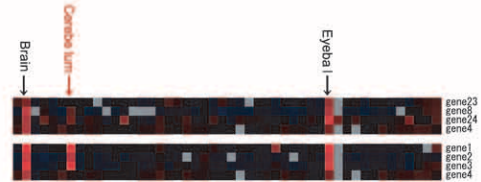


Detection of Genes with Tissue-Specific Expression Patterns using AIC

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We applied a method based on Akaike's Information Criterion (AIC) to detect tissue-specific genes whose expression profile is considerably different in target tissue(s) than in others¹⁾. Such observations are detected as outliers and the method we used was originally developed to detect outlier(s). Our analysis showed that it is specifically applicable to the extraction of specific expression patterns from arbitrarily selected tissues under the condition of co-existing similar tissues because of those detected as outliers. This method is currently employed in other analyses³⁾ and appears to be readily utilizable in various fields of expression analysis.



Detection of genes specifically up-regulated in brain and eyeball.

The AIC based method (upper) detects 4 genes whose expression profiles meet our expectation. However, among the top 4 genes identified by the conventional pattern-matching method (lower), the detection of 3 is disappointing they manifest up-regulated signatures in the cerebellum, contrary to the expectation that the expression profile be similar to that of objective tissues.