

MICROSCOOP Syncell Microscope Third-Party Checklist- Equipment				
Report No (QR-YYYYMMDD):			Version: 1.2	
Check Box	Equipment	Usage Description or Requirements	Reference Brand & Part Number	Alternatives
☑	Magnetic Rack	For use with magnetic Streptavidin beads.	Invitrogen DynaMag™-2 Magnet,12321D	or general laboratory use grade, for 1.5 mL microcentrifuge tubes
☑	Microplate Spectrophotometer	To quantify total protein.	EnVision Xcite Multilable Reader Eppendorf Concentrator Plus	or general laboratory use grade, For OD 660 nm
☑	SpeedVac Concentrator	For MS sample preparation to vaporate volatile buffers from the samples.	ThermoFisher Orbitrap Lumos (used by Syncell R&D)	or general laboratory use grade
☑	LC-MS/MS Instrument	For protein identification and quantification.	Bioer MB-101 (40 x 1.5 ml rank)	A mass spectrometer with an MS/MS acquisition rate surpassing 20 Hz is recommended, such as the Orbitrap Fusion™ Astral™ (Thermo Fisher Scientific), Orbitrap Fusion™ Lumos™ (Thermo Fisher Scientific), Orbitrap Eclipse™ (Thermo Fisher Scientific), timsTOF series (Bruker), TripleTOF® (SCIEX), and ZenTOF (SCIEX).
☑	Heat Block	Heat block which holds 1.5 ml tubes, to break PFA crosslinks at 80-100 °C during cell/tissue lysis.	Osonica Q125	or general laboratory use grade, can set at RT to 100°C
☑	Sonicator	For cell/tissue lysis.	ELMA EASY 30H	or general laboratory use grade
☑	Ultrasonic Bath	Resuspension of magnetic beads.	Firstek I-80	or general laboratory use grade, an ultrasonic cleaning device
☑	Oven/Incubator (37 °C)	The vortex/mixer is operated in the incubator for on-bead digestion at 37 °C.	Firstek I-80	or general laboratory use grade, can set at 37 °C
☑	Centrifuge	To spin down the cell/tissue debris with 16,000 x g at 4 °C after cell lysis.	Eppendorf Himac CT15RE	or general laboratory use grade, can set 5,000 x g and 16,000 x g at 4 °C
☑	Minicentrifuges	For quick spinning 1.5 ml centrifuge tubes.	GeneReach Biotechnology Corp. Cubee	or general laboratory use grade, for 1.5 mL tube
☑	Refrigerator	General laboratory use grade, to store reagent or sample at 4 °C or -20 °C.	PerkinElmer	or general laboratory use grade
☑	Pipette	Sample handling and pipetting.	Gilson P1000, P100,P20, P10, P2	or general laboratory use grade
☑	Vortex/Mixer	Used for bead washing. This vortex should be able to mix.	ELMI V3 Vorex with 9 tube accessory component	or general laboratory use grade
☑	See-saw Shaker	Used for sample washing, incubation, and staining.		
☑	Advanced PAP Pen (2 mm tip width)	Use pen to draw a hydrophobic circle around slide-mounted tissue	Ted Pella 22311	
Optional				
☑	Inverted Confocal Microscope (with 63x or 100x oil objective)	For imaging, to check the precision of photolabeling in the x/y/z planes.	Zeiss LSM880	
	Ear Protection	Earplugs or earmuffs rated for laboratory environment to be used during sonication		

MICROSCOOP Syncell Microscop Third-Party Checklist- Chemicals					
Check Box	Chemicals	Usage description or Requirements	Reference Brand & Part Number	Reference link	Required Qty.
<input type="checkbox"/>	Purified Water	Laboratory-grade	Milli-Q® Water (18.2 MΩ·cm)		
<input type="checkbox"/>	Methanol	HPLC grade	CHROMASOL V™ 34860-2.5L	https://lab.honeywell.com/shop/methanol-34860	1 bottle, > 1L
<input type="checkbox"/>	Paraformaldehyde Solution (PFA)	Utilized for cell fixation. Laboratory-grade	P/N 15710, Electron Microscopy Sciences	https://www.emsdiasum.com/paraformaldehyde-16-aqueous-sol-em-grade-2	1 box, > 10 mL
<input type="checkbox"/>	Triton-X-100	For cell permeabilization and for use in wash buffers. Laboratory-grade	P/N T8787, Sigma-Aldrich	https://www.sigmaaldrich.com/US/en/product/sigma/t8787	1 bottle, > 10 mL
<input type="checkbox"/>	Bovine Serum Albumin (BSA)	Utilized for blocking buffer. Laboratory-grade	P/N A9647, Sigma-Aldrich	https://www.sigmaaldrich.com/US/en/product/sigma/a9647	1 bottle, > 10g
<input type="checkbox"/>	ROI Markers	Primary antibody for regions of interest (ROIs)			
<input type="checkbox"/>	ROI Fluorescent dye	Secondary antibody with fluorescent dye excited by light > 470 nm wavelength for staining ROI markers	Alexa Fluor™ 488, Alexa Fluor™ 555, Alexa Fluor™ 568, Alexa Fluor™ 647		
<input type="checkbox"/>	DNA Staining Dye	Utilized for staining of nucleus. Cell-permeable DNA staining Dye, excited by ultraviolet light and emits blue fluorescence at 460 to 490 nm, e.g., Hoechst 33342.	P/N H3570, Invitrogen™	https://www.thermofisher.com/order/catalog/product/H3570?SID=srch-srp-H3570	1 bottle, > 1 mL
<input type="checkbox"/>	Phosphate Buffer Saline (PBS)	Utilized for dilution and washing procedures. Laboratory-grade	P/N 10010031, Gibco™	https://www.thermofisher.com/order/catalog/product/10010031	1 bottle, > 1 L

MICROSCOOP Syncell Microscoop Third-Party Checklist- Consumables					
Check Box	Consumable	Usage Description or Requirements	Reference Brand & part no.	Reference link	Required Quantity
☞	Protein Assay Kit (Necessary)	Protein concentration quantification post-lysis. DO NOT substitute	P/N 22662, Thermo Scientific™	https://www.thermofisher.com/order/catalog/product/22662	1 Kit
☞	Ionic Detergent Compatibility Reagent for Protein Assay Kits (Necessary)	To quantify protein concentration post cell lysis. DO NOT substitute	P/N 22663, Thermo Scientific™	https://www.thermofisher.com/order/catalog/product/22663?SID=srch-hj-22663	1 Kit
☞	Chambered coverslip	To enable imaging of cells and immersing cells in photo-activatable probes for photolabeling. Thickness no. 1.5 high performance cover glass bottom. (0.170±0.005mm)	(1) 1 well-C1-1.5H-N, Cellvis; or μ-Slide 1 Well Glass Bottom 82107, Ibidi (2) 2 well-C2-1.5H-N Cellvis; or μ-Slide 2 Well Glass Bottom 80287, Ibidi (3) 4 well-C4-1.5H-N, Cellvis; or μ-Slide 4 Well Glass Bottom 80427, Ibidi Different size of the chambered coverslip are listed for a reference. It depends on the application	https://www.cellvis.com/products.php#main_cat_3	Depends on the application. (Syncell will provide a starter package for supporting a roughly one-month experiment.)
☞	Cell Scrapers	Cell scraper with width no greater than 13 mm to fit the chambered coverslips (or so called imaging chambers)	P/N 99002, TPP	https://www.tpp.ch/page/produkte/04_zellschaber_spachtel.php	1 box, > 30 pcs
☞	Microtube 1.7 mL	General laboratory use grade	P/N MCT-175-C, Axygen	https://ecatalog.coming.com/life-sciences/b2b/CA/en/General-Labware/Tubes/Microcentrifuge-Tubes/Axygen%C2%AE-MaxyClear-SnapLock-Microcentrifuge-Tubes/p/MCT-175-C?clear=true	> 500 tubes
☞	Low Retention Tips	Low retention tips to avoid loss of low abundant samples during the MS sample preparation	SMB Tips, Low Retention, PCR clean	https://www.starmoonbio.com/products/Racked-Tip-Universal	> 480 × 1250 uL, 200 uL, 10 uL tips
☞	96-well Plates	General laboratory use grade, flat bottom 96 well plate for protein	Nunc, 168055	https://www.thermofisher.com/order/catalog/product/168055	> 1 × 96-well plate
For tissues only					
☞	Microscope Slides	For mounting tissue samples	Eprexia™ Superfrost™ P	https://www.fishersci.com/shop/products/superfrost-trade-plus-adhesion-control-microscope-slide-p-9066001	
☞	Microscope coverslips	For imaging tissue samples	Thickness no. 1.5 (0.13-0.19 mm)		
☞	Double-sided tape	To allow reagents under coverslips; approximately 2 mm wide, e.g. iSpacer double-sided sticky tape	P/N IS201/IS211, SUNJin Lab	https://www.sunjinlab.com/product/ispacer-0-05mm/	