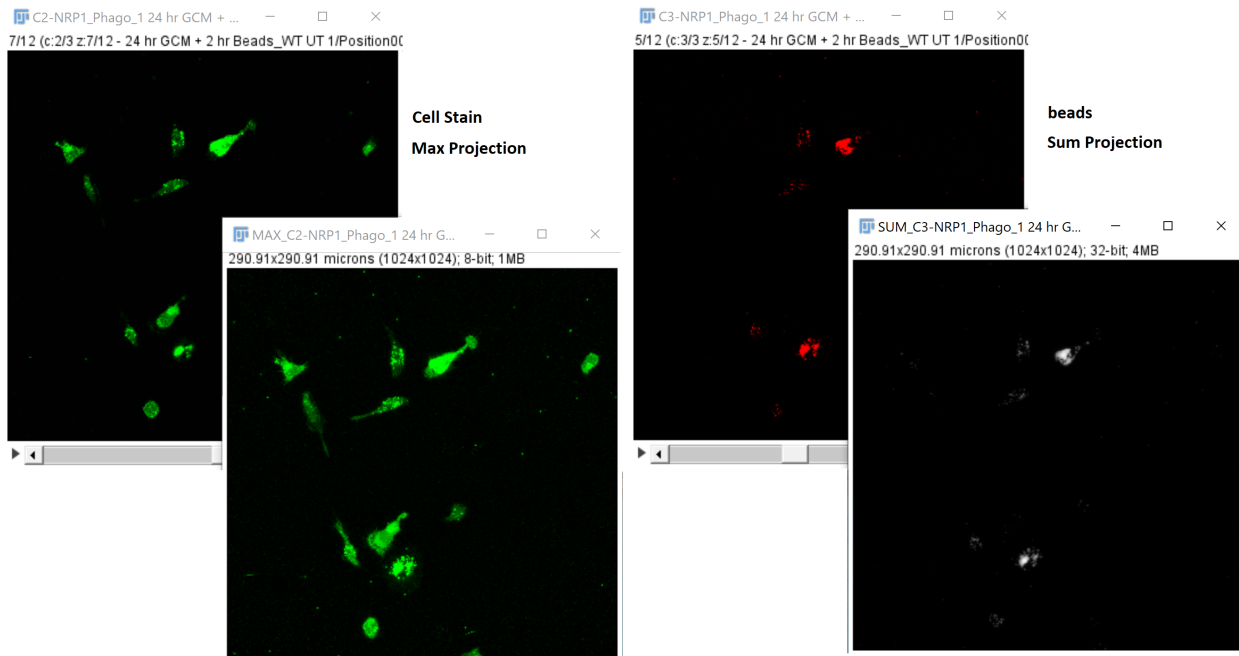**Supplementary Document 1: Image Analysis Protocol**

1. Import image into ImageJ (FIJI)
2. Split the channels of the image
3. On **cell stained channel** image (see green stain): *Image > Stacks > Z- Project > Projection type: Max Intensity*
4. On **bead channel** image (grayscale of beads): *Image > Stacks > Z-Project > Projection type: Sum Slices*

5. Open ROI manager: *Analyze -> tools -> ROI manager*
6. Trace cells of interest (cells that are completely in frame and do not overlap with other cells) using free hand selection tool. Add each cell to ROI manager by clicking 'add' or by pressing "T"
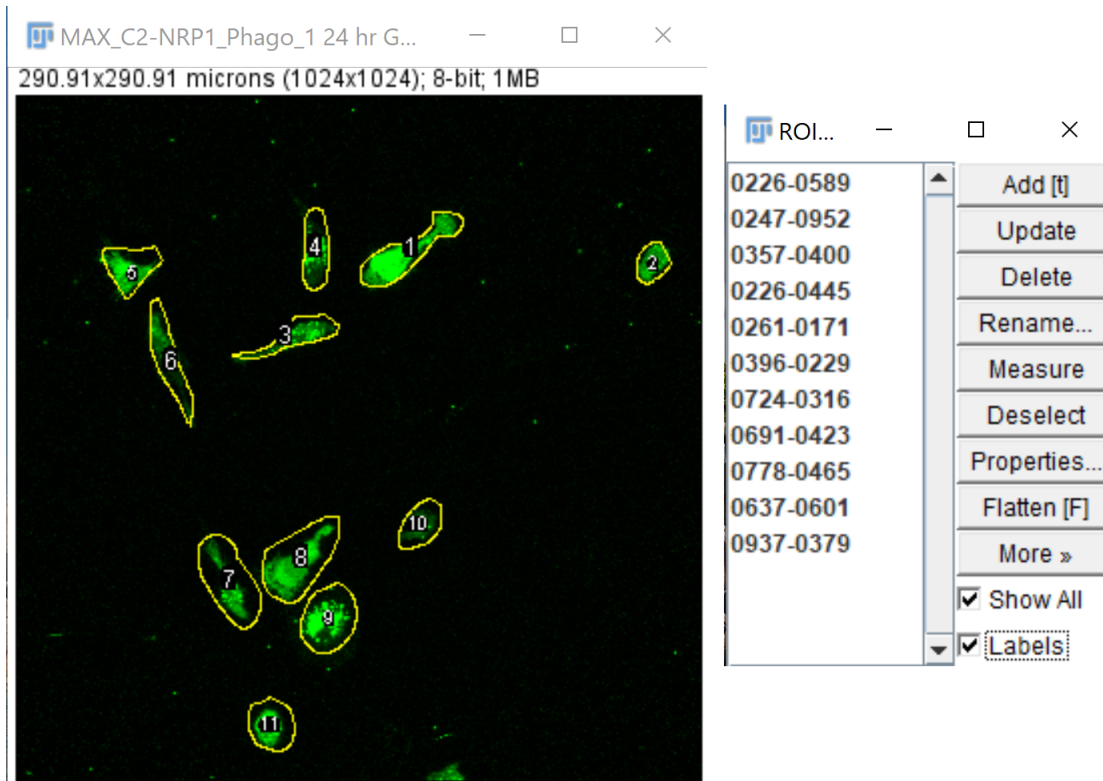
7. In **sum projected beads image**, click on an ROI. This should select the same cell in the grayscale sum projection.
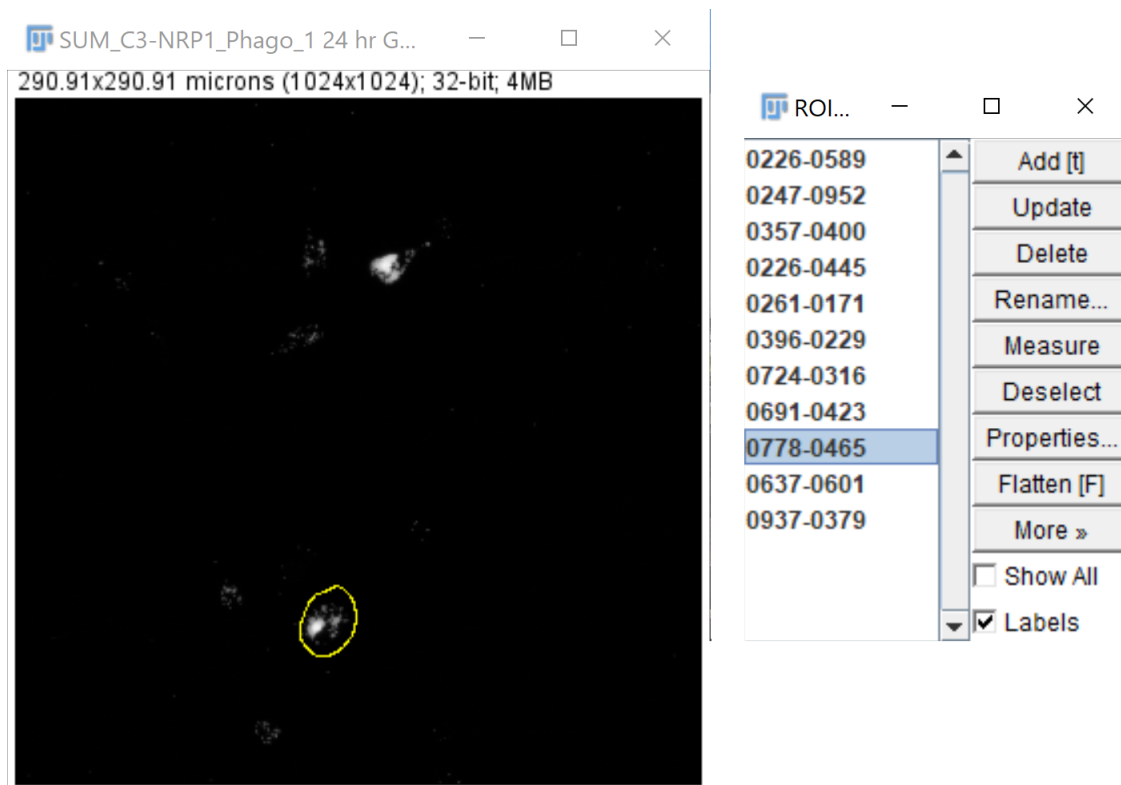
8. To collect fluorescent signal value: *Analyze -> set measurements -> check area, mean gray value, and integrated density.*
9. To collect data: Analyze -> measure or press Ctrl+M
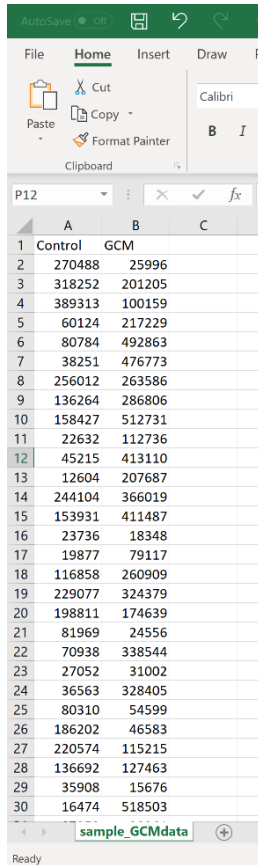
10. Copy and paste results into Excel spreadsheet. We use the RawIntDen value, as it does not normalize to mean fluorescence of the selected cell. Thus, it captures the *sum* of the pixels generated across the z-stack.

11. To upload data to our KS UI, make a single column for each treatment/condition containing the RawIntDen values. Save this file as tab delimited .txt

| | A | B |
|---|---|---|
| 1 | Control | GCM |
| 2 | 270488 | 25996 |
| 3 | 318252 | 201205 |
| 4 | 389313 | 100159 |
| 5 | 60124 | 217229 |
| 6 | 80784 | 492863 |
| 7 | 38251 | 476773 |
| 8 | 256012 | 263586 |
| 9 | 136264 | 286806 |
| 10 | 158427 | 512731 |
| 11 | 22632 | 112736 |
| 12 | 45215 | 413110 |
| 13 | 12604 | 207687 |
| 14 | 244104 | 366019 |
| 15 | 153931 | 411487 |
| 16 | 23736 | 18348 |
| 17 | 19877 | 79117 |
| 18 | 116858 | 260909 |
| 19 | 229077 | 324379 |
| 20 | 198811 | 174639 |
| 21 | 81969 | 24556 |
| 22 | 70938 | 338544 |
| 23 | 27052 | 31002 |
| 24 | 36563 | 328405 |
| 25 | 80310 | 54599 |
| 26 | 186202 | 46583 |
| 27 | 220574 | 115215 |
| 28 | 136692 | 127463 |
| 29 | 35908 | 15676 |
| 30 | 16474 | 518503 |

sample_GCMdata

**Supplementary Table 1**

A.

| | vars | n | mean | sd | median | trimmed | mad | min | max | range | skew | kurtosis | se |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| dist1 | 1 | 100 | 50 | 50.2518907629606 | 50 | 50 | 74.13 | 0 | 100 | 100 | 0 | −2.0199 | 5.02518907629606 |
| dist2 | 1 | 100 | 50.6 | 24.7337335587973 | 50 | 49.5 | 0 | 10 | 100 | 90 | 0.288785796296112 | −0.176186756032821 | 2.47337335587973 |

B.

| | vars | n | mean | sd | median | trimmed | mad | min | max | range | skew | kurtosis | se |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control | 1 | 184 | 108860.467391304 | 95322.0949728333 | 73540 | 94902.0135135135 | 74820.1503 | 6397 | 430396 | 423999 | 1.18851149405518 | 0.718687855257543 | 7027.23807378872 |
| GCM | 1 | 143 | 184355.629370629 | 150297.774662416 | 140567 | 165178.295652174 | 145948.6266 | 9683 | 598962 | 589279 | 0.872976096310908 | −0.177242276540173 | 12568.5313183291 |

**Supp table 1.** Descriptive statistics from A. hypothetical data sets *dist1* and *dist2,* and B. Data collected from BMDM in experiment 1.