moderna

1.0 PURPOSE

The purpose of this procedure is to detect and quantify residual plasmid DNA in mRNA Drug Substance (DS) or mRNA Product intermediate (MPI) using a real time quantitative PCR (qPCR) assay designed to amplify the kanamycin resistance gene in the plasmid.

2.0 SCOPE

This procedure applies to detection of the residual plasmid DNA in mRNA DS or MPI samples for validated constructs.

3.0 REFERENCED DOCUMENTS

Document #	Title
FRM-0736	Assay Performance Worksheet: SOP-1020 Determination of Residual DNA by qPCR
FRM-0795	SOP-1020 Residual DNA Calculation Sheet
SOP-0017	Maintaining a RNase Free Work Environment
SOP-0004	Operation and Maintenance of Thermo Class II A2 1300 Series Biological Safety Cabinets (BSC)
SOP-0033	Out of Specification (OOS)
SOP-0081	Preparation of Solutions and Samples in the GMP-Quality Control Laboratory
SOP-0082	Data Review and Reporting in the GMP Quality Control Laboratory
SOP-0210	Assignment of Assay Reference Numbers and use of QC Assay Performance Worksheets
SOP-0409	Quality Control Invalid Assay Procedure
SOP-0451	Operation and Maintenance of the QuantStudioTM 7 Flex Real-Time PCR System
SOP-0452	Personnel Flow and Gowning in the QC Bioassay Laboratories
SOP-0465	Use of the Eppendorf 5424 Microcentrifuge and the Eppendorf 5810R Centrifuge

4.0 RESPONSIBILITIES

Department/ Functional Area	Responsibilities
Quality Control Laboratory Personnel	• Following all procedures outlined in this document, as applicable. • Maintaining a RNase-Free work environment per **SOP-0017**. • Following proper safety measures in the GMP laboratory. • Documenting sample information and preparation in the appropriate laboratory notebook or QC controlled document
Quality Control Manager or Designee	• Ensuring that laboratory personnel are trained in this procedure. • Ensuring that all procedures in this document are followed when applicable. • Ensure that this procedure is revised as necessary • Data Review

5.0 DEFINITIONS

Term	Definition
ABI	Applied Biosystems Instruments
C_T	The PCR cycle at which an increase in reporter fluorescence above the baseline signal can first be detected
°C	Degrees Celsius
DS	Drug Substance
DNA	Deoxyribonucleic acid
FAM	Fluorescein
GMP	Good Manufacturing Practices
IPA	Isopropyl Alcohol
MPI	mRNA Product Intermediate
MW	Molecular Weight
mL	Milliliters
mM	Millimolar
ng	Nanograms
NTC	No Template Control
PPE	Personal Protective Equipment
qPCR	Quantitative Polymerase Chain Reaction
QC	Quality Control
R^2	Coefficient of Determination (square of correlation coefficient (R))
SDM	Second Derivative Maximum
TAM	Tetramethylrhodamine
µg	Micrograms
µL	Microliters

6.0 MATERIALS

NOTE: Alternative vendors or part numbers may be used, provided the reagent grade or classification is maintained.

6.1. Reagents

Item	Vendor	Catalog#
Nuclease-free Water	s47	s47
Tris-EDTA buffer (TE buffer)	s47	s47
Carrier Poly A RNA	s47	s47
s47 Master Mix	s47	s47
Exogenous IPC s47	s47	s47
Standard Linearized Plasmid s47	s47	s47

	Primer Name	Vendor	5'-Sequence-3'
Forward Primer	s47	s47	s47
Reverse Primer	s47	s47	s47
Probe	s47	s47	s47

6.2. Consumables

Item	Vendor	Catalog#
Adhesive PCR film	s47	s47
MicroAmp™ 8-Tube Strip with Attached Domed Caps (or equivalent)	s47	s47
Applied Biosystems™ MicroAmp™ Optical Adhesive Film	s47	s47
Applied Biosystems™ MicroAmp™ Optical 96-Well Reaction Plate	s47	s47
1.5 mL Microcentrifuge tubes	s47	s47
15 mL Corning™ Polypropylene Centrifuge Tubes	s47	s47
5 mL Falcon™ Serological Pipets	s47	s47
10 µL pipette tips	s47	s47
20 µL pipette tips	s47	s47
200 µL pipette tips	s47	s47
1000 µL pipette tips	s47	s47
Lab Armor™ Bath Beads	s47	s47

6.3. Equipment

Item	Vendor	Model #
s47 [redacted]		

7.0 SAFETY

7.1. Wear proper PPE (lab coat, gloves, safety glasses). Use Moderna Safety Manual as a reference. Follow all safety information provided on material SDSs.

8.0 PROCEDURE

NOTE: Refer to **Attachment 2** for BSC location map

8.1. Assay preparation: Perform the following preparation steps as needed.

8.1.1. Preparation of Primers and Probes (In a Negative BSC)

NOTE: Record preparation of stock primer tubes, probes and carrier RNA on **FRM-0180** in the solution preparation logbook per **SOP-0090**.

8.1.2. Prepare and Aliquot the Primers

8.1.2.1. The standard desalting purified forward and reverse primers are ordered as dried DNA pellets in tubes from IDT.

8.1.2.2. Spin the primer tubes s47 [redacted] in the microcentrifuge before opening them to make sure all the lyophilized primer is at the bottom of the tubes.

8.1.2.3. Check the amount of primer synthesized in the tube, in nanomoles, and add s47 [redacted] TE buffer s47 [redacted]

8.1.2.4. Vortex for s47 [redacted] to dissolve the lyophilized primer.

8.1.2.5. Spin the primer tubes s47 [redacted] in the microcentrifuge.

8.1.2.6. Aliquot s47 [redacted] of each primer into 1.5 mL tubes.

8.1.2.7. Store the aliquots at s47 Assign an expiry date s47 [redacted] Place the aliquots in a box and label with the primer name, lot, and expiry.

8.1.3. Prepare and Aliquot the Probe

8.1.3.1. The HPLC purified probe is ordered as a dried pellet from IDT.

s47 [redacted]

s47 [redacted]

s47 [redacted]

8.1.3.2. Spin the primer tubes at s47 [redacted] in the microcentrifuge before opening it to make sure all the lyophilized probe is at the bottom of the tube.

8.1.3.3. Check the amount of probe synthesized in the tube, in nanomoles, and add s47 [redacted] TE buffer s47 [redacted]

8.1.3.4. Vortex s47 [redacted] to dissolve the lyophilized pellet.

8.1.3.5. Spin the probe tubes s47 [redacted] in the microcentrifuge

8.1.3.6. Aliquot s47 [redacted] of probe into 1.5 mL tubes.

8.1.3.7. Store the aliquots s47 [redacted] Assign an expiry date s47 [redacted] Place the aliquots in a box and label with the probe name, lot, and expiry.

8.1.4. Preparation of Carrier Poly A RNA Dilution Buffer s47 [redacted] (In a Negative BSC: BSC-1138-01/BSC-1138-02)

8.1.4.1. Add s47 [redacted] nuclease free water to the s47 [redacted] lyophilizate pellet of Carrier Poly A RNA.

8.1.4.2. Vortex s47 [redacted].

8.1.4.3. Spin the tubes s47 [redacted] in the microcentrifuge.

8.1.4.4. Aliquot s47 [redacted] Carrier Poly A RNA Dilution buffer into 1.5 mL tubes and store the aliquots s47 [redacted] Assign an expiry date of s47 s47 [redacted]

8.1.5. Preparation of s47 [redacted] Plasmid Standard (In a Positive BSC)

8.1.5.1. Clean the tube of standard linearized plasmid s47 by wiping with an IPA wipe.

8.1.5.2. Aliquot s47 into 1.5 mL tubes and store s47 Place the aliquots in a box and label with the name, lot, and expiry.

NOTE: Record the following steps on **FRM-0736**. Assign **FRM-0736** an ARN number per **SOP-0210**.

8.2. Preparation of working stock solutions (BSC-1138-01).

NOTE: working stocks will be diluted at time of use and then discarded.

8.2.1. Thaw the stock primer, probe, dilution buffers and qPCR kit reagents on Aluminum Bead Bath (the basket of aluminum bead is stored at 4° C before using) s47.

8.2.2. Dilute s47 Stock Primers s47 to the s47 working concentration.

8.2.2.1. In a new 1.5 mL tube, dilute s47 Stock Primer into s47 of nuclease-free water.

8.2.2.2. Mix by pipetting up and down at least 10 times with half the total volume.

8.2.3. Dilute s47 Stock Probe s47 to the s47 working concentration

8.2.3.1. In a new 1.5 mL tube, dilute s47 stock probe into s47 nuclease-free water.

8.2.3.2. Mix by pipetting up and down at least 10 times with half the total volume.

8.2.4. Preparation of Carrier Poly A RNA Dilution buffers

8.2.4.1. Diluent 1 Preparation: s47 Carrier Poly A RNA.

8.2.4.1.1. In a new 1.5 mL tube, dilute s47 of stock s47 Carrier Poly A RNA into s47 nuclease-free water (**Table 1**).

8.2.4.1.2. Mix by pipetting up and down at least 10 times with half the total volume.

Table 1 Preparation of Diluent 1: s47 Carrier Poly A RNA.

Diluent	Volume of 10 µg/ µL Poly A RNA (µL)	Volume of Nuclease Free Water (µL)
Diluent 1	s4	s47

8.2.4.2. Diluent 2 Preparation: s47 Carrier Poly A RNA.

Diluent 2 is for the initial dilution of Standard and Sample.

8.2.4.2.1. In a new 1.5 mL tube, dilute s47 Diluent 1 s47 into s47 nuclease-free water (**Table 2**).

8.2.4.2.2. Mix by pipetting up and down at least 10 times with half the total volume.

Table 2 Preparation of Diluent 2: s47 Carrier Poly A RNA

Diluent	Volume of Diluent 1 s47 Poly A RNA) (µL)	Volume of Nuclease Free Water (µL)
Diluent 2	s47	s47

8.2.4.3. Diluent 3 Preparation: s47 Carrier Poly A RNA

Diluent 3 is used for the additional dilutions of Standard and Sample.

8.2.4.3.1. Using a 5 mL Serological Pipets, add s47 nuclease free water to a new 15 mL tube.

8.2.4.3.2. Transfer s47 of Diluent 1 into the tube.

8.2.4.3.3. Mix by pipetting up and down with a serological pipette at least 10 times.

Table 3 Preparation of Diluent 3: 10 ng/µL Carrier Poly A RNA

Diluent	Volume of Diluent 1 s47 Poly A RNA) (µL)	Volume of Nuclease Free Water (mL)
Diluent 3	s47	s4

8.3. Preparation of qPCR Master Mix

8.3.1. Calculate the master mix multiplier using the equation below:

s47 [redacted]

8.3.2. Using the multiplier from **Step 8.2.5.1,** prepare the qPCR Master Mix per **Table 4** into 15 mL conical tube.

Table 4: qPCR Master Mix Preparation

Reagent	A	B	Actual Volume (µL) (Column A x Column B)
	Volume for 1 well (µL)	Multiplier	
TaqMan Fast Advanced Master Mix	s4	TBD	TBD
Forward Primer s47	s4		TBD
Reverse Primer s47	s4		TBD
Probe s47	s4		TBD
Exogenous IPC mix s47	s		TBD
Exogenous IPC DNA s47	s4		TBD
Nuclease Free Water	s4		TBD
Total Volume	s4		TBD

8.3.3. Mix by pipetting up and down at least 10 times with half the total volume.

8.3.4. Divide the master mix into tubes using 8-Tube Strips. 1 8-strip tube (8 tubes) will be needed for the standards and NTC. 1 8-tube strip with 6 tubes will be needed for each sample. Add s47 [redacted] Master Mix to each tube per **Table 5.**

Table 5 The Master Mix for Controls and Samples

Tube Number	Standard & Control Tubes		Sample(s) Tubes		Volume of Master Mix (µL)
	Tube Name	Control	Tube Name	Sample	
1	STD3	Standard 3	Sample D1	Sample Dilution 1	s47
2	STD4	Standard 4	Sample D2	Sample Dilution 2	
3	STD5	Standard 5	Sample D3	Sample Dilution 3	
4	STD6	Standard 6	Sample D4	Sample Dilution 4	
5	STD7	Standard 7	Sample D5	Sample Dilution 5	
6	STD8	Standard 8	Sample D6	Sample Dilution 6	
7	STD9	Standard 9			
8	NTC	No Template Control			

8.4. Prepare the No Template control (NTC)

8.4.1. Add s47 of Diluent 3 into the NTC Master Mix tube.

8.4.2. Mix by pipetting up and down at least 10 times with half the total volume.

8.4.3. Plate s47 of NTC Master Mix into the destination wells of 96-Well Reaction Plate. An example plate map is shown in **Table 6**.

Table 6 Example Plate Layout

	1	2	3	4	5	6	7	8	9	10	11	12
A	STD3	STD3	STD3	Sample1 D1	Sample1 D1	Sample1 D1	Sample2 D1	Sample2 D1	Sample2 D1	Sample3 D1	Sample3 D1	Sample3 D1
B	STD4	STD4	STD4	Sample1 D2	Sample1 D2	Sample1 D2	Sample2 D2	Sample2 D2	Sample2 D2	Sample3 D2	Sample3 D2	Sample3 D2
C	STD5	STD5	STD5	Sample1 D3	Sample1 D3	Sample1 D3	Sample2 D3	Sample2 D3	Sample2 D3	Sample3 D3	Sample3 D3	Sample3 D3
D	STD6	STD6	STD6	Sample1 D4	Sample1 D4	Sample1 D4	Sample2 D4	Sample2 D4	Sample2 D4	Sample3 D4	Sample3 D4	Sample3 D4
E	STD7	STD7	STD7	Sample1 D5	Sample1 D5	Sample1 D5	Sample2 D5	Sample2 D5	Sample2 D5	Sample3 D5	Sample3 D5	Sample3 D5
F	STD8	STD8	STD8	Sample1 D6	Sample1 D6	Sample1 D6	Sample2 D6	Sample2 D6	Sample2 D6	Sample3 D6	Sample3 D6	Sample3 D6
G	STD9	STD9	STD9									
H	NTC	NTC	NTC									

8.4.4. Seal the 96-Well Reaction Plate with Adhesive PCR Film.

8.4.5. Cap the tubes containing master mix.

8.4.6. Move the 96-Well Reaction Plate and the tubes containing master mix into BSC-1138-02.

8.5. Preparation of the test samples (BSC-1138-02).

8.5.1. Thaw the sample on Aluminum Bead Bath (the basket of aluminum beads is stored at 4° C before using) at least 10 minutes.

8.5.2. For each sample, into the first tube of a new 8-tube strip, dilute s47 of sample into s47 of **Diluent 2** to make Sample Dilution 1.

8.5.3. Mix by pipetting up and down at least 10 times with half the total volume.

8.5.4. s47 dilute s47 Sample Dilution 1 with **Diluent 3** in the 8-Tube Strip with Attached Domed Caps per **Table 7**.

8.5.4.1. Add s47 of **Diluent 3** to tubes 2-6 within the 8-tube stip.

8.5.4.2. Add s47 of Sample Dilution 1 to tube 2 and mix by pipetting up and down with at least half the total volume of the tube.

8.5.4.3. Continue diluting s47 of the previous dilution tube to the next tube containing **Diluent 3** until all 6 s47 dilutions are complete.

8.5.4.4. When performing s47 dilutions, mix by pipetting up and down at least 10 times with at least half the total volume before transferring to the next tube.

Table 7: Sample s47 Dilutions

Dilution Name	Final Dilution	Volume of Previous Dilution (µL)	Volume of Diluent 3 (µL)
Sample Dilution 1	s47		
Sample Dilution 2		s47 Dilution 1	s47
Sample Dilution 3		s47 Dilution 2	
Sample Dilution 4		s47 Dilution 3	
Sample Dilution 5		s47 Dilution 4	
Sample Dilution 6		s47 Dilution 5	

8.5.5. Add s47 of each Testing sample dilution into destination tube containing Master Mix from **Table 5**.

8.5.6. Mix by pipetting up and down at least 10 times with half the total volume.

8.5.7. Plate s47 of Sample Master Mix into the destination wells of the 96-well Reaction plate (**Table 6**).

8.5.8. Seal the 96-well Reaction plate with Adhesive PCR film. Move the 96-well Reaction plate and the tubes containing the Standard Master Mix into BSC-1139-01/BSC-1139-02.

8.6. Preparation of the Standard Curve (BSC-1139-01/BSC-1139-02)

8.6.1. Remove one tube of aliquoted s47 (s47 standard s47 .

8.6.2. In a 1.5 mL tube, dilute s47 of s47 standard into s47 **Diluent 2** to make **Stock 1** s47

8.6.3. Mix by pipetting up and down at least 10 times with half the total volume.

8.6.4. Dilution of Standard samples

8.6.4.1. s47 dilute the plasmid **Stock 1** s47 using Diluent 3 in a new 8-tube strip per **Table 8.**

NOTE: 2 8-tube strips will be needed as there are 9 total standard dilutions.

8.6.4.2. Prepare Standard 1 by diluting s47 of **Stock 1** into s47 **Diluent 3**.

8.6.4.3. Mix by pipetting up and down at least 10 times with half the total volume.

8.6.4.4. Add s47 of **Diluent 3** to tubes 2-9 within the 8-tube stip.

8.6.4.5. Add s47 of Standard 1 to tube 2 and mix by pipetting up and down with at least half the total volume of the tube.

8.6.4.6. Continue diluting s47 of the previous dilution tube to the next tube containing **Diluent 3** until all 9 s47 dilutions are complete.

8.6.4.7. When performing s47 dilutions, mix by pipetting up and down at least 10 times with at least half the total volume before transferring to the next tube.

Table 8 Standard Dilutions

Dilution Name	Number of Copies/ µL	Volume of Previous Dilution (µL)	Volume of Diluent 3 (µL)
Standard 1	s47		
Standard 2			
Standard 3			
Standard 4			
Standard 5			
Standard 6			
Standard 7			
Standard 8			
Standard 9			

8.6.5. Add s47 of Standard 3 – Standard 9 into their corresponding destination tubes containing Master Mix per **Table 5**.

8.6.6. Mix by pipetting up and down at least 10 times with half the total volume.

8.6.7. Plate s47 of Standard Master Mix (Standard 3 – Standard 9) into the destination wells per **Table 6**.

8.6.8. Seal the plate with Applied Biosystems™ MicroAmp™ Optical Adhesive Film.

8.6.9. Centrifuge the plate s47. Repeat as needed until all bubbles are gone and the contents are at the base of the wells.

8.7. Running the Assay

8.7.1. Start the s47 per **SOP-0451.**

8.7.2. Select Method "SOP-1020 Residual plasmid" from Run template.

8.7.3. Ensure all wells containing material are selected.

8.7.4. Ensure all wells are named according to plate map (**Table 6**).

8.7.5. Ensure standard curve concentrations are assigned appropriately.

8.7.6. Ensure replicates are assigned appropriately.

8.7.7. Verify the following parameters are displayed:

Step	Temperature	Time
s47		

8.7.8. Load plate on to s47

8.7.9. Start run.

8.8. Data Analysis

8.8.1. When the run is complete, go to the Analysis screen.

8.8.2. Select the Standard Curve.

8.8.3. Select the wells that include the samples, NTC wells, and standards 3-9 s47

8.8.4. Select "Target 1" to record the R^2, Slope and C_T.

NOTE: *Target 1 detects the residual DNA in the samples.*
The standard curve of Target 2 will generate a blank graph in the report because Target 2 is Internal Positive Control (IPC).

8.8.5. Save the PDF report to the SDMS folder.

8.8.6. Open the PDF report from the SDMS folder and print it out.

8.8.7. Using the excel version of **FRM-0795** "SOP-1020 Residual DNA Calculation Sheet", calculate the standard curve and sample concentrations. All excel formulas may be found on **Attachment 1**.

8.8.8. The copies/µL of each point of the standard curve and each sample dilution are calculated using the following equation: inputting the C_T, slope, and y-intercept of the standard curve.

s47 [redacted]

8.8.9. The copies/µL of each sample dilution is then multiplied by the corresponding dilution factor to determine the neat copies/µL.

8.8.10. The % (g/L DNA)/(g/L RNA) (%w/w) of the sample is then calculated using the following equations:

NOTE: The Plasmid MW can be found within the Validation Report of the test construct.

s47 [redacted]

8.8.11. The % (g/L DNA)/(g/L RNA) (%w/w) of the sample dilutions in which the C_T was within the C_T range of the standard curve are then averaged to determine the %w/w of the sample.

8.8.12. Save the calculation sheet **FRM-0795**, print the calculation sheet with and without formulas showing, and attach to the APW.

8.9. System and Sample Suitability Criteria

8.9.1. R^2 must be s47 [redacted]

8.9.2. The slope of the standard curve must be between s47 [redacted], inclusive.

8.9.3. Amplification must be observed in at least 2 of 3 replicates for s47 [redacted] standard.

8.9.4. The Average C_T value observed in NTC must be above the average C_T of the lowest point of standard curve.

8.9.5. IPC must be amplified in NTC wells.

8.9.6. The %RSD of each sample dilution's software calculated concentration (copies/µL) for all standards and samples within the quantitative range of the standard curve must have a %RSD of s47 If the average C_T value of a sample is higher than the average C_T of the lowest standard s47 of the standard curve, the %RSD criteria does not apply.

8.9.7. If all system and sample suitability criteria are met, the sample is valid. If the criteria are not met the assay is invalid. Proceed with the invalid assay procedure, **SOP-0409**.

8.10. Results Reporting

8.10.1. Have FRM-0736 reviewed per SOP-0082 and report results. The reviewer must review the formulas of the attached calculation sheet to ensure correct calculations.

8.10.2. Report the result (% w/w). If the value is less than the LOQ %w/w then report <(LOQ %w/w).

8.10.3. Refer to the specification of the test sample to determine if the %w/w is within specification. If the residual plasmid %w/w is out of specification, refer to the OOS procedure, **SOP-0033**.

8.10.4. Have **FRM-0736** reviewed per **SOP-0082** and report results. The reviewer must review the formulas of the attached calculation sheet to ensure correct calculations.

9.0 ATTACHMENTS

9.1. Attachment 1: SOP-1020 Residual DNA Calculation – Formula Sheet (Electronically attached in Veeva)

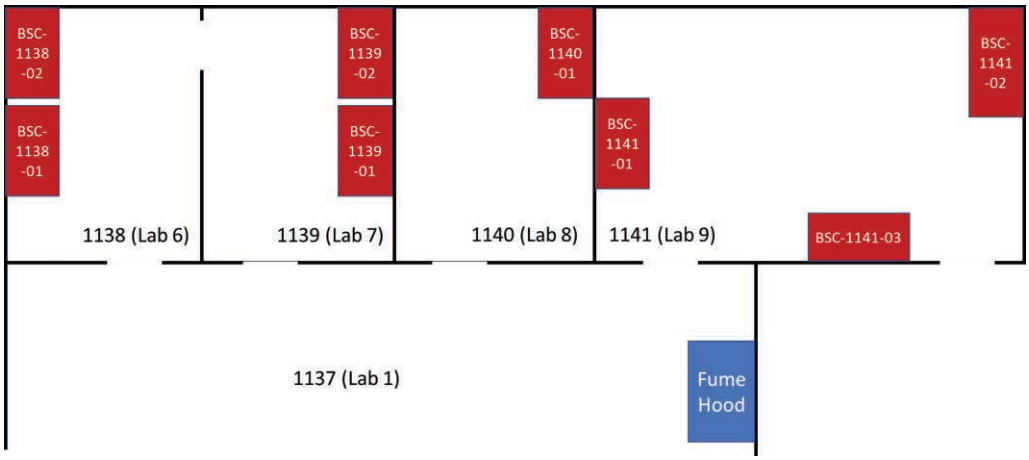
9.2. Attachment 2: BSC Placement

10.0 REVISION HISTORY

Revision #	Effective Date	Change Details	Author
1.0	Refer to Veeva Header for Effective Date	New Document	s22 [redacted]

ATTACHMENT 2: BSC Placement

(Page 1 of 1)



Document Approvals

Approved Date: 09 Oct 2020

Approval Verdict: Approved	s22 [redacted] (s22 [redacted]@modernatx.com) Quality Control Approval 09-Oct-2020 17:00:52 GMT+0000

QA Approval Verdict: Approved	s22 [redacted] s22 [redacted]@modernatx.com) Quality Assurance Approval 09-Oct-2020 17:38:13 GMT+0000

ABN 66 051 627 831
Merck Life Science Pty Ltd
GF, Building 1, 885 Mountain Hwy
BAYSWATER VIC 3153
AUSTRALIA
Telephone 1800 800 097
Web:www.sigma-aldrich.com

ORIGINAL TAX INVOICE

BILL TO:
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s22
Biotherapeutics Section
Tindal Lane
1 Tindal Lane, (via Richmond Ave)
Fairbairn ACT 2609
AUSTRALIA

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INVOICE INFORMATION

INVOICE NUMBER:	**561305594**
PURCHASE ORDER NO:	**CO**s22
SOLD TO CUSTOMER:	**49610645**
SHIPPING DATE:	
INVOICE DATE:	24.10.2023
TERMS/DUE DATE:	CREDIT CARD

Distributed by Merck Life Science Pty Ltd from 1 Botero Place, Truganina,VIC 3029
ORDER ENQUIRIES: 1800 800 097 - customersupport.anz@merckgroup.com
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Material Description HTS Code/Country of Origin/Batch	Qty/UOM	Shipped From Route	Delivery No	Unit Price Per/Unit	Extended Price
VC00021 rDNA-Mod-FWD OLIGO STANDARD - DNA 2934.99.0096/US/	1 EA	AU08		s47 1/EA	s47
VC00021 rDNA-Mod-REV OLIGO STANDARD - DNA 2934.99.0096/US/	1 EA	AU08		s47 1/EA	s47
VC00021 rDNA-Pfi-FWD OLIGO STANDARD - DNA 2934.99.0096/US/	1 EA	AU08		s47 1/EA	s47

ORIGINAL TAX INVOICE

INVOICE INFORMATION

INVOICE NUMBER:	**561305594**
PURCHASE ORDER NO:	**CC**s22
SOLD TO CUSTOMER:	**49610645**
SHIPPING DATE:	
INVOICE DATE:	24.10.2023
TERMS/DUE DATE:	CREDIT CARD

Material Description HTS Code/Country of Origin/Batch	Qty/UOM	Shipped From Route	Delivery No	Unit Price Per/Unit	Extended Price
VC00021 rDNA-Pfi-REV OLIGO STANDARD - DNA 2934.99.0096/US/	1 EA	AU08		s47 1/EA	s47
VC00021 rDNA-Mod-RM OLIGO STANDARD - DNA 2934.99.0096/US/	1 EA	AU08		s47 1/EA	s47
VC00021 rDNA-Pfi-RM OLIGO STANDARD - DNA 2934.99.0096/US/	1 EA	AU08		s47 1/EA	s47
VC00023 rDNA-Mod-Prb Oligo: Probe 2934.99.0096/US/	1 EA	AU08		s47 1/EA	s47

Sub Total	s47	AUD
Trans/Handling/Fee	s47	AUD
Trans/Handling Adj	s47	AUD
Total GST	s47	AUD

Amount Charged to Credit Card Number: XXXXXXXXXXXs22 s47

"To ensure proper postings of your payments, please indicate invoice numbers on your payment advice & mail it to the remittance address indicated. Thank You."

ORIGINAL TAX INVOICE

INVOICE INFORMATION

INVOICE NUMBER:	**561305594**
PURCHASE ORDER NO:	**CO**[redacted]
SOLD TO CUSTOMER:	**49610645**
SHIPPING DATE:	
INVOICE DATE:	24.10.2023
TERMS/DUE DATE:	CREDIT CARD

Material Description HTS Code/Country of Origin/Batch	Qty/UOM	Shipped From Route	Delivery No	Unit Price Per/Unit	Extended Price

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	FCA
Total Amount Due:	**0.00**

Currency: AUD