

Materials List for

# High-throughput Confocal Imaging of Quantum Dot-Conjugated SARS-CoV-2 Spike Trimers to Track Binding and Endocytosis in HEK293T Cells

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jove.com/video/63202

## Materials

Name	Company	Catalog Number	Comments
32% Paraformaldehyde	Electron Microscopy Sciences	15714	Used for fixing cells after quantum dot treatment, final concentration 3.2% Used for stabilizing QDs in OptiMem I and preventing non-specific interactions, final concentration 0.1%
7.5% Bovine Serum Albumin	Gibco	15260-037	Used as a cell viability dye for fluorescence cell counting
Acridine Orange / Propidium Iodide Stain	Logos Biosystems	F23001	Microwell plates used for seeding cells and assaying QD-Spike
Black clear bottom 96 well coated plate coated with poly-D-lysine	Greiner	655946	Used to support cell culture, DMEM supplement
Characterized Fetal Bovine Serum	Cytiva/HyClone	SH30071.03	Cloud-based high-content image analysis software; V2.9.1
Columbus Analyzer	Perkin Elmer	NA	Used for labeling cell nuclei and cell bodies after fixation, deep red nuclear dye
DRAQ5 (5 mM)	ThermoFisher Scientific	62252	Basal media for HEK293T cell culture
Dulbecco's Minimal Essential Media, D-glucose (4.5g/L), L-glutamine, sodium pyruvate (110 mg/L), phenol red	Gibco	11995-065	Used for arranging data after export from Columbus; V2110 Microsoft 365
Excel	Microsoft	NA	Used to continue selection of hACE2-GFP positive cells, DMEM supplement
G418	InvivoGen	ant-gn-5	Human embryonic kidney cell line stably expression human angiotensin converting enzyme 2 tagged with GFP
HEK293T hACE2-GFP	Codex Biosolutions	CB-97100-203	Automated cell counter
Luna Automated Cell Counter	Logos Biosystems	NA	Used for fluorescence cell counting
Luna Cell Counting Slides	Logos Biosystems	L12001	High-content imaging platform

Opera Phenix	Perkin Elmer	NA	Imaging media, used for incubating cells with quantum dots
Opti-MEM I Reduced Serum Medium	Gibco	11058-021	Phosphate-buffered saline without calcium or magnesium used for washing cells during passaging and assaying
PBS -/-	Gibco	10010-023	Used to prevent bacterial contamination of cell culture, DMEM supplement
Penicillin Streptomycin	Gibco	15140-122	Used for graphing, data visualization, and statistical analysis;V9.1.0
Prism	GraphPad	NA	Used for assaying SARS-Cov-2 Spike binding to hACE2 and monitoring Spike endocytosis
Quantum Dot 608 nm-Spike (QD608-Spike)	custom made by Naval Research Laboratory		Used for inhibition of SARS-Cov-2 Spike binding to hACE2
SARS-CoV-2 (2019-nCoV) Spike Neutralizing Antibody, Mouse Mab	Sino Biological	40592-MM57	Used to dissociate cells from flask during passaging
TrypLE Express	Gibco	12605-010	