

MeBOP Student Presentation

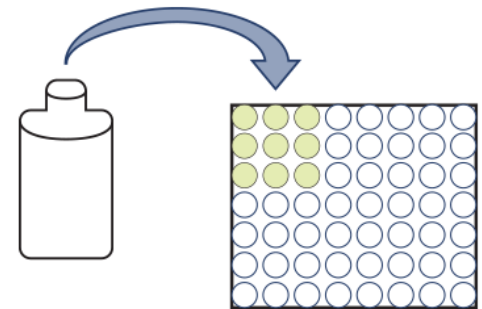
Heba Aldeyarbi
Arwa Maqboul

Bern, Switzerland 30th. July 2016

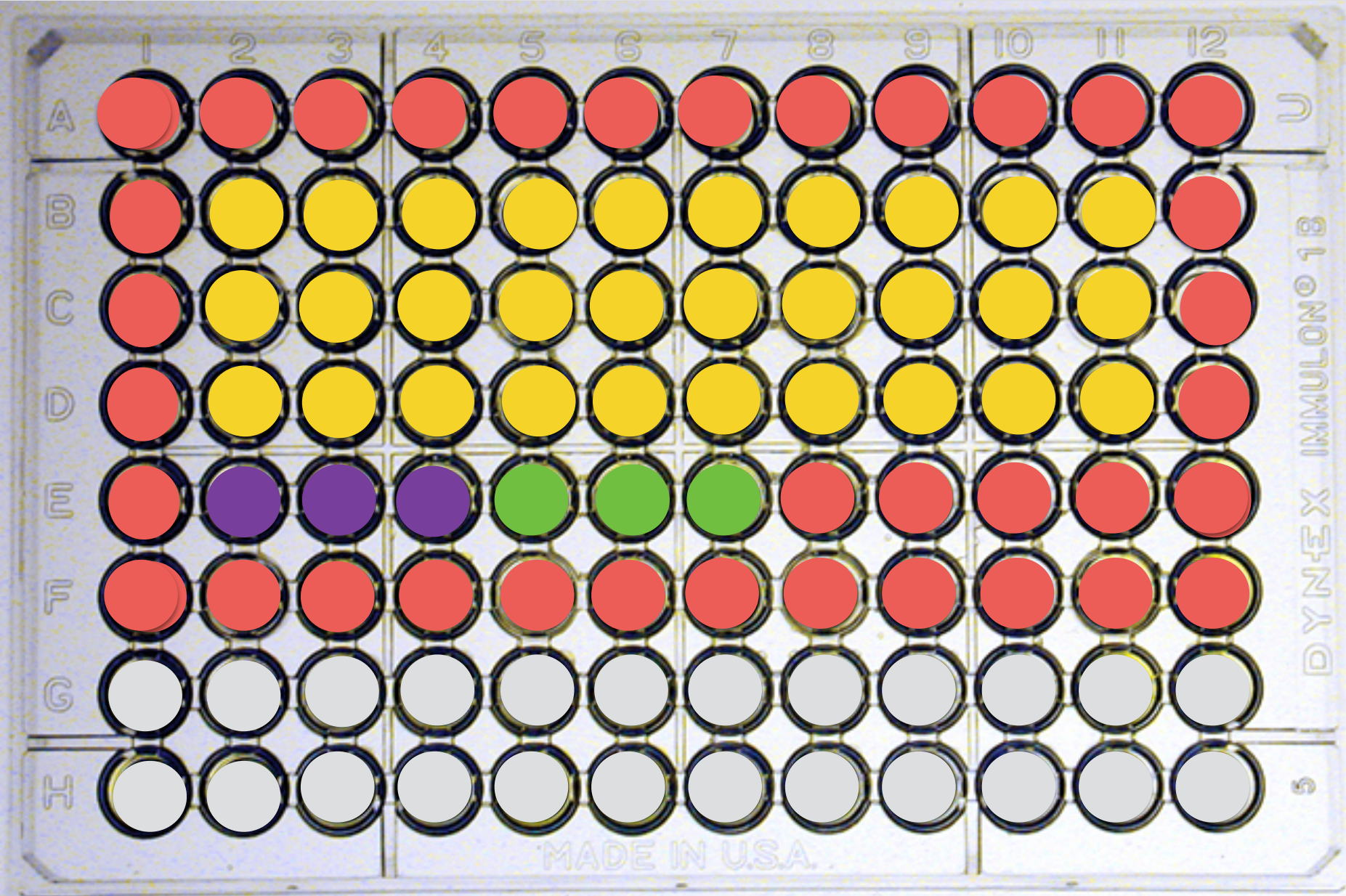
Drug Sensitivity Testing

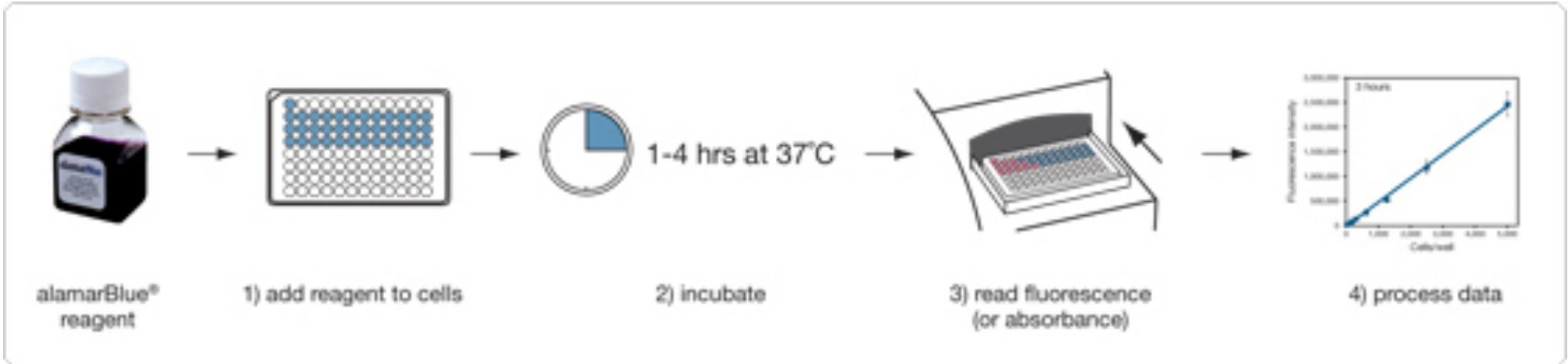
- The susceptibility of organisms to antibiotics.
- To determine which antibiotic will be most successful in treating an infection in vivo.
- IC50 is the concentration to inhibits the growth of half an inoculum of the parasites

Methodology



Incubate for 36 Hours >>>>> Add Alamar blue





Cell Biology Protocols

How to calculate IC50

To calculate IC50, you would need a series of dose-response data (e.g., drug concentrations x_1, x_2, \dots, x_n and growth inhibition y_1, y_2, \dots, y_n). The values of y are in the range of 0-1.

Linear Regression

The simplest estimate of IC50 is to plot x-y and fit the data with a straight line (linear regression). IC50 value is then estimated using the fitted line, i.e.,

$$Y = a * X + b,$$

$$IC50 = (0.5 - b)/a.$$

Log transformation

Frequently, linear regression is not a good fit to dose-response data. The response-curve fits better to a straight line if the x-axis is logarithm-transformed.

Excel add-in

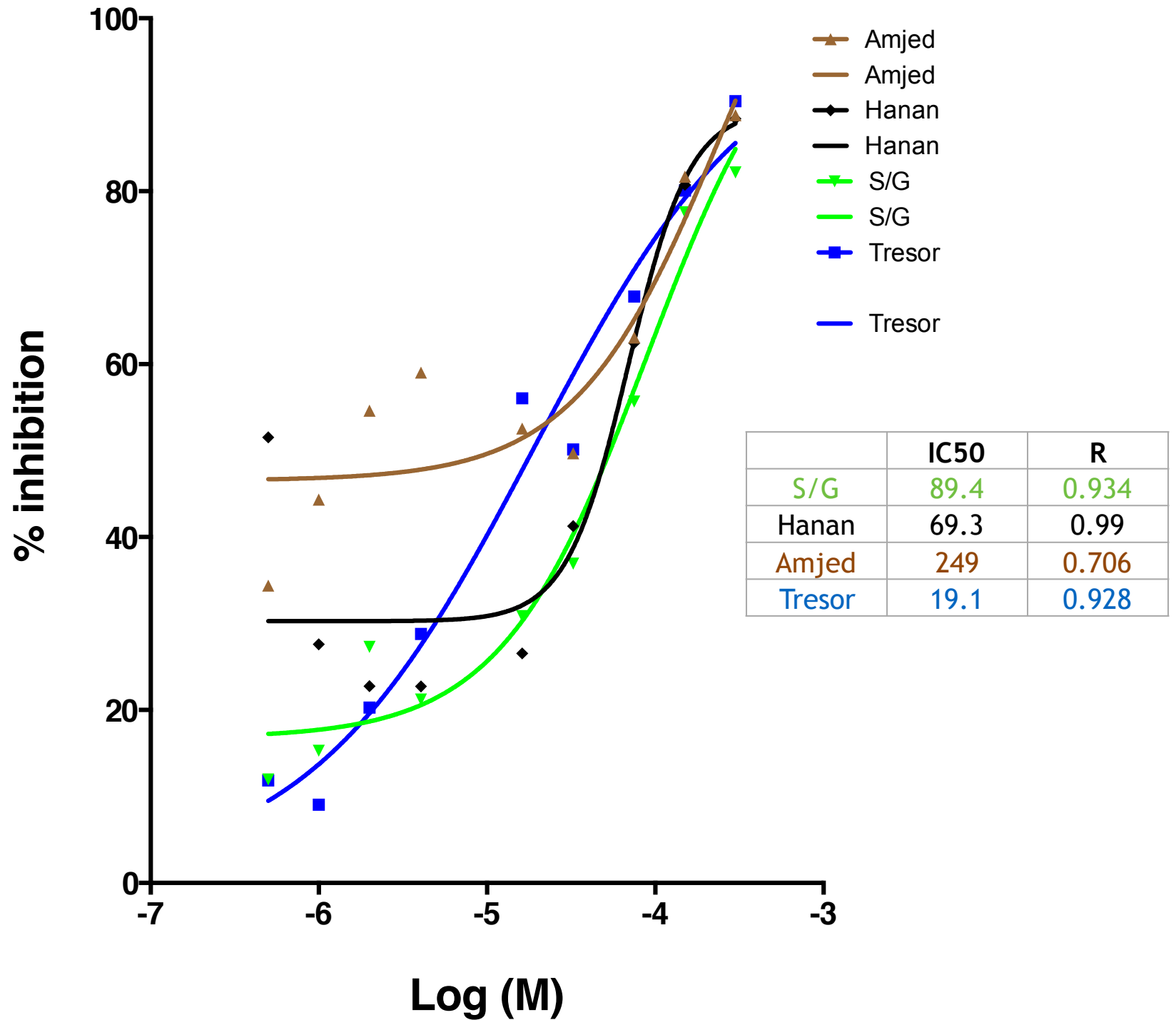
[ED50V10 \(Readme\)](#) is an Excel add-in for calculating IC50/EC50 values. Input your data in the left columns, and your results will be shown in the right half of the Excel table.

To calculate IC50, input 50 in the "INTERPOLATE..." table (highlighted in blue), the result will be shown on the right (highlighted in green).

For log-transformation, go to Data Transformation on the upper-right, input 3 in the DOSE (X-axis)/1st cell.

Our Results

Avg % inhibition log X



Avg % inhibition log X

