporting, the added value is the system's capacity to evaluate and obtain expert opinions on cases. Furthermore, digital records offer the benefit of analyzing hundreds of representative cells per case.

## Are you satisfied with BioView service?

I can speak for hours about the BioView service. The service team ensures that every request and call is addressed within a few hours, and I am granted access to engineers and developers who can help resolve any complex issues. This level of personal attention and support is unmatched by any other service provider.