

## ADA™: Agar Diffusion Assay semi-automation for liquid handlers

### *Compatible with Tecan Freedom EVO75® / EVO® / Fluent®*

Agar Diffusion Assay is used to measure antimicrobial activity of compounds or samples. The agar diffusion test is qualitative, easy to perform, and simple.

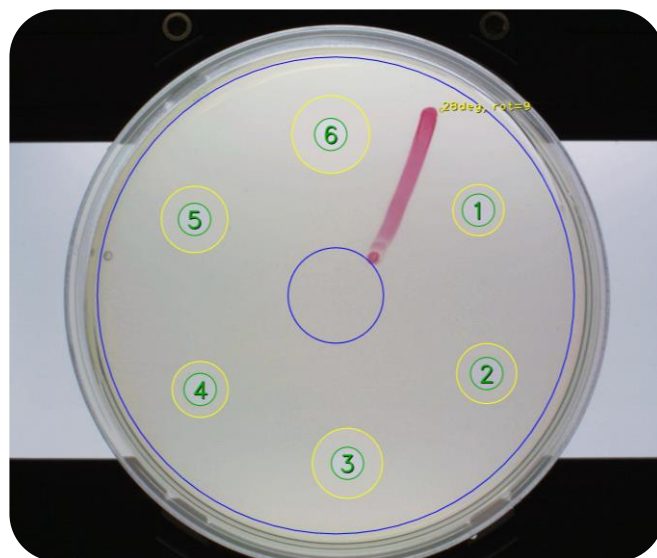
In one version an agar plate, inoculated with microbial cells, is used. Regular wells are created in the agar using a tip or another mechanical device.

These wells are filled with antibiotics in different concentrations.

The plate is incubated and the size of the area where the microbes are inhibited is measured.

ADA (AgarDiffusionAssay) is a plugin for semi-automating the Agar Diffusion Assay on a liquid handler.

It allows using both 90mm and 120mm Petri dish



### **How does it work?**

ADA integrates with Pickolo - an imaging and colony picking module to perform two functions:

- Before incubation it automatically identifies wells in the image of the plate using the Pickolo's camera and backlight. Additionally it identifies a colorful mark to identify the "first" well. ADA then sends the coordinates of the punch marks to Pickolo for automatic dispensing of antibiotics into the wells.
- After incubation ADA is used again to identify the punch marks and measure the inhibition zone around each punch mark. The size of the inhibition zone is then reported back to the robot or to a LIS.

### **Features:**

- Works with EVO75® / EVO® / Fluent®
- Flexible algorithms for identifying wells, color marks and for measuring the inhibition zone.
- Can work with different imaging setups and with different experimental setups
- Works with 90mm and 120mm Petri dish
- Easily integrates with liquid handler software



## Specifications

Detect punch marks	Punch marks are detected by the effect they have on the passing light from the backlight. Punch marks can be filtered based on size, shape and location in the image.
Detect mark	The mark is used to identify the “first” punch in a circle of punch marks. It should be a colored line passing between the “first” and “last” punch mark. It can be filtererd by length, width, shape, color and angle.
Measure inhibition zones	Inhibition zones around punch marks can be detected by their color or by light intensity. They can be quality controlled or filtered by size, strength of change, derivative of change.
Output	List of locations of punch marks are given as CSV of coordinates in the image Information about punch marks is given as a CSV. Each Punch mark is given with the index, coordinates in the image and size of the inhibition zone.
Quality control	There are many different ways to ensure the analysis is correct. With an incorrect analysis an error is displayed and conveyed to the client to allow the script to alert the user or stop operation.

