



Affymetrix Expression Profiling Service at ATLAS Biolabs

Service range

- **Full Service:**

1. Quality control of total RNA
2. cDNA synthesis
3. cDNA purification
4. cRNA synthesis and labelling
5. cRNA purification and quality control
6. cRNA fragmentation
7. Hybridization, washing, and scanning of appropriate Affymetrix GeneChip
8. Data analysis with GCOS (single chip analysis: determination of signal values, absent/present calls, p values; pairwise chip comparison: determination of up-/downregulated genes, log₂-ratios, p values)
9. Comprehensive, up-to-date annotation of top regulated genes (only available for certain organisms)

- **Core Service** will comprise steps six to nine. Non-fragmented cRNA is requested.

Sample preparation

You may send us either:

1. **Total RNA (FULL SERVICE option):**

Standard Protocol: at least 2 µg in max. 10 µl RNase-free H₂O.

Small Sample Protocol: at least 20 ng in max. 10 µl RNase-free H₂O.

Quality of RNA has to be documented (e.g., by gel analysis or Agilent Bioanalyzer). After receipt, we will perform an additional quality control with the Agilent Bioanalyzer to ensure RNA was not degraded during transportation. The amount of RNA will be determined spectrophotometrically.

2. **mRNA, at least 200 ng in max. 10 µl RNase-free H₂O (FULL SERVICE option).**

Quality of RNA has to be documented (e.g., by gel analysis or Agilent Bioanalyzer). After receipt, we will perform an additional quality control with the Agilent Bioanalyzer to ensure RNA was not degraded during transportation. The amount of RNA will be determined spectrophotometrically.

3. **Biotin-labelled cRNA, at least 20 µg in max. 32 µl RNase-free H₂O.**

(CORE SERVICE option).

We prefer to receive non-fragmented cRNA, so that we can perform a quality control on the Agilent Bioanalyzer. If the customer sends fragmented cRNA samples, hybridizations will be done at the customer's own risk.



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Small Sample Protocol – Explanatory Note

In addition to the standard protocol, ATLAS Biolabs offers a small sample protocol version which requires only 20 ng of total RNA. When using this protocol one should be aware that due to the higher degree of amplification a higher degree of technical variation is induced resulting in higher numbers of false positive and false negative change calls compared to the standard protocol.

Affymetrix GeneChip® Expression Arrays

Customers may purchase GeneChip® expression arrays directly from Affymetrix and send them to ATLAS Biolabs. Alternatively, GeneChips® can be purchased from ATLAS Biolabs in combination with analysis services.

Sending of RNA and arrays

- RNA must be sent on dry ice, preferably with an overnight courier service.
- Arrays can be sent at room temperature, and they must not freeze.

Delivery time

Depending on:

- The number of samples and the number of arrays to be hybridized.
- The sample stage.

Examples:

- 20 samples, Full Service: 3 weeks.
- 40 samples, Core Service: 2 weeks.

Quality control

- Quality and quantity of each RNA sample sent to ATLAS Biolabs (total RNA, mRNA, or cRNA) will be determined by analysis on an Agilent 2100 Bioanalyzer and by photometric analysis. If RNA samples do not fulfill the requirements for GeneChip® analysis, a set-up fee of 25.- EUR per sample will be charged.
- Quality and quantity of each cRNA sample synthesized at ATLAS Biolabs will be determined by analysis on an Agilent 2100 Bioanalyzer and by photometric analysis.
- All quality assurance procedures are electronically documented and available for our customers on demand.

Results

Results are delivered on CD-ROM/DVD, including the following data:

- All original files (exp, cel, chp, rpt) with the exception of the dat-file.
- Expression results from single chip analysis (absent/present call, p value, signal value) or pairwise comparison of two chips (up-/downregulation, log₂-ratio, p value) are provided as a spreadsheet (EXCEL file)
- Comprehensive, up-to-date annotations (from Ensembl, Entrez Gene, Unigene, Uniprot, GeneOntology) of top-regulated transcripts/genes.

Geschäftsführung	Bankverbindung	Steuer-Hinweise	Handelsregister Nr.	Sitz der Gesellschaft
Prof. Dr. Peter Nürnberg	Sparkasse Köln-Bonn BLZ 370 501 98 Kto 1901 035 046 SWIFT-Code: COLSDE33 IBAN: DE5337050198 1901035046	VAT Reg. No.: DE 251633620 Steuer.Nr. 223/5801/5606	HRB - 59119 Amtsgericht: Köln	Kerpener Str. 61-69 D-50937 Köln



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Storage of GeneChips® and biological material

GeneChips® will be discarded immediately after finalisation of the experiment. RNA, cRNA and hybridization mix will be stored for four weeks after finalisation of data analysis. **After this period, any biological material will be discarded *without further notification*.**

In case the customer wants ATLAS Biolabs to store biological material for a longer period, this has to be stated in writing at the time of placing the order.

Data storage

Data will be stored at ATLAS Biolabs for four weeks after CD-ROM/DVD was sent to the customer. **After this period, data will be deleted *without further notification*.**

Contact

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