



Genomic Services

# High quality microarray analysis



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Gene expression profiling

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microRNA analysis

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DNA analysis

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Bioinformatic data analysis

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► [miltenyibiotec.com/genomic-services](http://miltenyibiotec.com/genomic-services)

# Successful partnerships have the best results

## Miltenyi Biotec — your premium partner for high quality microarray analysis

Partner with Miltenyi Biotec to benefit from industry-leading standards in microarray-based genomic, genetic and microRNA analyses. Besides extensive expertise in microarray analyses and consultation at every step of your project, our full-service solutions offer:

- Planning of microarray experiments, right from the point of experimental set-up
- Detailed guidelines on sample preparation for microarray analysis
- Validated results and quality-controlled data
- In-depth bioinformatic data analysis and interpretation



Miltenyi Biotec — leading products and complete customer support

## Sample preparation— the key to your success

Profit from our hands-on experience in sample preparation and cell separation — vital steps for reproducible data — and ensure the success of your microarray studies.

Benefit from the synergy between sample preparation and molecular analysis provided by the experienced scientists in our Genomic Services Department. Conveniently access guidelines and advice through our website [miltenyibiotec.com/microarray-sample-preparation](http://miltenyibiotec.com/microarray-sample-preparation) or through personal consultation at [miltenyibiotec.com/genomic-services-contact](http://miltenyibiotec.com/genomic-services-contact).

For subsequent gene and microRNA expression analysis, and for array-CGH, simply send your samples to our Genomic Services Department and receive reliable and well-documented results.

We are Agilent Certified Service Providers and more: we offer a full range of services in the area of microarray-based analyses. For example the combination of Agilent's Microarray Platform with our unique SuperAmp™ Technology enables reproducible gene expression analysis, even with just a few cells.



Personal consultation— from start to finish



# From expression profiling of the highest quality ...

## Gene expression profiling — sensitive and comprehensive

We provide high-quality gene expression profiling services based on Agilent Whole Genome Microarrays for one-color and two-color experiments.

### Sensitive

Accurate relative quantification of gene expression at a level far exceeding the sensitivity of other array platforms, even with tiny amounts of starting material. The unique SuperAmp™ Service enables downstream expression profiling for rare cells sorted with MACS® Technology or flow cytometry, laser capture microdissected cells, and small tissue biopsies. Further details at [miltenyibiotec.com/superamp-service](https://miltenyibiotec.com/superamp-service).

### Comprehensive

A large number of microarrays for a variety of species is available. The available formats are 4×44K (v2 for human and mouse; v3 for rat) and 8×60K. Visit our website [miltenyibiotec.com/Agilent-microarrays](https://miltenyibiotec.com/Agilent-microarrays) to get a complete list of all Agilent Whole Genome Microarrays. If the standard microarrays do not serve your needs, we can help customize a microarray for you. Get more information from [miltenyibiotec.com/microarray-design](https://miltenyibiotec.com/microarray-design).

### Convenient

Our range of services also includes RNA extraction from cells and tissue. Even if your samples are archived as FFPE tissue, we can carry out an RNA extraction for you using our FFPE Sample Preparation Service. If the sample contains less than 10,000 cells, the SuperAmp Service provides the solution for a reproducible analysis. Ratio building with your data enables a fast and easy comparison of selected samples and identification of up-regulated and down-regulated genes.

### Complete

Further bioinformatic services provide in-depth analysis and interpretation of gene expression data using extensive statistical and pathway analyses.

Visit [miltenyibiotec.com/gep-service](https://miltenyibiotec.com/gep-service) for more details on our gene expression profiling services.

## microRNA expression profiling — specificity down to a single nucleotide

Depending on whether you require specificity or sensitivity, we cater to your needs with two different microarray platforms for reliable microRNA expression profiling studies.

### If specificity counts

Go with the miRXplore™ Microarray Platform, the benchmark in terms of specificity in microarray-based microRNA profiling analysis, and discriminate between microRNAs differing by just a single nucleotide exchange.

The miRXplore Microarray Universal Reference Service enables comparison of multiple samples by utilizing the miRXplore Universal Reference, a synthetic microRNA pool. Check out [miltenyibiotec.com/miRXplore-microarrays](https://miltenyibiotec.com/miRXplore-microarrays) for further information.

### If sensitivity counts

The Agilent microRNA Microarray Service requires only small input amounts of total RNA in the 100 nanogram range. This service uses a high-yield labeling method and does not require size fractionation or amplification steps that may introduce undesired bias during microRNA profiling.

We offer the whole range of services for your microRNA expression study:

- Isolation of RNA from fresh or FFPE tissue
- Analysis of microRNAs on microarrays
- Ratio building for the quick and easy comparison of selected samples

microRNA expression data can be analyzed in-depth by our Bioinformatics Services: statistical analysis, target assignment and extended annotation of microRNAs.

Visit [miltenyibiotec.com/microRNA-service](https://miltenyibiotec.com/microRNA-service) for details of our microRNA expression profiling services.

# ... to meaningful bioinformatic analyses

## DNA analysis — high resolution genome profiling

Enjoy a comprehensive service for array-CGH (comparative genomic hybridization), enabling the study of copy-number variations in any region of the genome for the identification and characterization of various chromosomal imbalances in cancer and genetic disorders.

The Agilent CGH microarrays are high-resolution for genome-wide DNA variation profiling with comprehensive probe coverage for both coding and non-coding regions. Available formats are

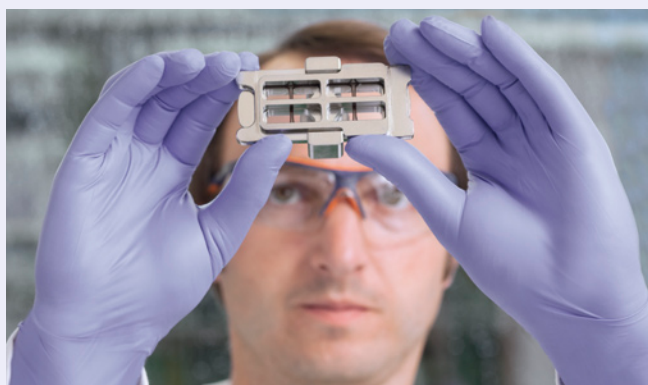
- Human: 2×400K and 4×180K
- Mouse: 2×105K, and 4×180K

Species other than human or mouse, or resolutions different from our standard products, are available on request.

A DNA extraction service is offered from fresh or FFPE tissue.

Data analysis is available for all formats and species, including visualization of the detected aberrations in a genome view.

Visit [miltenyibiotec.com/array-CGH-service](http://miltenyibiotec.com/array-CGH-service) for more details on our DNA analysis services.



CGH — Agilent microarrays with expert data analysis

## Bioinformatic services — flexible and comprehensive

Bioinformatic services are useful at many stages of a research project, from the design of customized microarrays to data analysis for gene and microRNA expression data.

Our Bioinformatic Services include the provision of comprehensive documentation and data in a publishable format as well as:

- Data pre-processing to make data accessible for different analytical programs, transformations and outlier detection
- Detection of genes or microRNAs with relevant expression behavior by DGA or clustering analysis
- Pathway analysis for gene expression studies
- Target assignment and extended annotation for microRNA analyses

Customized services are available in addition to microarray design, data analysis for gene expression and microRNA expression.

Visit [miltenyibiotec.com/bioinformatic-services](http://miltenyibiotec.com/bioinformatic-services) for details of our Bioinformatic Services.



Your data — making an impact on research



# Tried and tested — reproducible data and expert support

## Genomic Services — strong customer-focused teamwork

Miltenyi Biotec's Genomic Services Team has successfully collaborated with customers from the pharmaceutical, biotechnology and diagnostics industries as well as from academia. A measure of the impact of our Genomic Services on their research and project development can be seen in their testimonials. Read what some of them have to say:

### Professor Dr. Daniel Speiser

Ludwig Institute for Cancer Research, Lausanne, Switzerland

"Screening by gene expression microarray can successfully identify critical mechanisms of cellular functions. As compared to studies with whole tissue samples, novel approaches using defined and homogenous cell populations provide more specific results. However, they require cell sorting and/or selection, yielding only relatively low numbers of cells. In our experience, the techniques developed by Miltenyi are well suited to generate reproducible gene expression data, even when working with low numbers of cells."

### Professor Dr. Karl Stangl

Campus Charité Mitte, Berlin, Germany

"We have been working with Miltenyi for many years now, and realised various projects involving mRNA and microRNA microarray services. The consultations during project design, the speed of performance, the quality and interpretation of the results, as well as the processing of the data obtained, were always to our complete satisfaction. Especially, we enjoyed the strong customer-orientated cooperation with Miltenyi. The Bioinformatics Service was always open for any questions raised, and deserves special credit for its support in detailed discussions about final data analysis."

### Professor Dr. Ralf Paus

University of Luebeck, Germany & University of Manchester, United Kingdom

"We've been working with Miltenyi Biotec's Genomic Services Department since more than eight years. The quick turn around time as well as the quality of the data contributed nicely to several important publications of my lab. The microarray experts at Miltenyi Biotec were very helpful with regards to experimental design as well as to interpretation of the obtained microarray data sets."

### Dr. Olaf Holtkötter

Henkel AG & Co. KGaA, Düsseldorf, Germany

"We started quite a while ago to perform microarray analyses at Miltenyi and from the beginning on this was a very trustful cooperation. I really appreciate the general performance in the projects, especially the quick response time and the great support and advice in both, design of experiments and data analysis. The people at Miltenyi are really dedicated to what they do and I cannot remember one project where the work they did wasn't excellent."

For more references, please visit

[miltenyibiotec.com/genomic-services-testimonials](https://www.miltenyibiotec.com/genomic-services-testimonials)



Visit our website to experience our complete Genomic Services program:

[miltenyibiotec.com/genomic-services](https://www.miltenyibiotec.com/genomic-services)

The MACS logo is a stylized purple triangle with the letters 'MACS' in white inside.

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