TYPE I ERROR RATE CONTROL IN A MICROARRAYS EXPERIMENT WITH EUCALYPTUS

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- *ABSTRACT: Microarray experiments deals with testing thousands of simultaneous hypotesys in the same experiment. To control experimentwise type one error rate many corrections on significance levels has been proposed, as is "False Discovery Rate" (Benjamini e Hochberg, 1995). In Genolyptus project, that aims for identifying aspects of the functional genomics of Eucalyptus, 21413 probes were tested in microarrays. Response from 1113 do not verify normality of residuals (according to Shapiro-Wilks test) and went on non-linear transformation to be analysed. Box-Cox corrected the problem for 801 of these probes and 12 out of it have shown significance for treatment effects. From the remaining probes that were not transformed, 40 has shown significance for treatment effects. Contrasts among five treatments for these 52 probes were investigated. FDR and Box-Cox transformation has shown usefull to reduce the number of treatments and made possible to devise further study on differential expression.*
- *KEYWORDS: Box-Cox transformation, eucalyptus, FDR, microarrays.*

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