



Center for
Medical Genomics
@ Indiana University
School of Medicine

Sample Submission Form Affymetrix GeneChip® Processing

The Center for Medical Genomics
Indiana University School of Medicine

General Information about submissions

It is important to gather basic information about the overall experimental goals, experimental design, sample purification, etc. so that we may properly handle the microarray labeling, hybridization and scanning. We try to carry out our procedures in a balanced design to reduce systematic variation that can lead to false positives. It is also essential that we have the information needed to properly annotate the experiment for analysis. Your assistance is essential. Please read the overview of Affymetrix experiments before filling out the form. Please consult with CMG personnel at the earliest possible stage - preferably at initial experimental design, before any samples are prepared. Fill in pages 1 and 2.

This process is iterative. We ask for an initial description on the Affymetrix Sample Submission Form: pages labeled Contacts, Expt overview, Sample List and QC. We may contact the designated person for clarification. From your information, we will suggest appropriate arrays, discuss sample quality control measures, and send back an updated Sample Submission Form which may request additional information. When we have sufficient data to proceed, we will arrange a time for sample delivery to our lab. At that time, we will examine the QC data provided by the PI's laboratory and discuss any issues that arise. Sometimes, further QC measures are needed to assess quality, and sometimes further purification is needed. We will keep in touch with the contact person about this.

Instructions for Sample Submission Form

1. **Contact** information (self explanatory). CMG will assign the experiment code.
2. **Expt overview**: It is important for us to understand the key comparisons so that we can properly set up the laboratory work in a balanced manner that will minimize false positives arising from systematic variation. This also allows us to properly annotate the experiment for analysis.

Key experimental question: what are you trying to learn from this microarray experiment? (free text- as much as needed for clarity)

Key contrasts: what do you want to compare? \pm a drug? etc. There may be multiple comparisons, but it helps to specify the most important of them.

Type of experiment, what the key variables are, and number of samples of each. Note that we recommend a ***minimum*** of 4 biologically independent samples of each type; more if smaller differences are expected (e.g. in brain) or .

3. **Sample List and QC**: We need to know initial method of RNA extraction and any further purification. [You may send in the form at this stage, without the sample details, for initial consultation with CMG staff, if you want to.]

We need a spectrum from 220-350 nm, not just A260/280 ratios; we have found that some samples contain material absorbing at lower wavelengths that can lead to gross

overestimates of RNA amount (if based only on A260) and can also inhibit the biochemistry. If you do not have the apparatus for this, we can run the spectra for you at small additional cost.

We need a 1% neutral agarose gel picture so we can assess overall quality of the RNA (ratio of the large and small ribosomal bands) and whether there is too much DNA contamination. If you do not have the apparatus for this, or do not have sufficient sample, we can run samples on the Agilent Bioanalyzer for you at small additional cost.

Submitting samples

After the form has been completed, please email to Jeanette McClintick, jnmcclin@iupui.edu.

Contact Jun Li or Praveena Yarru, 278-9744, email lijun@iupui.edu / lpyarru@iupui.edu , to arrange a suitable time to bring samples.

After arrangements have been made, samples, along with all quality control information (spectra, photo of agarose gel) can be brought to the

Biotechnology Research and Training Center
1345 West 16th Street, Room 239
Indianapolis 46202
(corner of 16th Street and Indiana Ave).

Call the laboratory (278-9744) from the first floor lobby.