

## FGCZ Expression Arrays Service offers:

- ✓ Consultation on the technology selection and experimental design
- ✓ Advice on the preparation of the samples
- ✓ **Affymetrix GeneChip** and **Agilent** expression arrays experiment

### Affymetrix experiment workflow:

1. Quality and quantity control of each total RNA sample on the 2100 Bioanalyzer and NanoDrop..

2. Generating biotin-labeled cRNA or cDNA Samples.

#### IVT Express Kit:

Starting material 20 ul of 100 ng/ul total RNA

#### NuGEN Ovation Pico WTA System

Protocols for partially degraded samples and samples with very low starting material.

3. Quality and quantity control of each cRNA or cDNA sample on the 2100 Bioanalyzer and NanoDrop.

4. Hybridization of cRNA or cDNA samples on GeneChips. (The customer may provide samples ready for hybridization).

5. Analysis of hybridization images.

### Agilent experiment workflow:

1. Quality and quantity control of each total RNA sample on the 2100 Bioanalyzer and NanoDrop.

2. Generating Cy3/Cy5-labeled cRNA samples.

#### 1-Color Low Input Quick Amp Labeling:

Starting material 20 ng - 200 ng of total RNA (100 ng for typical protocol)

#### 2-Color Low Input Quick Amp Labeling:

Starting material 10 ng - 200 ng of total RNA (100 ng for typical protocol). Sample pairs are hybridized on the same array.

3. Quality, quantity and dye incorporation control of each cRNA sample on the NanoDrop.

4. Hybridization of cRNA samples on Agilent GE Arrays. (The customer may provide samples ready for hybridization).

5. Analysis of hybridization images using FeatureExtraction software.

FGCZ Expression Arrays Service uses all currently available Affymetrix GeneChip and Agilent Expression Arrays and standardized assays and reagents.

We also offer sample preparation starting from small and/or partially degraded total RNA for the Affymetrix workflow using NuGEN WT-Ovation Systems. Please contact us for details.

Would you have questions please contact:

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## Sample preparation

The quality of the RNA (integrity and purity) is essential to the overall success of the analysis. Please consult us before submitting samples. Since the most appropriate protocol for the isolation of RNA can be source dependent, we recommend using a protocol that has been established for the tissues or cells being used. A final DNase digestion, upon RNA isolation, is strongly recommended.

High-quality total RNA has been successfully isolated from mammalian cells (such as cultured cells and lymphocytes) using the SV Total RNA Isolation System from Promega or RNeasy Mini Kit from QIAGEN. If mammalian tissue is used as the source of RNA, it is recommended to isolate total RNA with a commercial reagent, such as TRIzol. If going directly from TRIzol-isolated total RNA to cDNA synthesis, it may be beneficial to perform a second cleanup on the total RNA using the QIAGEN RNeasy Mini Kit.

## Delivering total RNA samples

Customers are asked to deliver total RNA in recommended concentrations

### Affymetrix experiment workflow:

- Ideally 20 ul of 100 ng/μl in RNase-free water for IVT express protocol and Nugen protocols
- Minimum of 500pg (optimum amount is 50ng) for the NuGEN WT-Ovation system

### Agilent experiment workflow:

- Ideally 20 ul of 100 ng/μl in RNase-free water for both 1-Color and 2-Color Low Input Quick Amp Labeling protocols

The amounts should be sufficient to repeat, if necessary, the experiment without asking for additional RNA samples. RNA must be delivered on dry ice and the quality of RNA should be documented (e.g. by gel analysis or Bioanalyzer).

## Expression arrays

Customers may purchase expression arrays from FGCZ profiting from the Swiss Array Consortium (current prices are available on request). Alternatively, arrays can be purchased directly from manufacturer and send to FGCZ.

## Timeline of experiment

The timeline of experiment depends on the number of samples and arrays to be hybridized, as well as on the already existing cue. FGCZ estimates up to 6 weeks to complete the experiment.

## Results

Customers will receive all raw data and analysis results from the B-fabric. All quality assurance procedures are electronically documented and available for our customers on demand.

## Storage of arrays and biological material at FGCZ

Arrays will be discarded immediately after the experiment. Total RNA, cDNA, cRNA and hybridization mix will be stored for four weeks after data analysis. After this period, any biological material will be discarded without further notification.

## FGCZ Expression Arrays ServicePrices

Service prices per sample in CHF (excluding price of the array)

Service prices per sample in CHF	UNI / ETH Internal	External Academic	Commercial
Affymetrix workflow IVT express	440	690	990
Affymetrix workflow with NuGEN system; Exon or 3' arrays	500	750	1100
Affymetrix workflow Exon	500	750	1100
Affymetrix hybridization & scanning only	100	400	n.a.
Agilent workflow one-colour	320	520	820
Agilent workflow two-colour *	540	840	1140
Agilent hybridization & scanning only	100	200	n.a.

\* Labeling of two samples (sample pairs) is included: one sample - Cy3, one sample - Cy5.

Services to commercial and few academic institutions are additionally subject to VAT (7.6%).

Affymetrix and Agilent workflow prices include all required reagents and quality control with the 2100 Bioanalyzer. **The prices DO NOT include the cost of the arrays.** Please ask at FGCZ for current array prices.