

Materials List for:

# Imaging Dendritic Spines of Rat Primary Hippocampal Neurons using Structured Illumination Microscopy

Marijn Schouten<sup>1</sup>, Giulia M. R. De Luca<sup>2</sup>, Diana K. Alatríste González<sup>1</sup>, Babette E. de Jong<sup>2</sup>, Wendy Timmermans<sup>1</sup>, Hui Xiong<sup>1</sup>, Harm Krugers<sup>1</sup>, Erik M. M. Manders<sup>2</sup>, Carlos P. Fitzsimons<sup>1</sup>

<sup>1</sup>Center for Neuroscience, Swammerdam Institute for Life Sciences, University of Amsterdam

<sup>2</sup>Van Leeuwenhoek Centre for Advanced Microscopy, Section Molecular Cytology, Swammerdam Institute for Life Sciences, University of Amsterdam

\*These authors contributed equally

Correspondence to: Carlos P. Fitzsimons at [C.P.Fitzsimons@uva.nl](mailto:C.P.Fitzsimons@uva.nl)

URL: <https://www.jove.com/video/51276>

DOI: [doi:10.3791/51276](https://doi.org/10.3791/51276)

## Materials

| Name  | Company | Catalog Number | Comments |
|---|---------|----------------|----------|
| Fine forceps  |         |                |          |
| Big forceps   |         |                |          |
| Fine scissor  |         |                |          |
| Big scissor   |         |                |          |
| Blunt spatula                                       |         |                |          |
| Dissecting microscope with illumination             |         |                |          |
| Light microscope                                    |         |                |          |
| 37 °C water bath                                    |         |                |          |
| Laminar flow cell culture hood                      |         |                |          |
| High-temperature dry-oven                           |         |                |          |
| Bunsen burner                                       |         |                |          |
| Cell culture incubator (5% CO <sub>2</sub> , 37 °C) |         |                |          |
| Microcentrifuge                                     |         |                |          |
| Orbital shaker                                      |         |                |          |

| Name  | Company | Catalog Number | Comments |
|---|---------|----------------|----------|
| Nikon structured illumination microscope setup consisting of:               |         |                |          |
| Nikon Eclipse Ti research inverted microscope with Perfect Focus System     |         |                |          |
| Nikon CFI Apo TIRF 100x oil objective lens (N.A. 1.49)                      |         |                |          |
| 4 Coherent Sapphire Lasers (458, 488, 514 and 561 nm excitation wavelength) |         |                |          |
| SIM Illuminator   |         |                |          |
| Nikon Stage Controller  |         |                |          |
| MCL Nano-Drive piezo controller   |         |                |          |
| Nikon Intensilight C-HGFIE mercury lamp                                     |         |                |          |
| SIM Microscope Enclosure temperature control                                |         |                |          |

---

|  |  |  |  |
|--|--|--|--|
| Andor EM-CCD Camera iXon DU897                 |  |  |  |
| PC with Microsoft Windows 7 Home Edition       |  |  |  |
| Nikon's NiS Elements 6.14 SIM software package |  |  |  |
| Nikon type A immersion oil                     |  |  |  |