LIVE IMAGING OF i³NEURONS (Support Protocol 5)

In 1 collection

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ABSTRACT

Live imaging permits visualization of molecular and organellar dynamics within the neuron. While a standard confocal microscope is sufficient for short imaging experiments, extended imaging applications (>1 hr) are best served by a 37 °C live imaging chamber outfitted onto the microscope. CM should also be changed to Hibernate A Low Fluorescence Medium (BrainBits LLC, cat. no. SKU#HAPR) for extended imaging.

ATTACHMENTS

fernandopulle2018.pdf

MANUSCRIPT CITATION:

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GUIDELINES

Live imaging permits visualization of molecular and organellar dynamics within the neuron. While a standard confocal microscope is sufficient for short imaging experiments, extended imaging applications (>1 hr) are best served by a 37 °C live imaging chamber outfitted onto the microscope. CM should also be changed to Hibernate A Low Fluorescence Medium (BrainBits LLC, cat. no. SKU#HAPR) for extended imaging. Hibernate A permits long-term maintenance of neuronal cultures in ambient carbon dioxide levels (0.04 % vs. 5 % for standard cell culture incubators) and provides a better imaging environment by reducing autofluorescence from phenol red-containing medium. Finally, medium (either CM for short imaging or Hibernate A for extended imaging) should be supplemented with SOS neuronal supplement (Cell Guidance Systems, M09-50) instead of B27. SOS supplement does not contain phototoxic components present in B27 and other neuronal supplements. Imaging is best done on glass-bottom slides, such as Ibidi μ-slides (Ibidi, cat. no. 80827).

SAFETY WARNINGS

ℹ Please see SDS (Safety Data Sheet) for hazards and safety warnings.