

# Antibiotics gradient assay for *V. natriegens*

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## Abstract

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## Protocol

### Step 1.

Inoculate preculture of *V. natriegens* in LB3 medium (3% NaCl) and incubate overnight at 37°C, shaking.

### Preparation of gradient plates

#### Step 2.

Preparation of the first layer:

Place 11.5x11.5 cm plates in an inclinent position. The angle of inclination is such that the agar layer diminishes to nothing at one edge of the plate. Pour 30 ml of LB3 with chosen antibiotics of concentrations to be tested into the plate. Let the agar solidify.

### Preparation of gradient plates

#### Step 3.

Switch position of the plate to an even surface and pour 30 ml of LB3 agar **without** any antibiotics to onto the first layer. Let the agar solidify.

### Spotting of *V. natriegens*

#### Step 4.

Dilute the preculture to an OD550 of 0.1.

### Spotting of *V. natriegens*

#### Step 5.

Pipette 8-10 spots of 5 µl of the culture along the gradient.

### Spotting of *V. natriegens*

#### Step 6.

Let the spots dry and incubate the plates upside-down at 37°C over night or at room temperature over the weekend.

## Measurement

### Step 7.

Measure the distance from the edge of the agar plate to the last point of growth.

## Measurement

### Step 8.

Calculate the highest concentration were *V. natriegens* can survive by using the following equation:

$$C_{\text{antibioticH}} = C_{\text{antibioticmax}} * d_{\text{growth}} / d_{\text{plate}}$$

$C_{\text{antibioticH}}$ : highest antibiotic concentration *V. natriegens* can survive

$C_{\text{antibioticmax}}$ : maximum antibiotics concentration (concentration used for the lower layer of the plate)

$d_{\text{growth}}$ : distance from the edge of the agarplate to the last point of growth

$d_{\text{plate}}$ : length of the plate (11.5 cm)