Linear Regression

A linear regression describes the linear relationship between one or more changing variables and the response (one or more input, and one ouput). The following equation is used:

Y = mx + b (initial) or Y = B1\*X + B0

Y is the output variable and x in the input. If there is only one input variable, it’s called a simple linear regression. With more input variables, it’s called a multiple regression.

The y-intercept is the bias because predictions are altered based on this value.

For microarrays, linear models can be used for each gene in the dataset. Log-ratios between target RNA samples are estimated, usually with least-square differences.

Reference:

https://machinelearningmastery.com/linear-regression-tutorial-using-gradient-descent-for-machine-learning/