

Statistical analysis of microarray data from Affymetrix gene chips

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Abstract

Data obtained from experiments using Affymetrix gene chips are processed and analyzed using the statistical algorithms provided with the product. The details of the algorithms, including the calculations and parameters, are described in mechanical terms in the Appendices to their user's manual (Affymetrix Microarray Suite User Guide, Version 4.0, 2000). I will describe these details using a statistical framework, compare the algorithm with others that have been proposed (Li and Wong, 2002; Efron et al. 2001), and offer modifications that may provide more robust analyses and thus more insightful interpretations of the data.