

## **Readings for Module 1: Introduction to arrays**

Eisen M.B. and Brown P.O. (1999)

DNA microarrays for analysis of gene expression.

Methods Enzymology 303, 179—205. (paper, description of spotted arrays)

Lipshutz R.J., Fodor S.P.A., Gingeras T.R., Lockhart D.J. (1999)

High density synthetic oligonucleotide arrays.

Nature Genetics supplement, vol. 21, 20—24. (paper, description of affymetrix arrays)

Affymetrix, Microarray Suite version 5.0 (2002)

Statistical Algorithms Reference Guide. (paper, single array analysis)

Complete information:

Statistical algorithms description document

Available at [http://icg.cpmc.columbia.edu/Bioinformatics/MAS\\_5.pdf](http://icg.cpmc.columbia.edu/Bioinformatics/MAS_5.pdf)

Naef F. Lim D.A., Patil N., Magnasco M. (2001)

From features to expression: High-density oligonucleotide array analysis revisited.

(paper)

Naef F. Lim D.A., Patil N., Magnasco M. (2001)

DNA hybridization to mismatched templates: a chip study. (magnasco3.pdf)

Naef F., Magnasco M. (2002)

Solving the riddle of bright mismatches: hybridization in oligonucleotide arrays.

(magnasco1.pdf)

Naef F., Socci N.D., Magnasco M. (2002)

A study of accuracy and precision in oligonucleotide arrays: extracting more signal at large concentrations. (magnasco2.pdf)

Lee M.L., Cuo F.C., Whitmore G.A., Sklar J. (2000)

Importance of replication in microarray gene expression studies: statistical methods and evidence from repetitive cDNA hybridizations.

PNAS vol 97, n. 18, 9834-9839. (paper)

Pan W., Lin J., Le C. (2001)

How many replicates of arrays are required to detect gene expression changes in microarray experiments? A mixture model approach". Biostatistics, University of MN tech report, available at <http://www.biostat.umn.edu/~weip/ge.html>

report, available at <http://www.biostat.umn.edu/~weip/ge.html>

Zien, Fluck, Lengauer (2002)

Microarrays: How many do you need?

RECOMB 2002: Proceedings of the 6<sup>th</sup> Annual International Conference on Computational Biology (ACM Press). Preprint available at

<http://cartan.gmd.de/~zien/publications.html>

Tran P.H., Pfeiffer D.A., Shin Y. Meek L.M., Brody J.P., Cho K.W.Y. (2002)

Microarray optimization: increasing spot accuracy and automated identification of true microarray signals.

Nucleic Acids Research, vol. 30, n. 12. (tran.pdf)