

# ImageJ plate count protocol

Jeric Harper

## Abstract

**Citation:** Jeric Harper ImageJ plate count protocol. **protocols.io**

dx.doi.org/10.17504/protocols.io.f2mbqc6


**Published:** 14 Oct 2016

## Protocol

### Capture image

#### Step 1.

#### Capture Image

Using a high-resolution camera set on 'Close-up' mode (the setting with the flower ) take a clear picture of the plate. Name and save the image.

### Open ImageJ

#### Step 2.

#### Open ImageJ



 SOFTWARE PACKAGE (MAC OS, Linux, Windows)

ImageJ 

### Open Image

#### Step 3.

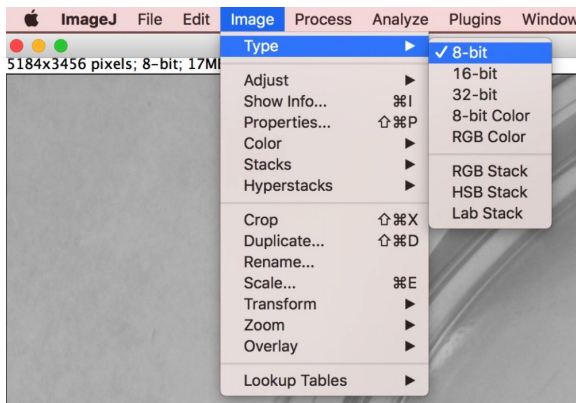
**Open Image** click on **File -> Open ->** and open the image

### Adjust Image

#### Step 4.

#### Change image to 8 bit

select **Image -> Type -> 8 bit**

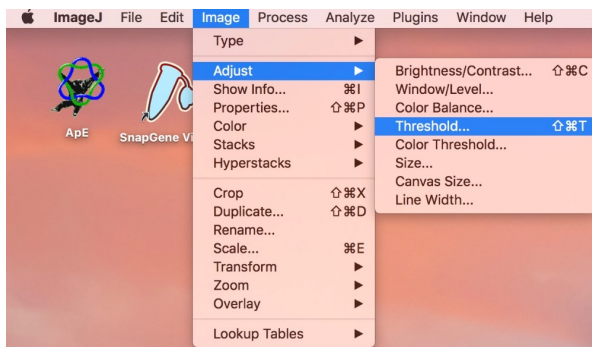


## Adjust Image

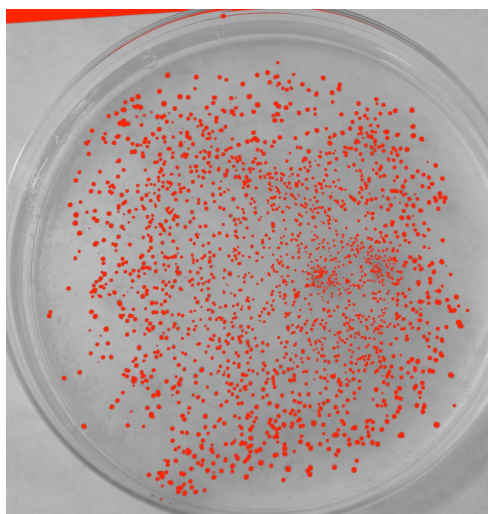
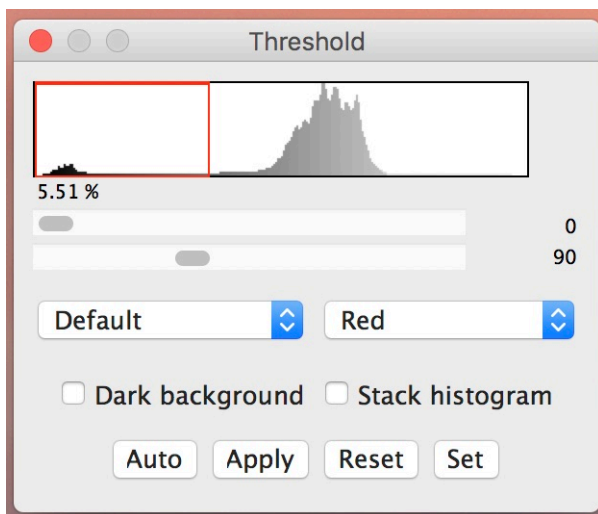
### Step 5.

### Adjust Threshold

1. select **Image -> Adjust -> Threshold...**



2. Adjust threshold settings so that just the colonies are highlighted in red.



3. Click **Apply**. This will turn the image into a black and white binary image.

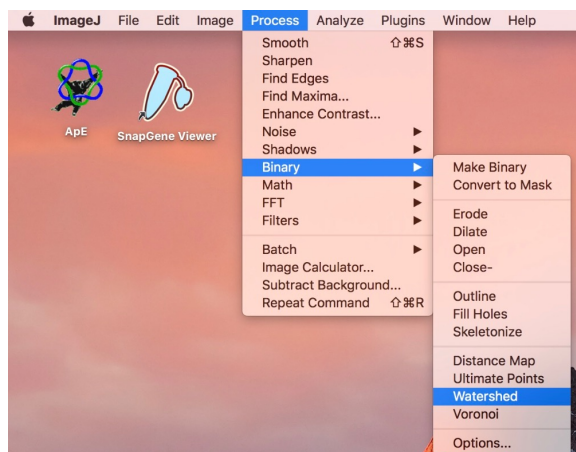
## Adjust Image

### Step 6.

#### Apply Watershed

select **Process -> Binary -> Watershed**

This will separate out colonies that are touching so they will be counted separately.



#### 📌 NOTES

**Jeric Harper** 06 Oct 2016

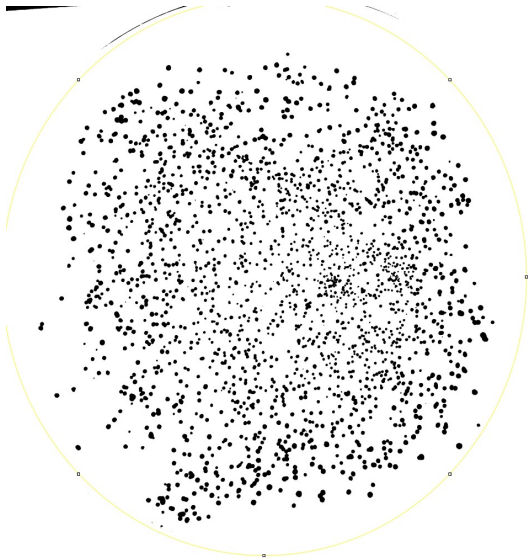
The image must be saved in binary form to apply watershed.

## Count Colonies

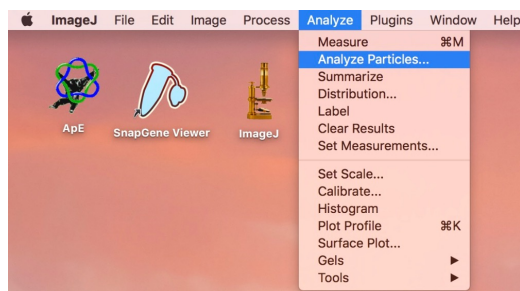
### Step 7.

#### Count colonies

Using the ImageJ tools draw a circle around the coloneis to be counted.



select **Analyze -> Analyze Particles**



## 📌 NOTES

**Jeric Harper** 06 Oct 2016

I have not been able to manually separate out colonies that the watershed does not recognize so the final count is often underestimated.

## Count Data

### Step 8.

### Colony count data

**Summary tab** gives total count

Slice	Count	Total Area	Average Size
P0521s_#2_r02.JPG	1602	487231	304.139