

REFERENCE OF TENDER	DESCRIPTION OF TENDER	TIME PERIOD OF TENDER	DEPARTMENT/ DIVISION/UNIT REQUESTING TENDER	FEES	CLOSING DATE NOT LATER THAN 12.00AM	FOCAL PERSON
KK/50/2024/DSS	TO SUPPLY, DELIVER, INSTALL AND COMMISSION ONE (1) UNIT OF REAL-TIME PCR SYSTEM FOR HUMAN IDENTIFICATION (HID) FOR FORENSIC BIOLOGY SECTION, DEPARTMENT OF SCIENTIFIC SERVICES, MINISTRY OF HEALTH	-	DEPARTMENT OF SCIENTIFIC SERVICES	\$10.00	16 TH APRIL 2024	Vianaliza Abd Rajak / Nuramalina Sawal Forensic Biology/DNA Section Department of Scientific Services Ministry of Health Negara Brunei Darussalam Contact No: 2382424 ext 6078/6068 Fax 2381946 email: vianaliza.rajak@moh.gov.bn

NOMBOR TAWARAN : KK/50/2024/DSS

**KEMENTERIAN KESIHATAN
NEGARA BRUNEI DARUSSALAM**

**TO SUPPLY, DELIVER, INSTALL AND COMMISSION ONE (1) UNIT
OF REAL-TIME PCR SYSTEM FOR HUMAN IDENTIFICATION (HID)
FOR FORENSIC BIOLOGY SECTION, DEPARTMENT OF SCIENTIFIC
SERVICES, MINISTRY OF HEALTH**

YURAN TAWARAN: \$10.00

NOMBOR RESIT :

TARIKH TUTUP : HARI SELASA, 16HB APRIL 2024

JAM : 12.00 TENGAH HARI

KEPADA :

**PENGERUSI LEMBAGA TAWARAN KECIL
PETI TAWARAN, TINGKAT BAWAH
BANGUNAN KEMENTERIAN KESIHATAN
COMMONWEALTH DRIVE
BANDAR SERI BEGAWAN BB 3910
NEGARA BRUNEI DARUSSALAM**

(CLUSTERING)

SECTION 2
SPECIFICATIONS AND REQUIREMENTS

TENDER REFERENCE NO: KK/50/2024/DSS

INVITATION TO TENDER

**TO SUPPLY, DELIVER, INSTALL AND COMMISSION ONE (1) UNIT OF REAL-TIME PCR
SYSTEM FOR HUMAN IDENTIFICATION (HID) FOR FORENSIC BIOLOGY SECTION,
DEPARTMENT OF SCIENTIFIC SERVICES, MINISTRY OF HEALTH**

NAME OF ITEM	ONE (1) UNIT REAL-TIME PCR SYSTEM FOR HUMAN IDENTIFICATION (HID)
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NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS
1	<u>GENERAL</u>
1.1	Real-Time PCR system for Human Identification (HID) that uses fluorescence-based polymerase chain reaction (PCR) reagents to perform Quantitative detection of target nucleic acid sequences (targets) and applicable to forensic casework application on confirmatory screening of male DNA, quality and quantity sample assessment and sexual assault sample workflow.
1.2	This system shall comprise of the following: <ul style="list-style-type: none">• Human Identification (HID) Real-Time PCR Instrument.• Data management and acquisition system.• Accessories• Consumables for installation and commissioning and training• Documentation of full developmental validation for forensic human identification use
2	<u>REAL-TIME PCR SYSTEM FOR HUMAN IDENTIFICATION SPECIFICATION</u>
2.1	Application for forensic Casework: <ul style="list-style-type: none">• Confirmatory screening of male DNA.• Sexual assault sample workflow.• Quality and quantity sample assessment.
2.2	Dye Compatibility: <ul style="list-style-type: none">• FAM™/SYBR™ Green.• VIC™/JOE™/HEX™/TET™• ABY™*/NED™/TAMRA™/Cy®3, JUN™*• ROX™/Texas Red™• Mustang Purple™• Cy®5/LIZ™• Cy®5.5
2.3	Multiplexing: 96-well: Up to 6 targets

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS
2.4	Dynamic Range: 10 logarithmic units
2.5	Sensitivity (resolution): Detect differences as small as 1.5-fold in target quantities in a singleplex reaction
2.6	Sensitivity (no. of copies): 1copy
2.7	Excitation (light source): Bright white light-emitting diode (LED) source with a median lifetime of >5 years
2.8	Sample capacity (wells) and reaction volume (wells): 96 well 0.2 ml block and 10-100 µl for 0.2 ml block
2.9	Maximum ramp rate: 6.5°C/sec
2.10	Average sample ramp rate: 3.66°C/sec
2.11	Temperature uniformity: 0.4°C
2.12	Thermal Cycler Blocks: 96-well and 6 independent temperature zones
2.13	Heating/Cooling method: Peltier
2.14	Kits should be compatible with: Applied Biosystem™ Quantifiler™ Trio with runtime ~70min
2.15	Dye Calibration should be compatible with: <ul style="list-style-type: none"> • Calibrated with FAM, SYBR Green I, VIC, NED, ABY, JUN, Mustang Purple, TAMRA, Cy5, and ROX dyes • For HID assay, calibrated with HID ABY and HID JUN dyes
2.16	Filters/colours: 96-well: 6 decoupled filters, up to 21 combinations
2.17	Excitation/detection range: 96-well: 450-680 nm / 500-730nm
2.18	Interactive touch-screen with real-time application reviewing on the real-time PCR instrument
3	DATA MANAGEMENT AND ACQUISITION SYSTEM
3.1	Data management and acquisition system must be supplied for the control of the real-time PCR instrument and its auxiliary equipment as well as allowing users for recording and reviewing of the analysis data
3.2	Software Package should include: <ul style="list-style-type: none"> • Simplified workflow for HID with predefined templates for HID Quantifiler assays. • Preoptimized run protocols or ability to customise. • Virtual standard curve, short tandem repeat (STR) sample dilution and reaction set up, generation and quality flags, calculation of quality value (degradation index). • Male: female sample mixture ratio. • Must be validated for HID Quantification assays.

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS
3.3	<p>The system should include:</p> <ul style="list-style-type: none"> • One (1) unit of stand alone desktop PC with specifications following equipment manufacturer's recommendation. • Communication interface via USB or WiFi. • Latest compatible processor compatible with real-time PCR software. • At least 24" LED Monitor. • Standard keyboard and mouse. • Genuine latest Microsoft Windows software compatible to use with real-time PCR data. • One (1) unit of 2D barcode reader via USB connection. • Two (2) units of high speed external solid state drive with at least 1TB capacity. • One (1) unit of wireless all-in-one duplex printer with easy refillable ink tank.
4	<u>ACCESSORIES</u>
4.1	One (1) unit of uninterrupted power supply (UPS) with suitable power supply rating must also be provided and connected to the instrument system and workstation.
5	<u>TRAINING</u>
5.1	On-site training for ALL staff members expected to handle the machine. Please ensure that adequate time is allocated such that training will take place in small groups to minimize staff shortage in the laboratory.
5.2	Certificate of competence is to be issued to all trainees after completion of training.
5.3	The successful tenderer needs to ensure the key users are updated on the current or relevant information related to the system used. They should provide <u>ONE</u> (1) off-site benchwork training for <u>TWO</u> (2) key users. All expenses for attending the benchwork training shall be borne by the vendor; full registration, air ticket, daily allowance, accommodation, transport to and from the airport and place of training.
6	<u>CONSUMABLES, REAGENTS & KITS</u>
6.1	The successful tenderer needs to supply all necessary consumables, reagents and kits required for installation and commissioning and training.
7	<u>DOCUMENTATION & CERTIFICATION</u>
7.1	Operation manual (1 original and 1 copy)
7.2	Availability of Developmental Validation paper documenting validation studies based on requirements listed in the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories and guidelines outlined by the Scientific Working Group and DNA Analysis Methods
8	<u>SITE PREPARATIONS</u>
8.1	Tenderer shall ensure that the site preparation for the placement of the system taking into the consideration on the safety of the end user during the operation of the instrument.
8.2	It is MANDATORY for the tenderer to do site visit prior to tender submission to discuss site requirements. Non-attendance will be considered as non-compliance.

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS
8.3	The site preparation details should be listed out in the quotation/document submitted.
8.4	All works involving additional electrical supply including wiring, outlets and isolators, fabrication and/or modification of work bench and any other deemed necessary to ensure successful and safe installation and operation of the system should be included.
9	<u>ELECTRICAL REQUIREMENTS</u> Must be able to utilise main power supply of 220 – 240 V AC, 50-60 Hz. Otherwise, tenderer to include the necessary arrangements to ensure appropriate power supply required by the equipment.
10	<u>WARRANTY</u>
10.1	A minimum of one (1) year warranty for manufacturer's defect on the hardware, software and all cost of repairs and/or replacements should be included
10.2	After-sales services must be provided for the product after one (1) year
10.3	One-off preventive maintenance to be carried out just before or soon after the one-year warranty period. Scope of work to follow manufacturer's manual / recommendation specific for the equipment offered, which include: <ul style="list-style-type: none"> • Supply, delivery and installation of preventive maintenance kits and/or consumables • Software update (to obtain prior authorization from user and BME) • Inspection • Cleaning • Alignment • Calibration • any other related preventive maintenance works required
11	<u>DELIVERY</u> Items offered will be delivered within 8-14 weeks from date of approval.
12	<u>PRICE VALIDITY</u> Price validity MUST NOT BE LESS THAN 180 days or six (6) months.

NO.	GENERAL SPECIFICATIONS
A	Total Price: B\$
B	Delivery Period:
C	Model & Brand:
D	Country of Origin:
E	Where marketed:
F	Year of Manufacture:
G	Warranty:
H	Power Requirement:
I	Battery Back-up:
J	International Safety Standard:
K	Technical Support:
L	Equipment Whole Life Support:
M	Dimensions (WxHxD) cm:
N	User Manuals:
O	Service Manuals:
P	Spare-parts & Consumables Listing:
Q	Technical Training On-Site:
R	Site Requirements:

*To all participating companies, please fill in the table above along with your other documents during submission of tender.

Bahagian/Unit	<i>Forensic Biology Section</i>	
Bil. Rujukan Bahagian/Unit:	DSS/FOR/PR/2023/11	
Pegawai di rujuk	Nama:	Vianaliza Razak / Nuramalina Sawal
	E-mail:	vianaliza.razak@moh.gov.bn / nuramalina.sawal@moh.gov.bn
	Contact No.:	2382424 ext 6079 Fax No. : 2381946

SECTION 3

TENDER FORM

To:

TENDER REFERENCE NO: KK/50/2024/DSS

INVITATION TO TENDER

TO SUPPLY, DELIVER, INSTALL AND COMMISSION ONE (1) UNIT OF REAL-TIME PCR SYSTEM FOR HUMAN IDENTIFICATION (HID) FOR
FORENSIC BIOLOGY SECTION, DEPARTMENT OF SCIENTIFIC SERVICES, MINISTRY OF HEALTH

TENDER OF (*name of tenderer*) : _____

Company/Business Registration No. : _____

Tender Closing Date : _____

DELIVERY PERIOD	
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NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
1	<u>GENERAL</u>				

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
1.1	Real-Time PCR system for Human Identification (HID) that uses fluorescence-based polymerase chain reaction (PCR) reagents to perform Quantitative detection of target nucleic acid sequences (targets) and applicable to forensic casework application on confirmatory screening of male DNA, quality and quantity sample assessment and sexual assault sample workflow.				
1.2	This system shall comprise of the following: <ul style="list-style-type: none"> • Human Identification (HID) Real-Time PCR Instrument. • Data management and acquisition system. • Accessories • Consumables for installation and commissioning and training • Documentation of full developmental validation for forensic human identification use 				
2	<u>REAL-TIME PCR SYSTEM FOR HUMAN IDENTIFICATION SPECIFICATION</u>				
2.1	Application for forensic Casework: <ul style="list-style-type: none"> • Confirmatory screening of male DNA. • Sexual assault sample workflow. • Quality and quantity sample assessment. 				
2.2	Dye Compatibility: <ul style="list-style-type: none"> • FAM™/SYBR™ Green. • VIC™/JOE™/HEX™/TET™ • ABY™*/NED™/TAMRA™/Cy@3, JUN™* • ROX™/Texas Red™ • Mustang Purple™ • Cy@5/LIZ™ • Cy@5.5 				

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
2.3	Multiplexing: 96-well: Up to 6 targets				
2.4	Dynamic Range: 10 logarithmic units				
2.5	Sensitivity (resolution): Detect differences as small as 1.5-fold in target quantities in a singleplex reaction				
2.6	Sensitivity (no. of copies): 1copy				
2.7	Excitation (light source): Bright white light-emitting diode (LED) source with a median lifetime of >5 years				
2.8	Sample capacity (wells) and reaction volume (wells): 96 well 0.2 ml block and 10-100 µl for 0.2 ml block				
2.9	Maximum ramp rate: 6.5°C/sec				
2.10	Average sample ramp rate: 3.66°C/sec				
2.11	Temperature uniformity: 0.4°C				
2.12	Thermal Cycler Blocks: 96-well and 6 independent temperature zones				
2.13	Heating/Cooling method: Peltier				

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
2.14	Kits should be compatible with: Applied Biosystem™ Quantifiler™ Trio with runtime ~70min				
2.15	Dye Calibration should be compatible with: <ul style="list-style-type: none"> Calibrated with FAM, SYBR Green I, VIC, NED, ABY, JUN, Mustang Purple, TAMRA, Cy5, and ROX dyes For HID assay, calibrated with HID ABY and HID JUN dyes 				
2.16	Filters/colours: 96-well: 6 decoupled filters, up to 21 combinations				
2.17	Excitation/detection range: 96-well: 450-680 nm / 500-730nm				
2.18	Interactive touch-screen with real-time application reviewing on the real-time PCR instrument				
3	DATA MANAGEMENT AND ACQUISITION SYSTEM				
3.1	Data management and acquisition system must be supplied for the control of the real-time PCR instrument and its auxiliary equipment as well as allowing users for recording and reviewing of the analysis data				
3.2	Software Package should include: <ul style="list-style-type: none"> Simplified workflow for HID with predefined templates for HID Quantifiler assays. Preoptimized run protocols or ability to customise. Virtual standard curve, short tandem repeat (STR) sample dilution and reaction set up, generation and quality flags, calculation of quality value (degradation index). Male: female sample mixture ratio. Must be validated for HID Quantification assays. 				

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
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3.3	The system should include: <ul style="list-style-type: none"> • One (1) unit of stand alone desktop PC with specifications following equipment manufacturer's recommendation. • Communication interface via USB or WiFi. • Latest compatible processor compatible with real-time PCR software. • At least 24" LED Monitor. • Standard keyboard and mouse. • Genuine latest Microsoft Windows software compatible to use with real-time PCR data. • One (1) unit of 2D barcode reader via USB connection. • Two (2) units of high speed external solid state drive with at least 1TB capacity. • One (1) unit of wireless all-in-one duplex printer with easy refillable ink tank. 				
4	<u>ACCESSORIES</u>				
4.1	One (1) unit of uninterrupted power supply (UPS) with suitable power supply rating must also be provided and connected to the instrument system and workstation.				
5	<u>TRAINING</u>				
5.1	On-site training for ALL staff members expected to handle the machine. Please ensure that adequate time is allocated such that training will take place in small groups to minimize staff shortage in the laboratory.				

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
5.2	Certificate of competence is to be issued to all trainees after completion of training.				
5.3	The successful tenderer needs to ensure the key users are updated on the current or relevant information related to the system used. They should provide ONE (1) off-site benchwork training for TWO (2) key users. All expenses for attending the benchwork training shall be borne by the vendor; full registration, air ticket, daily allowance, accommodation, transport to and from the airport and place of training.				
6	<u>CONSUMABLES, REAGENTS & KITS</u>				
6.1	The successful tenderer needs to supply all necessary consumables, reagents and kits required for installation and commissioning and training.				
7	<u>DOCUMENTATION & CERTIFICATION</u>				
7.1	Operation manual (1 original and 1 copy)				
7.2	Availability of Developmental Validation paper documenting validation studies based on requirements listed in the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories and guidelines outlined by the Scientific Working Group and DNA Analysis Methods				
8	<u>SITE PREPARATIONS</u>				

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
8.1	Tenderer shall ensure that the site preparation for the placement of the system taking into the consideration on the safety of the end user during the operation of the instrument.				
8.2	It is MANDATORY for the tenderer to do site visit prior to tender submission to discuss site requirements. Non-attendance will be considered as non-compliance.				
8.3	The site preparation details should be listed out in the quotation/document submitted.				
8.4	All works involving additional electrical supply including wiring, outlets and isolators, fabrication and/or modification of work bench and any other deemed necessary to ensure successful and safe installation and operation of the system should be included.				
9	<u>ELECTRICAL REQUIREMENTS</u> Must be able to utilise main power supply of 220 – 240 V AC, 50-60 Hz. Otherwise, tenderer to include the necessary arrangements to ensure appropriate power supply required by the equipment.				
10	<u>WARRANTY</u>				
10.1	A minimum of one (1) year warranty for manufacturer's defect on the hardware, software and all cost of repairs and/or replacements should be included				
10.2	After-sales services must be provided for the product after one (1) year				
10.3	One-off preventive maintenance to be carried out just before or soon after the one-year warranty period. Scope of work to follow manufacturer's manual / recommendation specific for the equipment offered, which include: <ul style="list-style-type: none"> Supply, delivery and installation of preventive maintenance 				

NO.	ITEM DESCRIPTIONS AND SPECIFICATIONS	VENDOR'S OFFER			
		COMPLY (Please tick ✓) (Provide evidence for compliance(s))		ITEM DESCRIPTIONS AND SPECIFICATIONS	PRICE (\$)
		YES	NO		
	kits and/or consumables <ul style="list-style-type: none"> • Software update (to obtain prior authorization from user and BME) • Inspection • Cleaning • Alignment • Calibration • any other related preventive maintenance works required 				
11	<u>DELIVERY</u> Items offered will be delivered within 8-14 weeks from date of approval.				
12	<u>PRICE VALIDITY</u> Price validity MUST NOT BE LESS THAN 180 days or six (6) months.				

NO.	GENERAL SPECIFICATIONS	VENDOR'S OFFER
A	Total Price: B\$	
B	Delivery Period:	
C	Model & Brand:	
D	Country of Origin:	(leave blank)
E	Where marketed:	
F	Year of Manufacture:	
G	Warranty:	
H	Power Requirement:	
I	Battery Back-up:	
J	International Safety Standard:	
K	Technical Support:	
L	Equipment Whole Life Support:	
M	Dimensions (WxHxD) cm:	
N	User Manuals:	
O	Service Manuals:	
P	Spare-parts & Consumables Listing:	
Q	Technical Training On-Site:	
R	Site Requirements:	

*To all participating companies, please fill in the table above along with your other documents during submission of tender.

1. We offer and undertake on your acceptance of our Tender to provide the above mentioned services in accordance with your Invitation To Tender.
2. Our Tender is fully consistent with and does not contradict or derogate from anything in your Invitation To Tender. We have not qualified or changed any of the provisions of your Invitation To Tender.
3. OUR OFFER IS VALID FOR **TWELVE (12)** CALENDAR MONTHS FROM THE TENDER CLOSING DATE.
4. When requested by you, we shall extend the validity of this offer.
5. We further undertake to give you any further information which you may require.

Dated this _____ day of _____, _____

Signature of authorised officer of Tenderer

Name:

Designation:

Tenderer's official stamp