



RAMAKRISHNA MISSION
VIVEKANANDA CENTENARY COLLEGE
(An Autonomous College under West Bengal State University)
P.O. RAHARA, KOLKATA-700118
WEST BENGAL, INDIA

Accredited by NAAC with Grade A++

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Subject: Inviting Comments/Objections regarding Procurement of Research Trinocular Microscope with Karyotyping and FISH Analysis Software on Proprietary Basis

The Department of Zoology, Ramakrishna Mission Vivekananda Centenary College, proposes to procure a Research Trinocular Microscope with Integrated Digital Imaging System, Karyotyping Software and FISH Analysis Software manufactured by **M/s Dewinter Optical Inc.** for research and academic purposes.

The proposed procurement is intended to be made on a proprietary basis from the authorized supplier **M/s KOHINOOR DUTTA & CO.**, B-80, Atabagan, Garia, Kolkata-700153, West Bengal, India, based on the Proprietary Article Certificate (PAC) and quotation submitted by the vendor.

The relevant documents, including the PAC and quotation, are being uploaded/published for open information. Any manufacturer, supplier, or authorized distributor having objections/comments regarding the proprietary nature of the proposed procurement may submit the same along with supporting documentary evidence within 15 days from the date of publication of this notice.

Comments/objections, if any, should clearly establish the availability of an equivalent product meeting the required technical specifications and should be addressed to:

The Principal / Purchase Committee

Ramakrishna Mission Vivekananda Centenary College

Rahara, Kolkata – 700118, West Bengal

Email: rkmvccollege@rkmvccrahara.org

Last date for submission of comments/objections: 25. 06. 2026 (up to 5:00 PM).

In the absence of any comments/objections within the stipulated period, it shall be presumed that no other manufacturer/vendor has any objection to the proposed proprietary procurement, and the purchase process will be finalized as per institutional rules and regulations.

Enclosures:

1. Proprietary Article Certificate (PAC)
2. Quotation submitted by M/s KOHINOOR DUTTA & CO
3. Technical Specifications of the Equipment

Signature


Principal
Ramakrishna Mission
Vivekananda Centenary College
Rahara, Kolkata-700118

(Authorized Signatory)

Ramakrishna Mission Vivekananda Centenary College

Proprietary Article Certificate (GFR 166)

As per Rule 166 GFR 2017-

Single Tender Enquiry- Procurement from a single source may be resorted to in the following circumstances: -

- i. It is in the knowledge of the user department that only a particular firm is the manufacturer of the required Goods.
- ii. In a case of emergency, the required goods are necessarily to be purchased from a particular source and the reason for such decision is to be recorded and approval of competent authority obtained.
- iii. For standardisation of machinery or spare parts to be compatible to the existing sets of equipment (on the advice of a competent technical expert and approved by the competent authority), the required item is to be purchased only from a selected firm.

Note: Proprietary Article Certificate in the following form is to be provided by the Ministry/Department before procuring the goods from a single source under the provision of sub Rule 166 (i) and 166 (iii) as applicable.

- (i) The indented goods are manufactured by M/s.....*Dewinter Optical Inc.*
- (ii) No other make or model is acceptable for the following reasons: *Proprietary features mentioned in PAC and specification attached.*
- (iii) Concurrence of finance wing to the proposal vide:
- (iv) Approval of the competent authority vide:

It is certified that if any challenge/issue/complaint arises in view of this item on proprietary basis at any stage. I *AJOY MALHUK* (Name) will be fully liable/ responsible for the purchase.

Ajoy Mallik
(Signature with date)

Designation of the indenting officer)

Dr. Ajoy Mallik
Assistant Professor
Department of Zoology
Ramakrishna Mission Vivekananda Centenary College
Rahara, Kol-700118

S. W. Konda
Signature, Principal
Principal
Ramakrishna Mission
Vivekananda Centenary College
Rahara, Kolkata-700 118

Specifications required for Trinocular Research Microscope with Dedicated High Frame Rate Microscopic Camera Operating Hardware, Software and Karyotype Software

1. The microscope should be based on an Infinity Corrected Optical System to ensure superior image quality and optical performance.
2. The instrument should be equipped with a Siedentopf observation head inclined at 30°. The observation head should incorporate a three-way beam splitter with selectable light distribution ratios of 0:100, 50:50, and 100:0. It should also include a vertically focusable phototube for attachment of a digital camera. The interpupillary distance should be adjustable from 48 mm to 75 mm.
3. The microscope should be supplied with a pair of focusable extra-wide field eyepieces having 10X magnification and a field of view of 25 mm.
4. The microscope should be equipped with Infinity Plan Fluor objectives comprising 2X/0.05 NA with a working distance of 30 mm, 4X/0.13 NA with a working distance of 12.1 mm, 10X/0.30 NA with a working distance of 10.6 mm, 20X/0.50 NA with a working distance of 2.33 mm, 40X/0.75 NA with a working distance of 0.6 mm, and 100X/1.30 NA oil immersion objective with a working distance of 0.21 mm.
5. The microscope should be provided with a reverse-angle sextuple revolving nosepiece having a slot for optional polarizer and DIC attachment.
6. The focusing mechanism should consist of low-position coaxial coarse and fine focus controls mounted on ball-bearing guideways. The fine focus division should be 0.001 mm. The coarse focus stroke should be 37.7 mm per rotation, while the fine focus stroke should be 0.1 mm per rotation. The total focusing range should be 24 mm.
7. The microscope should incorporate a swing-in/swing-out front lens Abbe condenser with numerical aperture ranging from 0.9 to 1.25. The condenser should be provided with a filter holder and iris diaphragm.
8. The transmitted illumination system should be based on Koehler illumination and should utilize a 5 W LED light source with adjustable intensity control.
9. The fluorescence attachment should consist of a turret-type LED fluorescence filter magazine with four selectable positions. It should provide fluorescence light intensity control and employ a 5 W LED epi-fluorescence light source. The system should support selection of both monochromatic and dichromatic LED illumination modes.
10. The fluorescence excitation filter set should include B excitation in the wavelength range of 400–470 nm, G excitation in the wavelength range of 510–560 nm, and UV excitation in the wavelength range of 330–385 nm.
11. The microscope should be supplied with a high-performance digital camera having a resolution of 12.3 megapixels and incorporating a 1/1.1-inch CMOS sensor. The camera should be based on the Sony IMX545-AAQJ-C sensor and should provide 4K high-frame-rate image acquisition.
12. The camera should have a pixel size of 2.74 μm \times 2.74 μm and a sensor size of 1/1.1 inch.
13. The camera should provide frame rates of 28.2 frames per second at 4096 \times 3000 resolution, 100.9 frames per second at 2048 \times 1500 resolution, and 100.9 frames per second at 1024 \times 750 resolution.

Ajoy Mallik

Dr. Ajoy Mallik

Assistant Professor
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Swami Vedamagananda
8.6.2016

Coordinator

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Belur Math, Kolkata-700118

14. The camera should have a conversion gain of $2.44 e^-/ADU$, readout noise of $2.22 e^-$, full well capacity of $10.0 ke^-$, dynamic range of 72 dB, signal-to-noise ratio of 40 dB, sensitivity of 1337 mV, and dark current of 0.15 mV.
15. The camera should provide a gain range from $1\times$ to $50\times$ and support exposure times ranging from 30 microseconds to 15 seconds.
16. The camera should utilize a global shutter architecture and support software-selectable pixel binning modes of 2×2 , 3×3 , and 4×4 .
17. The camera should provide USB 3.0 (USB 3.1 Gen 1) data interface connectivity and support both 8-bit and 12-bit image data formats.
18. The camera should operate through USB 3.0 power supply or an external DC 12 V power source.
19. The camera power consumption should be less than 2.8 W.
20. The camera should operate within a temperature range of $-10^\circ C$ to $+50^\circ C$ and should support storage temperatures from $-30^\circ C$ to $+70^\circ C$.
21. The camera should operate under humidity conditions ranging from 20% to 80% without condensation.
22. The camera dimensions should be approximately $106\text{ mm} \times 92\text{ mm} \times 96\text{ mm}$.
23. The camera should be provided with a standard C-mount lens interface.
24. The camera should be supplied with Digicam, Optiscan, and KaryoPlus software packages.
25. The camera software should be compatible with Win32, WinRT, Linux, macOS, and Android operating systems.
26. The computer workstation should be based on a 64-bit operating system and should support a minimum of Microsoft Windows 10.
27. The workstation should be supplied with a minimum Microsoft Office Professional package including Excel and Access database compatibility.
28. The workstation should include a minimum Intel Core i7 processor operating at approximately 3 GHz, at least 32 GB RAM, a minimum 500 GB SSD along with an additional hard disk drive, and an NVIDIA graphics card with a minimum of 4 GB memory.
29. The workstation should support a minimum monitor resolution of 1920×1080 pixels.
30. The system should be supplied complete with dust cover, tool kit, power cords, operating manual, and all standard accessories required for operation.
31. The Karyotyping software should provide intelligent automatic karyotyping of chromosomes from metaphase images captured under different banding filters.
32. The software should include a dedicated FISH analysis module capable of one-click acquisition of fluorescence FISH images and automatic multilayer image combination from different fluorescence filter channels.
33. The software should support automatic, semi-automatic, and manual chromosome separation functions.
34. The software should provide multiple tools for refining chromosome detection and segmentation.
35. The software should enable combination of multiple microscopic fields into a single large-field image for analysis.
36. The software should include a comprehensive suite of image enhancement tools and filters.

Ajoy Mallik

Dr. Ajoy Mallik

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Vivekananda Centenary College

37. The software should provide annotation functions including insertion of text, arrows, counting tools, distance measurements, and area measurements.
38. The software should support batch processing of metaphase images and automatic generation of karyotypes from multiple images with a single click and without human intervention.
39. The software should include multifunction editing tools for selection, deselection, separation of touching and overlapping chromosomes, cutting, joining, deletion, addition of chromosome segments, rotation, movement, and rearrangement of chromosomes in both metaphase and karyotype workspaces.
40. A comprehensive three years warranty should be provided.
41. Software module system support should be continued for five years.
42. Post-installation training of the staff should be provided.

Ajoy Mallik

Dr. Ajoy Mallik
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Susmita Vedamuruganade

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Su. Konde

Principal
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KOHINOOR DUTTA & CO.

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West Bengal, India
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E-mail : kohinoordutta@rediffmail.com
GSTIN : 19AGEPD8462D1ZH

REF. NO. : KDC/RKMVCC/KB/KARYO-MIC/026

Date : 1st June 2026

To,
The Principal,
Ramakrishna Mission Vivekananda Centenary College,
Punyananda Sarani, P.O & P.S. : Rahara,
Dist. : North 24 Pgs.
West Bengal : 700118.

OFFER OF TRINOCULAR RESEARCH MICROSCOPE (UPGRADABLE TO 3 CHANNEL B,G,UV FLUORESCENCE, PHASE CONTRAST WITH DEDICATED HIGH FRAME RATE MICROSCOPIC CAMERA OPERATING HARDWARE, SOFTWARE AND KARYOTYPE SOFTWARE

DEWINTER 'OPTIMA' RESEARCH MICROSCOPE (COMPATIBLE 3 CHANNEL LED FLUORESCENCE B, G & UV FILTERS, TURRET PHASE CONTRAST ATTACHMENT) WITH DEDICATED HIGH FRAME RATE CAMERA AND OPERATING HARDWARE AND KARYOTYPE SYSTEM

Optical System : Infinity Corrected Optical System
Observation Head : Siedetitopf observation head inclined at 30°. 3 Way Beam Splitter for 0:100, 50:50, 100:0 Vertical focusable phototube for Digital Camera attachment. Interpupillary distance from 48mm to 75mm.
Eyepieces : Focusable Extra wide field 10X (paired) F.O.V.25mm.
Infinity Objectives (Fluor) : Infinity Plan : 2X / 0.05. W.D. 30mm
Infinity Plan : 4X/0.13. W.D 12.1mm
Infinity Plan : 10X/0.30. W.D. 10.6mm
Infinity Plan : 20X/0.50. W.D. 2.33mm
Infinity Plan : 40X/0.75. W.D 0.6mm
Infinity Plan : 100X/1.30. W.D. 0.21 mm Oil.
Nosepiece : Reverse angle Sextuple revolving nosepiece with slot for Polariser and DIC Attachment (Optional)
Manual Focusing : Low position co-axial controls on ball bearing guide ways. Fine division 0.001 mm coarse stroke 37.7mm per rotation, fine stroke 0.1 mm per rotation, moving range 24mm.
Swing In/Out Condenser : Swing swing out front lens, abbe condenser NA 0.9/1.25, filter holder & iris diaphragm.
Transmitted Illumination : Transmitted Koehler's illumination with 5W LED light with intensity Regulator.
Fluorescent Attachment : Turret type LED Fluorescence Filter magazine with four Position having Fluorescence light intensity control system. Epi-fluorescence lights source 5W LED lamp. Enable selecting monochromatic and dichromatic LED for light source.
Fluorescence Excitation : Filters : B Excitation (400-470nm). G Excitation (510-560nm) and UV Excitation (330-385nm).



KOHINOOR DUTTA & CO.

B-80, Alabagan, Garia, Kolkata - 700 153

West Bengal, India

M. + 91 9433001330 / 8617733215

E-mail : kohinoordutta@rediffmail.com

GSTIN : 19AGEPD8462D1ZH

Dewinter 'Digi-1200(G) : Parameter 12.3M pixels 1/1.1" CMOS USB3.0 camera
High Frame rate 4K
Camera

General Specifications

Sensor model Sony IMX545-AAQJ-C
Pixel size 2.74 μm x 2.74 μm
Sensor size 1/1.1" Frame rate 28.2fps@4096 x 3000,
100.9fps@2048 x 1500,
100.9fps@1024 x 750
Conversion Gain 2.44 (e-/ADU)
Readout Noise 2.22 (e-)
Full Well 10.0 (ke-)
Dynamic range 72dB
Signal-to-Noise ratio 40 (dB)
Sensitivity 1337mV
Dark current 0.15mV
Gain range 1x-50x
Exposure time 30 μs -15sec
Shutter Global shutter
Binning Software 2x2, 3x3, 4x4
Data interface USB3.0 (USB3.1 GEN1)
Data Format 8bit / 12bit
Power supply Power with USB3.0/ DC12V
Power consumption <2.8W
Temperature Working temperature -10~50°C,
storage temperature-30~70°C
Humidity 20%-80%, no condensation
Size 106mm x 92mm x 96mm
Weight 227g
Lens mount : C-mount
Software : Digicam / Optiscan / Karyoplus
Operating system Win32/WinRT/Linux/macOS/Android

Recommended Computer Specification

: 64bit Operating System
Min. Windows 10
Min. MS-Office 10 Professional (full package with Excel and Access Database compatibility)
Min. i7 processor. ~3GHz
Min. 32GB RAM
Min. 500GB SSD + Hard disk
Nvidia Graphics Card 4GB
Monitor resolution: 1920 X 1080

Accessories

: Dust Cover, Tool Kit, Power Cords, Operating Manual etc.

KARYOTYPING & FISH ANALYSIS SOFTWARE FEATURES:

KaryoPlus Software is an intelligent software for automatic Karyotyping if chromosomes, captured at different banding filters of metaphase image with various edit and revise tools. FISH module provides one click acquisition of fluorescence FISH images with automated, multi-layer combination of images take at different filters.





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GSTIN : 19AGEPD8462D1ZH

Additional Features:

- Automatic, semi-automatic and manual separation of chromosomes.
- Various tools to refine the chromosomes detection.
- Multiple field can be combined for single large filed analysis.
- Various tools and filters for images enhancements.
- Features for annotations, text, arrows, counting, and distance and area measurements function.
- Batch process of metaphase to karyotypes in single click. Software automatically karyotypes, metaphase images without human Intervention immediately.
- Multi-function tool to select, de-select, separate touching and overlapping chromosomes, cut, join, delete, or add parts of chromosomes, rotate or move the chromosomes etc in metaphase as well as in karyotypes workspace.

NETT PRICE TO YOU : Rs. 19,47,000=00 (INCLUDING @ 18% G.S.T. F.O.R. KOLKATA AND SUB AREAS)

Enclosed : Leaflet of Software

COMMERCIAL TERMS & CONDITIONS

PRICES : F.O.R. Destination, West Bengal.
TAXES : G.S.T included on Base Price Rs. 16,50,000=00.
EXCISE : Not applicable.
FREIGHT, PACKING & OTHERS MISC. EXPENSES : Included.
VALIDITY : 180 days.
WARRANTY : Three Years from the date of delivery and same day installation.
MODULE SUPPORT (ONLINE) : Five Years from the date of delivery installation.
DELIVERY : Within 6-8 weeks or Ex-stock from the date of receipt of your order.
PAYMENT : 100% Advance against Proforma Invoice.
INSTALLATION & TRAINING : We will arrange Installation and Training to your staff initially, If required we can give assistance to your staff online or by phone from our Delhi Office.
JURISDICTION : Kolkata.

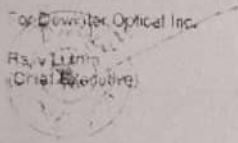


Date : 01.06.2026

PROPRIETARY ARTICLE CERTIFICATE

This is to certify that we M/s. **DEWINTER OPTICAL INC.**, New Delhi is Manufacturer of Microscopes and Microscopic accessories and Developer of Micro Image Analysis Software hereby Certify that '**DEWINTER**' is our **Proprietary Brand** also Offer Model '**OPTIMA**' **System Microscope** and '**DIGI-1200 G**' **High Frame Rate Camera with Karyoplus Software** are our **Proprietary Models**. We also certify that all necessary software require for operating this System having Micro Image Analysis System (MIAS) Software Copyright with us, issued by Govt. of India.

For **DEWINTER OPTICAL INC.**



Authorised Signatory



Dewinter Optical Inc.

Date : 03.04.2026

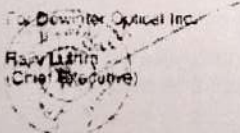
MANUFACTURER AUTHORISATION

This is to certify that we M/s. **DEWINTER OPTICAL INC.**, New Delhi is Manufacturer of Microscopes and Microscopic accessories and Developer of Micro Image Analysis Software hereby authorised M/s. **KOHINOOR DUTTA & CO.**, B-80, Atabagan, Garia Kolkata – 700 153, West Bengal as our Associate Company for Sale and **After Sales Service Backup** within Warranty Period and after Warranty Period against **AMC** or **CMC** of **DEWINTER-BRAND** Microscopes in Eastern Region of India.

They are our Associate Company to sale and service provided to the end user with our technical and spares supports.

They are authorised to quote negotiate business to any Govt., Semi Govt., Universities and Private sectors as well as local dealers on our behalf.

For **DEWINTER OPTICAL INC.**



Authorised Signatory



Dewinter Optical Inc.

Government of India
Copyright Office
Extracts from Register of Copyrights



Dated: 27/10/2005

1. Registration No: SW-2473/2005
2. Name, address and nationality of the applicant: SUNITA LUTHRA W/O MR. RAJIV LUTHRA
23/27, GROUND FLOOR, OLD RAJINDER NAGAR,
NEW DELHI-110 060
INDIAN
3. Nature of applicant's interest in the copyright of the work: OWNER
4. Class and description of the work: SOFTWARE
5. Title of the work: "DEWINTER MIAS/MATERIAL PLUS SOFTWARE
VERSION 4.0"
6. Language of the work: VC++6.0, VB 6.0 AND VC++.NET
7. Name, address and nationality of the author and if the author is deceased, date of his decease: 1.)RINU G.
S/O SHRI R.GOPALAKRISHNA PILLAI, C-4E/72, 2ND
FLOOR, JANAKPURI, NEW DELHI-110 058
2.) GOPAL SINGLA, S/O SHRI BRINDER PAL SINGLA
3.)RAHUL MITTAL, S/O SHRI SUSHIL KUMAR MITTAL
4.) SUKHPREET SINGH, S/O SHRI SAROOP SINGH
32/50, NALA MARKET, WEST PATEL NAGAR, NEW
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DEWINTER OPTICAL INC.
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NAGAR, NEW DELHI-110 008
INDIAN
10. Years and countries of subsequent publications, if any, and names, addresses and nationalities of the publishers: NIL
11. Names, addresses and nationalities of the owners of various rights comprising the copyright in the work and the extent of rights held by each, together with particulars of assignments and licences, if any: AS IN COL.2 ABOVE
12. Names, addresses and nationalities of other persons, if any, authorised to assign or licence of rights comprising the copyright: AS IN COL.2 ABOVE
13. If the work is an Artistic work, the location of the original work, including name, address and nationality of the person in possession of it. (In the case of an architectural work, the year of completion of the work should also be shown) N.A.
14. Remarks:
Diary No. 186/2005-CO/SW
Date of Application: 09/05/2005
Date of Receipt: 24/05/2005

DEPUTY REGISTRAR OF COPYRIGHTS

