

Category	Tier Nr.	Name	Description	Example Experiment Type	Example Labelling	Microscope Hardware Specifications and Acquisition Settings	Quality Control
Descriptive	1	Minimum Information/ Material & Methods	Reporting qualitative effects, or effects that require simple quantification including the identification of non-refractive limited objects followed by basic feature extraction and statistical analysis	Transfection control, viability assay, counting of cells and nuclei, expression level measurements, localization of markers in cellular sub-compartments	Fluorescent In Situ Hybridization (FISH), Immuno Fluorescence (IF), Fluorescent Protein (FP) labelling	Manufacturer, model and type of microscope, lightsource, objective, filter, dichroic and detector; acquisition date, immersion liquid refractive index, exposure time, image dimension order and number; physical pixel size x, y, and z	Not required or recommended quarterly to annually depending on the type of procedure
	2	Advanced Quantification and/or Live Cell Imaging	Identification and localization of refraction-limited particles, super-resolution microscopy, tracking of intracellular dynamics	Diffraction-limited spot localization, measurement of distances, co-localization studies, signal-starved features, advanced processing, cell tracking and single-particle tracking, dynamic expression level quantification	All of the above + Single Molecule (SM) FISH, CasFISH, SM Proximity Ligation Assay (PLA), dCas9-based labelling, OligoPaint	Detailed microscope hardware components specifications and acquisition settings	Highly recommended or required monthly to quarterly depending on the type of procedure
Analytical	3	Manufacturing/ Technical Development/ Full Documentation	Full documentation of microscopic setup, image acquisition and quality control	Microscopy hardware manufacturing; development of novel unproven technology in both commercial and academic settings; full reproducibility of microscopy set-up and image acquisition settings	All of the above	All the metadata specified by the guidelinesI - including any novel and technology-specific metrics	Required for every acquisition, monthly or quarterly depending on the type of procedure