Summary of the MAQC **July-14-2005** Teleconference

The MAQC Project: Calibrated RNA Samples, Reference Datasets, and QC Metrics/Thresholds for Microarray Quality Control

Teleconference Date: July 14, 2005 (9 am PDT / 11 am CDT / 12 pm EDT / 16:00 GMT)
Summary Date: July 18, 2005
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URL: http://edkb.fda.gov/MAQC/

1. **Brain RNA**: Bob Setterquist stated that at least 550 mgs of high quality brain RNA sample had been made and eventually up to 950 mgs might become available. Bob later on confirmed that Ambion would mix the brain RNA with Stratagene's UHRR to create the two mixtures (25:75 and 75:25, brain:UHRR). Ambion will ship the brain RNA and the two mixtures out to the test sites by ***Wednesday, August 10, 2005***. Stratagene will ship the UHRR to the test sites directly by the same time.
2. **Titration Pilot:** Rich Shippy briefed the group on progress to date. During the Titration Pilot teleconference on July-13-2005, initial analysis results from Applied Biosystems, Affymetrix, GE Healthcare and Illumina were presented/discussed and the ***25:75*** and ***75:25*** (brain:UHRR) mixtures were selected for the MAQC main study. Agilent also conducted initial analysis of its titration pilot dataset but had yet to decide whether the dataset would be shared with the MAQC group.
3. **Sequence-based Mapping**: The Sequence Mapping group plans to meet during the FDA/JHU/PhRMA Workshop on Microarrays (July 20-21, 2005, Rockville, MD) to discuss the details of the task. A TC is being scheduled for the week of July 25 to discuss the group's mapping strategy/results with experts from all platform providers.
4. **Test Sites**: It was agreed that only those datasets generated by the three "official" MAQC tests sites designated by each manufacturer should be analyzed/presented in the MAQC manuscript(s). However, Leming Shi emphasized the importance of encouraging people to run the same set of RNA samples and contribute their datasets to the MAQC project for public release. Based on the TC and later-on communications, the "official" MAQC test sites are (as of July-17-2005):

	Manufacturer (Site 1)	**Site 2**	**Site 3**
1	Affymetrix	FDA/CDER	Ambion
2	Agilent	FDA/NCTR	Icoria
3	Applied Biosystems	EPA/NHEERL	***Pending***
4	Combimatrix	***Pending***	***Pending***
5	Eppendorf	MD Anderson	***Pending***
6	GE Healthcare	UMass Boston	Genus Biosciences
7	Illumina	Duke University	Burnham Institute
8	NCI (Custom arrays)	FDA/NCTR	FDA/CBER

5. **The Stanford Genome Technology Center** (SGTC, Hanlee Ji and Jochen Kumm) was welcomed to the MAQC project and given permission to access/analyze the MAQC datasets. Leming Shi will visit SGTC on July-22-2005 to discuss the MAQC

project and details for SGTC to host the next MAQC face-to-face meeting, tentatively scheduled for late November or early/mid December, 2005.

6. **Additional Test Sites for QRT-PCR?** Rick Jensen asked whether QRT-PCR assays would be performed in additional sites beyond Applied Biosystems. John Burrill (AB) will check whether the costs for running the large number of QRT-PCR assays could be covered.

7. **Agilent Platform:** Jim Collins stated that only the two "pure" RNA samples (Ambion brain and Stratagene UHRR) will be run on its platform in the MAQC main study. The brain-UHRR pair will be run in a dye-swap way, each with five replicates, resulting in 10 hybridizations per test site (Note: Each dye-swap pair will be averaged so that the same number of "replicates" (five) will be used in data analysis). In addition, five self-self replicates will be run for each of the two samples, resulting in 10 more hybridizations. Therefore, the total number of arrays to be run per test site will be 20, the same as the one-channel platforms.

8. **MGED8 Abstract**: Leming Shi was informed on July-15-2005 that there will be a workshop on microarray standardization on September 14 following the MGED8, September 11-13, 2005 in Bergen, Norway and another workshop on microarray QC scores in the evening of September 11. Leming decided to attend the MGED8 and participate in the discussions, and had submitted an abstract on the MAQC project to the MGED8. Leming apologizes for being unable to consult you on the abstract before its submission because he was trying to meet the July-15-2005 deadline. Leming also regrets for not being able to list the names of all MAQC participants due to the limitation of space (<=20 authors) set by the MGED8 organizing committee. For your information, the abstract submitted to MGED8 is attached.

9. **NCI Customized Arrays:** After the MAQC teleconference, representatives from NCI, FDA/CBER and FDA/NCTR have decided to run the same set of MAQC samples using NCI's customized oligo (70-mer) arrays and submit the datasets to the MAQC project. Experimental design will be finalized during the FDA/JHU/PhRMA microarray workshop.

Timeline/Milestones:

- **August 31, 2005**: Completion of MAQC main study (data generation)
- **November/December 2005**: Face-to-face meeting at Stanford University
- **February 11, 2006**: Submission of manuscript(s); Release of MAQC datasets
- **October/November 2006**: Public meeting on microarray quality control and data analysis at FDA/NCTR or FDA/CDER
- **December 2007**: (FDA) Guidance on microarray quality control and data analysis

The next MAQC Teleconference:

Thursday, July 28, 2005 (9 am PDT / 11 am CDT / 12 pm EDT / 16:00 GMT)
USA Toll Free Number: **888-566-5020**
International caller: +1-210-795-9594
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