

Oct 15, 2018 Version 1

Imaging on the multiworm tracker V.1

DOI

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

Priota Islam¹

¹Imperial College London



Priota Islam

Imperial College London

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DOI: dx.doi.org/10.17504/protocols.io.unpevdn

Protocol Citation: Priota Islam 2018. Imaging on the multiworm tracker. **protocols.io**

<https://dx.doi.org/10.17504/protocols.io.unpevdn>

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Protocol status: Other

This protocol is no longer being used as there is an updated version of this protocol.

Created: October 15, 2018

Last Modified: October 15, 2018

Protocol Integer ID: 16815

Abstract

Caenorhabditis elegans, a small (adults are ~1 mm long), free-living soil nematode that feeds on bacteria, is an ideal organism for applying various live microscopy techniques. The organism is transparent, thus it is possible to microscopically analyze and record the whole animal throughout its entire life. Its complete cell lineage is known, making it possible to follow developmental and differentiation processes in real time.

Pre-Imaging set-up

- 1
 - Clean the rectangular glass plate with ethanol and lint free tissue
 - Switch ON the rig
 - Align the movable part till desired position and lock it by pressing ON (If you want to move it again press EMO, to lock again twist the EMO knob and press ON again)
 - Log in to the 3 PCs (Password: BehavGenom709 (BehavGenom710 for PC 3)
 - Change the screen lock time to 20 mins
 - Set up destination folder (PC → Data Part 1 → Run script (init_exp.ps1) → Name the folder with the date as (year month date e.g. 20181011)
 - Turn on the software GECKO on each pc and check the following:
 - i) Recording mode: 15 mins
 - ii) Video format: hdf5
 - iii) Output folder: Select the folder created earlier
 - iv) Press the drop down arrow beside the RECORD icon to make sure ALL CAMERA option is selected if you want both the cameras in use otherwise select CURRENT CAMERA option

Actual Imaging

- 2
 - After picking the desired number of worms on the imaging plates, place the plates on the rectangular glass plate underneath the cameras
 - Place the worm plates agar side up with the lids off
 - Check the focus on each camera of each PC and make sure the ring of food is at the centre of the focus
 - Place the worms on the rig for about 15mins before recording so they acclimatize to the surroundings
 - When the time comes, and all checks have been done press RECORD

Post Imaging

- 3
 - Turn OFF the rig and close GECKO
 - Run the script to copy the data to the network (PC → Data Part 1 → Run script (move_files_anyPC.ps1)
 - Change back the lock screen time to 1 minute
 - Discard the plates
 - See the protocol for video analysis to proceed with the analysis