

Materials List for:

High Throughput SiRNA Screening for Chloropicrin and Hydrogen Fluoride-Induced Cornea Epithelial Cell Injury

John G. Lehman¹, Robert D. Causey¹, Cristina V. LaGrasta¹, Albert L. Ruff¹

¹US Army Medical Research Institute of Chemical Defense

Correspondence to: Albert L. Ruff at albert.l.ruff2.civ@mail.mil

URL: <https://www.jove.com/video/57372>

DOI: [doi:10.3791/57372](https://doi.org/10.3791/57372)

Materials

Name	Company	Catalog Number	Comments
Bravo liquid handing platform	Agilent or equivalent	G5409A	
Bravo plate shaker	Agilent or equivalent	Option 159	
Bravo 96LT disposable tip head	Agilent or equivalent	Option 178	96-channel large tip pipetting head unit
Bravo 96ST disposable tip head	Agilent or equivalent	Option 177	96-channel small tip pipetting head unit
Bravo 384ST disposable tip head	Agilent or equivalent	Option 179	384-channel small tip pipetting head unit
Bravo 96 250 µL sterile barrier tips	Agilent or equivalent	19477-022	
Bravo 384 30 µL sterile barrier tips	Agilent or equivalent	19133-212	
Bravo 384 70 µL sterile barrier tips	Agilent or equivalent	19133-212	
EnSpire multimode plate reader	Perkin Elmer or equivalent	2300-0000	AlphaLISA assay detector with high power laser excitation
IL-8 (human) AlphaLISA Detection Kit	Perkin Elmer or equivalent	AL224F	no-wash bead-based assay
ProxiPlate-384 Plus white 384-shallow well microplates	Perkin Elmer or equivalent	6008359	
Lipofectamine RNAiMAX	Invitrogen or equivalent	13778500	Transfection reagent
Opti-MEM 1 Reduced Serum Medium	Invitrogen or equivalent	31985070	
TrypLE Express	Gibco or equivalent	12605010	Cell detachment solution
IncuCyte Zoom	Essen Instruments or equivalent	ESSEN BIOSCI 4473	Incubator-housed automated microscope
Chloropicrin	Trinity Manufacturing or equivalent	N/A	Acute toxicity and irritant
DMEM-F12 cell culture medium	Invitrogen or equivalent	11330-057	Contains HEPES
Fetal bovine serum	Invitrogen or equivalent	1891471	
Human epidermal growth factor (cell culture grade)	Invitrogen or equivalent	E9644-.2MG	
Recombinant human insulin (cell culture grade)	Invitrogen or equivalent	12585-014	
Penicillin-Streptomycin solution (cell culture grade)	Invitrogen or equivalent	15140122	
Hydrocortisone (cell culture grade)	Sigma or equivalent	H0888-10G	
Glucose (cell culture grade)	Sigma or equivalent	G7021	
PBS (cell culture grade)	Sigma or equivalent	P5493	
siRNA	Dharmacon or equivalent	various	
Thiazolyl blue tetrazolium bromide	Sigma or equivalent	M5655	MTT assay substrate
siRNA buffer	Thermo or equivalent	B002000	

96-well cell culture plates	Corning or equivalent	CLS3595	
T150 cell culture flasks	Corning or equivalent	CLS430825	
BSL-2 cell culture hood	Nuaire or equivalent	NU-540	
300 mL robotic reservoirs	Thermo or equivalent	12-565-572	
96 baffled automation reservoirs	Thermo or equivalent	1064-15-8	
500 mL sterile disposable storage bottles	Corning or equivalent	CLS430282	
Microplate heat sealer	Thermo or equivalent	AB-1443A	
Microplate heat sealing foil	Thermo or equivalent	AB-0475	
Cardamonin	Tocris or equivalent	2509	Anti-inflammatory, used as positive control
SKF 86002	Tocris or equivalent	2008	Anti-inflammatory, used as positive control
DMSO	Sigma or equivalent	D8418	
48% hydrofluoric acid	Sigma or equivalent	339261	Corrosive and acute toxicity
1000 µL Single channel pipettors	Rainin or equivalent	17014382	
200 µL Single channel pipettors	Rainin or equivalent	17014391	
20 µL Single channel pipettors	Rainin or equivalent	17014392	
1000 µL 12-channel pipettors	Rainin or equivalent	17014497	
200 µL 12-channel pipettors	Rainin or equivalent	17013810	
20 µL 12-channel pipettors	Rainin or equivalent	17013808	
Pipettor tips 1000 µL	Rainin or equivalent	17002920	
Pipettor tips 200 µL	Rainin or equivalent	17014294	
Pipettor tips 20 µL	Rainin or equivalent	17002928	
Chemical fume hood	Jamestown Metal Products	MHCO_229	
384-well sample storage plates	Thermo or equivalent	262261	
Sodium chloride	Sigma or equivalent	S6191	
50 mL conical tubes	Thermo or equivalent	14-959-49A	
Serological pipettes 50 mL	Corning or equivalent	07-200-576	
Serological pipettes 25 mL	Corning or equivalent	07-200-575	
Serological pipettes 10 mL	Corning or equivalent	07-200-574	
Serological pipettes 5 mL	Corning or equivalent	07-200-573	
SV40-HCEC immortalized human corneal epithelial cells	N/A	N/A	These cells are not commercially available, but can be obtained from the investigators cited in the article
Sceptor Handheld Automated Cell Counter	Millipore or equivalent	PHCC20060	
GeneTitan Multi-Channel (MC) Instrument	Affymetrix or equivalent	00-0372	
Affymetrix 24- and 96-array plates	Affymetrix or equivalent	901257; 901434	
Draeger tube HF	Draeger or equivalent	8103251	
Draeger tube CP	Draeger or equivalent	8103421	
Draeger pump	Draeger or equivalent	6400000	
Clear Plate seals	Resesarch Products International or Equivalent	202502	
Reagent reservoirs	VistaLab Technologies or equivalent	3054-1000	
Xlfit	IDBS or equivalent	N/A	Excel add-in used for automated curve fitting