

Materials List for

Two-Step Reverse Transcription Droplet Digital PCR Protocols for SARS-CoV-2 Detection and Quantification

Raphael Nyaruaba^{1,2,3}, Xiaohong Li¹, Caroline Mwaliko^{2,3,4}, Changchang Li¹, Matilu Mwau⁵, Nelson Odiwour^{1,2,3}, Elishiba Muturi^{1,2,3}, Ca

¹Key Laboratory of Special Pathogens and Biosafety, Center for Biosafety Mega-Science, Wuhan Institute of Virology, Chinese Academy of Sciences

²International College, University of Chinese Academy of Sciences ³Sino-Africa Joint Research Center ⁴CAS Key Laboratory of Molecular Virology &

Immunology, Institut Pasteur of Shanghai, Chinese Academy of Sciences ⁵Center for Infectious and Parasitic Diseases Control Research, Kenya Medical Research Institute

Corresponding Authors

Raphael Nyaruaba
rohuru1@gmail.com

Hongping Wei
hpwei@wh.iov.cn

Citation

Nyaruaba, R., Li, X., Mwaliko, C., Li, C., Mwau, M., Odiwour, N., Muturi, E., Muema, C., Li, J., Yu, J., Wei, H. Two-Step Reverse Transcription Droplet Digital PCR Protocols for SARS-CoV-2 Detection and Quantification. *J. Vis. Exp.* (169), e62295, doi:10.3791/62295 (2021).

Date Published

March 31, 2021

DOI

10.3791/62295

URL

jove.com/video/62295

Materials

Name	Company	Catalog Number	Comments
32-channel fully automatic nucleic acid extractor Purifier 32	Genfine Biotech	FHT101-32	Automated extractor for RNA
AutoDG Oil for Probes	BioRad	12003017	QX200 AutoDG consumable
ddPCR 96-Well Plates	BioRad	12003185	
ddPCR Supermix for Probes (No dUTP)	BioRad	1863024	Making ddPCR assay mastermix
DG32 AutoDG Cartridges	BioRad	1864108	QX200 AutoDG consumable
Electronic thermostatic water bath pot	Beijing Changfeng Instrument and Meter Company	XMTD-8000	Heat inactivation of samples
FineMag Rapid Bead Virus DNA/ RNA Extraction Kit	Genfine Biotech	FMY502T5	Magnetic bead extraction of inactivated RNA samples
Pierceable Foil Heat Seals	BioRad	1814040	
Pipet Tips for the AutoDG	BioRad	1864120	QX200 AutoDG consumable
Pipet Tip Waste Bins for the AutoDG	BioRad	1864125	QX200 AutoDG consumable
PrimeScript RT Master Mix (Perfect Real Time)	TaKaRa	RR036A	cDNA generation
PX1 PCR Plate Sealer	BioRad	1814000	Seal the droplet plate from AutoDG
QuantaSoft 1.7 Software	BioRad	10026368	Data acquisition and analysis
QuantaSoft Analysis Pro 1.0	BioRad	N/A	Data analysis
QX200 Automated Droplet Generator (AutoDG)	BioRad	1864101	QX200 AutoDG consumable
QX200 Droplet Reader	BioRad	1864003	Droplet reading and data acquisition
T100 Thermal Cycler	BioRad	1861096	Droplet target amplification (PCR) and cDNA generation