

Materials List for:

# Chemoselective Modification of Viral Surfaces via Bioorthogonal Click Chemistry

Frederick A. Rubino<sup>1</sup>, Yoon Hyeun Oum<sup>1</sup>, Lakshmi Rajaram<sup>1</sup>, Yanjie Chu<sup>1</sup>, Isaac S. Carrico<sup>1</sup>

<sup>1</sup>Department of Chemistry, Stony Brook University

Correspondence to: Isaac S. Carrico at [isaac.carrico@sunysb.edu](mailto:isaac.carrico@sunysb.edu)

URL: <https://www.jove.com/video/4246>

DOI: [doi:10.3791/4246](https://doi.org/10.3791/4246)

## Materials

Name	Company	Catalog Number	Comments
Adenovirus type 5 (Ad5) containing a GFP transgene	BCBC	391	
Human Embryonic Kidney (HEK 293) cells	ATCC	CRL-1573	
Dulbecco's Modified Eagle Medium (DMEM), High Glucose	Invitrogen	11965-092	
Dulbecco's Modified Eagle Medium, no Methionine, no Cysteine (DMEM -Met / -Cys), High Glucose	Invitrogen	21013-024	
Bovine Calf Serum	Invitrogen	16170-078	
Penicillin - Streptomycin 100× Solution (Pen Strep)	Invitrogen	15140-122	
0.5% Trypsin-EDTA (10×)	Invitrogen	15400-054	
100 mm Cell Culture Dish, tissue-culture treated polystyrene	BD Falcon	353003	
Cell culture CO <sub>2</sub> incubator			
Hemocytometer			
Biosafety cabinet			
Sterile syringe filter (0.2 μm, cellulose acetate)	VWR	28145-477 (NA), 514-0061 (Europe)	
Avanti J-E centrifuge	Beckman Coulter	369001	
Conical tubes (50 ml, sterile)	BD Falcon	352098	
Tube, Thinwall, Ultra-Clear, 13.2 ml, 14 x 89 mm	Beckman	344059	
Ultracentrifuge equipped with an SW 41 and SW 60 rotor	Beckman		
Eppendorf Biopur Safe-Lock Tubes, 1.5 ml	Eppendorf	0030 121.589	
Centrifuge 5418	Eppendorf	5418	
Centri-Sep gel filtration spin columns	Princeton Separations	CS-901	
Sterile needle, 18 gauge			
Nitrogen glove bag (if deoxygenated CuAAC is to be performed)			
Dewar flask			
Liquid nitrogen			
Electrophoresis cell			

Fluorescent gel scanner			
Ready Gel Tris-HCl Gel	Bio-Rad	161-1105	
L-Azidohomoalanine	AnaSpec	63669	
Jena Biosciences	CLK-AA005		
Peracetylated <i>N</i> -azidoacetylgalactosamine (Ac <sub>4</sub> GalNAz)	Invitrogen	C33365	
Thermo Scientific	88905		
Sigma-Aldrich	A7480		
Bathophenanthroline disulfonic acid (BDA) disodium salt	MP Biomedicals	0215011201	
Dimethyl sulfoxide (DMSO)			
Methanol			
Tris base (tris(hydroxymethyl)aminomethane)			
Disodium Phosphate (Na <sub>2</sub> HPO <sub>4</sub> )			
Phosphate buffered saline (PBS)			
1M HCl			
Glycerol			
Bovine Serum Albumin			
L-cysteine			
L-methionine			
SDS (sodium dodecyl sulfate)			
2-mercapt-ethanol			
Glycine			
Bromophenol blue			
Cesium Chloride (CsCl)			
Copper(I) Bromide (CuBr)			
Calcium Chloride (CaCl <sub>2</sub> )			
Potassium Chloride (KCl)			
Magnesium Chloride (MgCl <sub>2</sub> )			
Sodium Chloride (NaCl)			
<b>Alkyne probe for CuAAC*</b>			
TAMRA Alkyne	Invitrogen	T10183	
<b>Strained alkyne probe for SPAAC*</b>			
TAMRA DIBO Alkyne	Invitrogen	C10410	
* Notable vendors of click chemistry reagents and kits include Invitrogen, Jena Biosciences, Berry Associates, Sigma-Aldrich, Glen Research, Click Chemistry Tools, and Baseclick. A variety of alkyne dyes and targeting ligands can be found in these vendors' catalogs.			