

Materials List for:

High-throughput Detection of Respiratory Pathogens in Animal Specimens by Nanoscale PCR

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Materials

Name	Company	Catalog Number	Comments
Zap-OGlobin II lytic reagent	Beckman Coulter	7546138	Optional reagent for preparing blood samples.
Extraction kit (MagMAX Total Nucleic Acid Isolation Kit)	Thermo-Fisher/Applied Biosystems	AM1840	Other extraction kits appropriate for the desired sample types may be substituted. This kit comes with PBS, lysis buffer, and wash buffer.
2x One-Step RT-qPCR mix (qScript XLT One-Step RT-qPCR ToughMix)	Quanta Biosciences	95134-500	
Gene-specific primer pool	IDT	custom order	Can be generated by the user or purchased with the amplification plates.
Random primer mix	New England Biolabs	S1330S	
Standard 96-well plate	Thermo-Fisher/Applied Biosystems	N8010560	This can be any plate that fits into the conventional PCR machine used.
Amplification master mix (OpenArray master mix)	Thermo-Fisher/Applied Biosystems	4462164	
Clear adhesive seal	Thermo-Fisher	430611	
Foil seal	Excel Scientific	AF-100	
384-well plate	Thermo-Fisher/Applied Biosystems	4482221	
Amplification plate (QuantStudio 12K Flex OpenArray plate)	Thermo-Fisher/Applied Biosystems	4470813	Can be customized with any assays conforming to standard TaqMan conditions.
Accessories kit	Thermo-Fisher/Applied Biosystems	4469576	Contains the case lids, plugs, and immersion fluid.
AccuFill tips	Thermo-Fisher/Applied Biosystems	4457246	
Amplification machine (QuantStudio 12K Flex Real-Time PCR System)	Thermo-Fisher/Applied Biosystems	4471090	
Liquid handler (OpenArray AccuFill System)	Thermo-Fisher/Applied Biosystems	4457243	This is purchased with the amplification machine.
Primer design software (Primer Express)	Thermo-Fisher/Applied Biosystems	4363991	See manufacturer's instructions for detailed primer and probe specifications.
Image analysis program (ImageJ)	NIH		Available at http://imagej.nih.gov/ij/
Spreadsheet program (Excel)	Microsoft		Available at https://products.office.com/en-us/excel
DMEM	Thermo-Fisher/Gibco	11965-092	

Tissue disruptor (TissueLyser II)	Qiagen	85300	
Conventional thermal cycler (Veriti)	Thermo-Fisher/Applied Biosystems	4375786	Any conventional thermal cycler with a heated lid can be used.
PCR plate spinner	VWR	89184-608	This device has only one speed (2,500 rpm); the rotor starts when the lid is closed and stops when the button is pushed.
TE buffer	Millipore	8890-100ML	10 mM Tris(hydroxymethyl)aminomethane hydrochloride, 1 mM Ethylenediaminetetraacetic acid, pH 8.0