ALL INDIA INSTITUTE OF MEDICAL SCIENCES ANSARI NAGAR, NEW DELHI-29 STORES SECTION(CNC)

Ref. No. 136/CNC/Neurobiochem/PAC/2023-24/ST.

Sub:- Purchase of "Automated capillary DNA Sequencer (08 capillary) on buy-back and Proprietary basis-01No." for Neuro-biochemistry (Lab) under department of Neurology, CNC, AIIMS, New Delhi-29 on proprietary basis-Inviting comments thereof.

The CNC (AIIMS) is in the process to purchase of Automated capillary DNA Sequencer (08 capillary) on buy-back and Proprietary basis-01No." for Neuro-biochemistry (Lab) under department of Neurology, CNC, AIIMS, New Delhi-29 on proprietary basis from M/s.Invitrogen Bioservices India Pvt. Ltd. which is an affiliate of Thermo Fisher, USA) through their Indian supplier M/s.Vision Diagnostic (India) Pvt. Ltd, New Delhi. The proposal submitted by M/s.Vision Diagnostic (India) Pvt. Ltd, New Delhi and PAC Certifications are attached.

The above documents are being uploaded for open information to submit Suggestion/objections/comments, if any, by any manufacturer/Supplier firm regarding proprietary nature of the equipment/item, within 15 days of issue of this document on AIIMS website by giving reference No. 136/CNC/Neurobiochem/PAC/2023-24/ST. The comments/objections should be submitted in the office of Stores Officer (CNC), Room No. 3, 1st Floor, New Pvt. Ward, CNC at AIIMS, New Delhi-29 on or before 06.04.2024 upto 12.00 noon., failing which it will be presumed that any other vendor is having no comment to offer and purchase process will be initiated further for purchase of item as per procedure. No suggestions/objections will be considered after 16.04.2024.

STORES OFFICER (CNC, AIIMS, N.DELHI-29)

Dated: 20.03.2024

Encl: Related documents enclosed.

भंडार अधिकारी Stores Officer हृद् तंत्रिका केन्द्र, अ.भा.आ.सं., नई दिल्ली C.N. Centre, All India Institute of Medical Sciences, New Delhi



Specification of AUTOMATED CAPILLARY DNA SEQUENCER (8 capillary)

- Instrument should be fully automated multi capillary, fluorescence-based genetic analysis system to process multiple sequencing and fragment analysis samples in single set up.
- System should have 8 Capillaries operating in parallel and system should have feature to be upgraded with 24 number of capillaries when needed.
- Instrument should be a bench top instrument to support various applications like Genomic Sequencing, de novo/re-sequencing, Gene Expression, Targeted Sequencing (Variant Validation) and Microbial Identification.
- System should have easy-to-use features like autocalibration, one-button instrument start-up and even an onboard learning center thereby requiring less training and decreasing operator error.
- System should be capable of supporting different types of formats for samples: 4 plates; 96well plates; 8-strip tube(compatible).
- System should have advanced connectivity like Web enabled for simple data transfer and collaboration, remote monitoring, remote troubleshooting for faster resolution
- System should have Cooled CCD detection technology and a spectrograph for color separation.
- System should be able to Connect Platform with cloud-enabled capability; USB port for Wi-Fi
 dongle; ethernet ports. System should have advanced features like Voice command capability to
 perform basic instrument operations for easy management
- The system must be able to detect and analyze 6 fluorescent dyes and should be enabled to read 8 fluorescent dyes simultaneously if required.
- Traceability and data security with an optional security, audit, and e-signature (SAE) software module
- System should facilitate continuous plate loading for 4 plates and sample reprioritization feature with walkaway operations for 4-96 well plates OR equivalent strip tubes.
- System should utilize a single line 505nm Solid-State long-life laser utilizing a standard power supply.
- System should be enabled with Radio-Frequency identification technology to tracks key consumables data without the need of any external barcode reader.
- System should be provided with one polymer and one array feature for sequencing and fragment analysis to enable both the applications on the same plate with walk away automation
- System should be enabled with one button start up, autospectral calibration and onboard learning center.
- System or software with the system should have the capabilities to generate "virtual filters" for fluorescent detection to readily accommodate new dyes and applications as they become available without requiring changes in the optical hardware.
- Software for secondary data analysis should come from original equipment manufacturer.
- System software allow real-time data quality evaluation providing immediate access to basecalled or size called data to make decision about the quality of data as it is generated.

डॉ. अचल क्यार श्रीचरतव डॉ. अचल क्यार श्रीचरतव जाउनस्मिन्द्राची Professor जाउनस्मिन्द्राची Department of Neurology संग्रिका विकास Neurosciences Centre संग्रिका विकास Neurosciences Centre अ.भा.आ.सं., वह विक्ली/A.I.I.M.S., New Delhi-110029 Dr. Sandh Dr. Sandh Additional C Additional



- Sequencing Analysis Software of the system should enable us to base call, trim, display, edit and print electropherograms generated by Genetic Analyzer.
- System software allowing real-time data quality evaluation providing immediate access to basecalled or size called data to make decision about the quality of data as it is generated.
- Sequencer Software should provide reference-based analysis of sequencing reactions for mutation detection and analysis, SNP discovery and validation, sequence confirmation.
- Gene mapping software should be a flexible genotyping software that enables DNA sizing and quality allele calls. This software should specialize in fragment analysis and sequencing applications like multi-application functionality including Amplified Fragment Length Polymorphism (AFLP), Loss of Heterozygosity (LOH), microsatellite, SNP genotyping analysis.
- Variant Reporter Software should be reference based and non-reference-based analysis of sequencing reactions for mutation detection and analysis, SNP discovery and validation, and sequence confirmation.
- System should be equipped with latest model of fully compatible computer system.
- The vendor supplying the instrument should have own application support laboratory in India for addressing local training requirements & efficient after sales service-support.
- Equipment to be supplied with all required reagents for standardization of all the applications to be performed in the equipment.

• To be quoted with 500 gene scan reagent and 1000 sequencing reagents.

हाँ. अञ्चल अवास्तव SRIVASTAVA आजार Professor आजार विभाग Department of Neurology तित्रका विज्ञान Neurosciences Centre तित्रका विज्ञान Neurosciences Centre अ.भा.आ.सं., नई दिल्ली/A.I.I.M.S., New Delhi-110029

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डा॰ संख्या कावरा TDr. Sandhya Kabra
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by



Proprietary Article Certificate (PAC) (Machinery & Equipment)

- The indented goods are manufactured by M/s: <u>Thermo Fischer Scientific</u>, <u>ABI applied biosystem (Invitirogen bio services)</u>
- Item Name: Automated DNA sequencer- 8 Capillary
- Model No: SEQSTUDIO 8 FLEX, DESKTOP
- Vital Technical Performance Parameters required which makes the requirement proprietary:

 1) System uses internally uncoated an array of 8 Capillaries (upgradable to 24 capillary) with patented performance optimized polymer enhancing capillary life. 2) The system uses solid laser to excite all the 6 dyes. Detection system composed of a spectrograph and a peltier —cooled charged couple device (CCD) provides multicolor detection. 3) System generated "virtual filters" for fluorescent detection to readily accommodate new dyes and applications as they become available without requiring changes in the optical hardware. 4) System is capable of running with one polymer and one array feature for sequencing and fragment analysis to enable both the applications on the same plate with walk away automation. 5) System uses Radio-Frequency identification technology to tracks key consumables data and records administrative information. 6) The system is capable of running 6-dye chemistry for genotyping applications and uses 6th gen BDT 1.1 and 3.1 versions for sequencing application.
- No other make or model is acceptable for the following: the equipment is under patented technology (patented certificate attached)

It is certified that market survey has been done and found that no other manufacturer is manufacturing similar/equivalent specifications which can fulfill the vital requirements of end user.

Signature of TSEC with Name, Designation, Department and Hospital/Institute/DGHS

डॉ. अचल कुमार शीवास्त्र Dr. ACHAL KR. SM MSTAVA अधारी/Profession तीत्रका विज्ञान विभाग/Department of Neurology तीत्रका विज्ञान iNeurosciences Centre अ.भा.आ.सं., नई दिल्ली/A.I.M.S., New Gellii-110029

Principal Consultant & Professor
Deptt. of Neurology
Deptt. of Neurology
Atal Bihari Vajpayee Institute of Medical Science
Dr. Ram Manohar Lohia Hospital, New Delhi-110001

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The world leader in serving science

Invitrogen Bioservices India Pvt.Ltd 372, Udyog Vihar Phase- II, Gurgaon – 122 016. Haryana, India T +91 124 6722800. F +91 124 6722850, 851 www.thermofisher.com

CIN: U73100KA2004PTC035330

Dated: 10/11/20

TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that the brand Applied Biosystems 3500 Genetic Analyzer having the Part Number 4405673 manufactured by M/s. Life Technologies Holding Pte. Ltd. is the proprietary item and has following unique features:

- 1. The system uses internally uncoated capillaries (an array of 8 capillaries) with patented Performance Optimized Polymer which enhance the capillary life and run time considerably.
- 2. The system uses solid laser to excite all the 6 dyes. Detection system composed of a spectrograph and a peltier —cooled charged coupled device (CCD) provides multicolor detection.
- Software generated "virtual filters" for fluorescent detection and it will readily accommodate new dyes and applications as they become available without requiring changes in the optical hardware.
- 4. The system is capable of running "one polymer one array" for both the sequencing and genotyping application, enabling the user to seamlessly switch between sequencing and fragment analysis runs, even in the same plate.
- 5. The system also provides the flexibility to use different polymers for variety of applications.
- 6. The system is capable of running 6-dye chemistry for genotyping applications and uses the sixth generation Big Dye Terminator version 1.1 & 3.1 chemistry for the sequencing applications.
- The system uses Radio-Frequency identification technology to track key consumables data and records administrative information.

No DNA Sequencer other than ABI 3500 Genetic Analyzer offers all the unique features mentioned above, together, in one single instrument system.

Registered Office:
Invitrogen BioServices India Pvt. Ltd
2nd Floor, First Technology Place, 3 EPIP Whitefield, Bangalore 550 066
T+91 80 41785400, F+ 91 80 41650430, 41259423

For Invitrogen Bioservices Pvt Ltd

TRUE COPY ATTESTED

O.P. SINGH Advocate Regd. No.-1680 Notary Public Ghaziabad

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In On

www.thermofisher.com CIN: U73100KA2004PTC035330

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Life Technologies Holdings Pte Ltd UEN: 200104491K 33 Marsiling Ind Estate Road 3 #07-06 Singapore 739256 www.thermofisher.com

MANUFACTURER'S AUTHORISATION FORM

The 'Chief CNC' All India Institute of Medical Sciences Ansari Nagar, New Delhi-110029, India.

Dear Sir,

Ref: Email dated 06th December & Our Buy Back Quote# Vdipl/2022/CNC-Aiims/142 dated 02/08/2022

We, Life Technologies Holdings Pte Ltd are proven and reputable manufacturers of Applied Biosystems SeqStudio Flex(Goods) having factories at 33 Marsiling Industrial Estate Road 3 #07-06, Singapore 739256. Messrs Invitrogen Bioservices India Pvt. Ltd. having registered office at 2nd Floor, First Technology Place, 3 EPIP Whitefield, Bangalore 560 066 ("Invitrogen") is an affiliate of Thermo Fisher. Invitrogen has authorized Messrs Vision Diagnostic (India) Pvt. Ltd, Plot no.405, Ground Floor, Patparganj Industrial Area, Delhi-110092 India to submit a bid, process the same further and enter into a contract with you against your requirement Applied Biosystems SeqStudio Flex goods manufactured by us.

We also state that we are not participating directly submitting this quote for the following reason(s): M/s. Vision Diagnostic (India) Pvt. Ltd is Invitrogen's authorized channel partner for All India Institute of Medical Sciences Ansari Nagar, New Delhi.

We further confirm that no supplier or firm or individual other than Messrs Vision Diagnostic (India) Pvt. Ltd, Plot no.405, Ground Floor, Patparganj Industrial Area, Delhi-110092, India is authorized dealer for Invitrogen to submit a bid, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.

We also hereby extend our full warranty for the SeqStudio Flex(Goods) for supply by the above firm against this authorization.

We also hereby confirm that we would be responsible for the satisfactory execution of purchase Orders placed by the authorized agent and the spares for the equipment shall be available for at least 10 years or 5 years from the date of discontinuation of supplied equipment (whichever is earlier).

We also confirm that the price quoted by our agent shall not exceed the price which we would have quoted directly.

The products mentioned above are 100% imported in India we are a non-local supplier of the same.

The said distributor shall comply with all the applicable laws

Akihiro Chiba

Senior Director, APJ Commercial

Genetic Sciences Group

23 December 2022

[Signature with date, name and designation]

for and on behalf of Life Technologies Holdings Pte Ltd

33 Marsiling Ind Estate Road 3 #07-06

Singapore 739256

Life Technologies Holdings Pte Ltd 33 Marsiling Ind Estate Road 3 #07-06 Singapore 739256 www.thermofisher.com





11 September 2023

Ref: VDIPL/2022/CNC-AIIMS/142

To, The Chief Neuro Science Centre All India Institute of Medical Science. Ansari Nagar, New Delhi 110029

Subject: Proforma Invoice for 8 Capillary Automated DNA Sequencer system.

Dear Sir/ Madam,

This has reference to your requirement of Automated Sanger Sequencing, we submit our offer for Thermo Scientific Model Segstudio 8 Flex with their accessories for your kind consideration.

. No.	Products Descriptions	Qty	Unit Price	Total Price
1	Seqstudio 8 Flex Desktop – 8 capillary – Sanger sequencer,	1	2,30,00,000.00	2,30,00,000.00
	Part No: A53628			
	Make: Thermo			
	Fisher			
	Scientific			
	Introducing you to the world of			
	Enhanced			
	Flexibility:			
	SeqStudio Flex			
	Genetic			
	Analyzer			
	(Available in			
	8/24 capillary		A No.	
	throughput options)		A. V.	
	 Scheduling flexibility Four-plate capacity, 			
	continuous plate loading, and urgent sample			
	reprioritization provide both the largest mid-			
	throughput capacity and complete scheduling			
	flexibility, translating into extra time in your			
	day.			
	 Ease of use Easier capillary array installation, 			
	streamlined one-button start up,			
	autocalibration and an onboard learning center	गा श्रीवा	स्तव	
	ofter users of any skill level greater usability.	CRIVA	Division	
	ि ८ ११ ।	bloies	Maurology	JOSTIC
	भवन्या विज्ञान विभाग Dep	sciences C	entre	T. I.E. 405,
		I.M.S., New	Deuraria	Patpar Ganj.
gnos	stic (India) Pvt. Ltd.			Area East,

Vision Diagnostic (India) Pvt. Ltd.

Corporate Office

FFSR 9A & 9B , First Floor Ansal Premium Corporate Suits, Ansal Plaza, Sector-1 Vaishali, Ghaziabad-201010(U.P.) Tel.:+91-120-4343000 to 4343021 (22 Lines) info@vision-groups.com

Regd. Office

Plot No. 405, Ground Floor Patparganj Industrial Area, Patparganj, Delhi-110092 Phone: 011- 40509878, 41625493 www.vision-groups.com | GSTIN : 07AABCV9939R1Z9

Lucknow Office

2nd Floor, 2/675, Sector-L, LDA Colony, Kanpur Road Lucknow- 226012 U.P. Ph: 0522-4016799 GSTIN:09AABCV9939R125 info-lko@vision-groups.com

dustrial Area East elhi-11009 Chennai Office

No. 1/53M, Ground Floor Colony First Street, ST Thomas Mount, Chennai-600016, Tamil Nadu Tel .: + 91 7428793111, 044 22112475 info-chennai@vision-groups.com





S. No.	Products Descriptions	Qty	Unit Price	Total Price
	and streamlined training whether they work in a single- or multi- user environment. No instrument expert is required.			
	 Standalone instrument an integrated touchscreen computer with intuitive software and walk-through wizards for simplified sample mapping, plate linking, and run setup. 			
	Remote setup, monitoring, and data transfer Our Thermo Fisher Connect Platform provides enhanced flexibility and simplified collaboration by allowing users to stay connected to their instrument and data, remotely and safely, from anywhere.			
	Thermo Fisher Connect Platform Work when and where you want. Set up experiments, monitor progress, and analyze data from your mobile phone, tablet, laptop, or remote desktop using our Thermo Fisher Connect cloud-based platform.			
	Comprehensive software Extract greater insight from your data using the Applied Biosystems comprehensive suite of primary and secondary analysis software with applications that include minor variant finding, microbial identification, gene editing, and next-generation sequencing confirmation.			
	 Application diversity Any application, any time. Perform Sanger sequencing and fragment analysis runs on a single plate using POP-7 Polymer. 	1		
	SeqStudio Flex genetic analyzers deliver high- level Sanger sequencing and fragment analysis performance using capillary electrophoresis to support a diverse range of applications.			
	 Targeted sequencing NGS confirmation Cell line authentication Minor variant finding Gene editing confirmation 	कुमार श्री	वास्तव	0 -

Vision Diagnostic (India) Pvt. Ltd.

Corporate Office

FFSR 9A & 9B , First Floor Ansal Premium Corporate Suits, Ansal Plaza, Sector-1 Vaishali, Ghaziabad-201010(U.P.) Tel.:+91-120-4343000 | to 4343021 (22 Lines) info@vision-groups.com

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Lucknow Office

तंत्रिका विज्ञान/Nourosciences Conno अ.भा.आ.सं., नई दिल्ला/A.M.M.O. Mow T

2nd Floor, 2/675, Sector-L, LDA Colony, Kanpur Road Lucknow- 226012 U.P. Ph: 0522-4016799 GSTIN:09AABCV9939R1Z5 info-lko@vision-groups.com

No. 1/53M, Ground Floor, Sripuram Colony First Street, ST. Thomas Mount, Chennai-600016, Tamil Nadu Tel .: + 91 7428793111, 044 22112475

info-chennai@vision-groups.com

Patpar Ganj. Industr...i Area East, Delhi-110092 Chennai Office





S. No.	Products Descriptions	Qty	Unit Price	Total Price	
	 Microbe or virus identification DNA methylation analysis SNP genotyping Microsatellite instability (MSI) analysis dsDNA quality control 				
2	Plasmid sequencing SEQSTUDIO 8FL SEQ FRAG INSTALL Part Number: A53802	1	Included	Included	
3	SMARTSTART, SEQSTUDFLEX, 1D, CS Part Number: TRN00192	1	Included	Included	
4	SW, SEQUENCING ANALYSIS V8 USB Part Number: A38938	1	Included	Included	
5	SW, VARIANT REPORTER V3.1 USB Part Number: A53552	1	Included	Included	
6	SW, SEQSCAPE V4.1 USB Part Number: A53548	1	Included	Included	
7	SW, GENEMAPPER FULL 6.1 Part Number: A53547	1	Included	Included	
8	Next Generation Confirmation (NGC) Part Number: Cloud Based Software	1	Included	Included	
9	Sanger Sequencing Kit Part Number: A38073	1	Included	Included	
10	IQ/OQ/IPV SEQSTU8FLEX SEQ/FRAG Part No: A53769 IQ/OQ/IPV will be done at the time of installation and PQ will be perform every year up to 5 years. All the Consumables required for IQ/OQ/IPV/PQ are included.	1	Included	Included	
			Sub Total	2,30,00,000.00	
	35,00,000.00				
	1,95,00,000.00				
	7,00,000.00				
	1,88,00,000.00				
	33,84,000.00 2,21,84,000.00				
	FOR Destination Price inclusive of GST				

Amount in word: Rs. Two Crores twenty one lakhs eighty four thousand only.

TERMS AND CONDITIONS

- Validity of Bids: Our bids are valid till 31st March 2024.
- 2. CMC Charges: 7% of above quoted total value for 6th year and 5% escalation every year from 7th to 10th year. GST will be charged extra as applicable.

3. Delivery period: Delivery of the ordered items shall be made within 12-16 weeks from the date of confirmed purchase order. Dr. ACHAL KR. SRIVASTAN

आचार्य/Professo तंत्रिका विज्ञान विभाग/Departmonto, Nouvo तंत्रिका विज्ञान/Neurosciences Conito अ.भा.आ.सं., नई दिल्ली/A.M.M.S., New I

Vision Diagnostic (India) Pvt. Ltd.

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FFSR 9A & 9B , First Floor Ansal Premium Corporate Suits, Ansal Plaza, Sector-1 Vaishali, Ghaziabad-201010(U.P.) Tel.:+91-120-4343000 to 4343021 (22 Lines) info@vision-groups.com

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Chennai Office No. 1/53M, Ground Floor Colony First Street, ST. Thomas Mount, Chennai-600016, Tamil Nadu Tel .: + 91 7428793111, 044 22112475 info-chennai@vision-groups.com

F.I.E. 405.

Patpar Ganj,

Industria

Area East Delhi-11009





- 4. **Installation:** The supplied equipment's shall be installed totally free of cost by our factory trained service engineers. Any locally supplied items not manufactured by us, shall be installed by authorized service engineers of those original manufacturers / distributors.
- 5. Warranty: We offer a Warranty of 60 months from the date of installation or 63 months from the date of delivery.
- 6. Training: Multiple trainings and workshops for instrument operation and applications will be done at
- 7. Service Support: We have a team of service engineers who are trained at our factory. The service team shall provide prompt and quality service during and after the warranty of the equipment. We assure that the response time will be 24 hour and in case of minor breakdown the system will be fixed in 48 hours. in case of major breakdown the system will be fixed in 3 days and the maximum break down time will be 5 days or as per tender.
- 8. Spares and consumables: We maintain an inventory of most of all commonly required parts and also most consumables required for smooth operation of the supplied equipment's. This inventory is at our warehouse near Mumbai and shall be available at short notice as and when required.
- We also undertake to the effect that the offered equipment is of current generation and only the equipment/ instruments of recent manufacture will be supplied and not a pre-owned one.
- 10. We also undertake to the effect that the Tenderer/OEM have not been banned or suspended from Government transactions due to any reason including corrupt and fraudulent practices.
- 11. Regarding correctness of the bid; the best of our knowledge and belief we hereby confirm that bid submitted by us is true and correct.
- 12. Purchaser's responsibility: Site preparation/supplies such as carrier gas, electrical and air conditioning are the purchaser's responsibility. These preparation requirements must be met for warranty to remain valid. (Pre-installation manual / Specifications are available upon request).
- 13. Site Preparation: Provisions of site utilities are the responsibility of the customer. System operates on 220/230V 50Hz.
- 14. Plastic, Rubber and movable parts does not cover under warranty/CMC. It is part of consumables.
- 15. Theft, burn, physical damage does not cover under warranty/CMC Period.
- 16. Prices: All prices quoted are in INR & on FOR basis.

If you need any further information or clarification, please feel free to contact us.

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atpar Gani

for and on the behalf of, Vision Diagnostic India Pve प्रियो हाँ. अवल कुमार ी.

Authorized Signatory

Vision Diagnostic (India) Pvt. Ltd.

Regd. Office

2nd Floor, 2/675, Sector-L LDA Colony, Kanpur Road Lucknow- 226012 U.P. Ph : 0522-4016799 GSTIN: 09AABCV9939R1Z5 info-lko@vision-groups.com

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सं., पर्व दिल्लीका.

Lucknow Office

ाचार्य/Prolo

Chennai Office

No. 1/53M, Ground Floor, Sripuram Colony First Street, ST. Mount, Chennai-600016, Tamil Nadu Tel .: + 91 7428793111, 044 22112475 info-chennai@vision-groups.com



Thermo Fisher Scientific Life Sciences Solutions Group 180 Oyster Point Boulevard South San Francisco, CA 94080 www.thermofisher.com

Dated: 10 February 2023

PROPRIETARY CERTIFICATE

This letter is to certify that Applied Biosystems™, a part of Thermo Fisher Scientific, is the sole manufacturer and sole provider of the Applied Biosystems™ SeqStudio™ Flex 8-cap Genetic Analyzer (Part No. A53627, A53628, A53629), and SeqStudio™ Flex 8-cap Genetic Analyzer having US patent number 5171534, 5332666, 5567292, 5821058 has the following proprietary/unique features combined in a single instrument system:

- 1. The system uses internally uncoated capillaries (an array of 8 capillaries, 50 cm and 36 cm in length) with Performance Optimized Polymers, which enhance the capillary life and run time considerably. The capillary arrays have a unique built-in frame and retractable slider for easy installation.
- 2. The system has an optional provision to upgrade from 8 capillary to 24 capillary system to meet future throughput needs.
- 3. The system has 4-plate capacity, which can accommodate 96-well Standard and Fast plates or 8-tube Standard or Fast strips, and provides complete walk away automation.
- 4. The system is capable of continuous plate loading and sample reprioritization.
- 5. The system is built with a single-line 505 nm, solid-state long-life laser that utilizes a standard power supply and requires no heat removal ducting.
- 6. The detection system is composed of a spectrograph and a peltier-cooled charged coupled device (CCD) and provides multicolor detection. The system detects and analyzes 6 fluorescent dyes simultaneously.
- 7. The system is capable of running 6-dye chemistry for fragment analysis applications and uses the sixthgeneration BigDye Terminator version 1.1 & 3.1 chemistries and BigDye Terminator Direct chemistry for sequencing applications.
- 8. Software generated "virtual filters" for fluorescent detection readily accommodate new dyes and applications as they become available without requiring changes in the optical hardware.
- 9. After initial manual spectral calibration, the system has an autospectral calibration algorithm that updates the dye matrix with every injection, as needed, allowing optimized deconvolution of the dye spectra (some exceptions may apply).
- 10. The system has an offscale peak recovery algorithm to recover data from saturated pixels for fragment analysis runs (some exceptions may apply).
- 11. The system is capable of running "one polymer one array" for both sequencing and fragment analysis applications, enabling the user to seamlessly switch between both applications, even in the same plate.
- 12. The on-board computer and integrated touchscreen enable stand-alone instrument control, data collection, quality control monitoring and auto-analysis of data.
- 13. The pre-packaged on-instrument consumables and capillary arrays are each designed with an RFID (Radio Frequency Identification) tag integrated into the label to track key consumables data.

TRUE COPY ATTESTED

Advocate Regd. No.-1680 Notary Public Ghaziabad