Condensed paragraph version

Background subtracted fluorescence values from the average of three line scans per each wing disc in each condition were transformed into R data frames using standard R packages [2-5]. Data frames consist of a column representing relative distance, in microns, from the start of the line scan that the fluorescence value was obtained at, this will be used as x. Then there is one column per wing disc per condition containing fluorescence values that will by used as y in all future calculation. The auc() function from the MESS [1] package was used to calculate auc values as auc(x, y, from = 0, type = ”linear”) using linear interpolation. We further optimized our usage of the auc() function by adjusting the subdivisions argument in positive increments of 1000 to auc(x, y, from = 0, type = ”linear”, subdivisions = 1000). We performed absolute and non-absolute calculations for each dataset by setting the auc() function argument “absolutearea” to TRUE and FALSE respectively. To separate the auc value of peak 1 from the auc value of peak 2, cut off values were manually determined and added into the auc() function. To get peak 1 auc values, the auc() function “from” argument was set to 0 and the “to” argument was assigned as the peak 1, auc(x, y, from = peak 1 cut off, type = ”linear”, subdivisions = 1000). To get peak 2 auc values, the “from” argument was assigned as the peak 1 cut off auc(x, y, from = peak 1 cut off, type = ”linear”, subdivisions = 1000). All auc values were concatenated into an array and exported as .csv files that were transferred to GraphPad PRISM for visualization and statistical analysis. All code, output, and input data are found in a Git repository at <https://github.com/jrb07/auc_bates.git>

Citations

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