EOI No.ICMR/EOI/MPXV/2022 dated 27/07/2022

Expression of Interest (EOI)

Indian Council of Medical Research, New Delhi

invites EoI for

Collaboration for development of In-Vitro Diagnostic (IVD) Kits and Vaccine candidate against MonkeypoxVirus (MPXV)

Indian Council of Medical Research
(Department of Health Research, GoI)
V. Ramalingaswami Bhawan,
P.O. Box No. 4911, Ansari Nagar,
New Delhi - 110029, India

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Letter of Invitation

1. INVITATION OF EXPRESSION OF INTEREST

Indian Council of Medical Research, New Delhi, invites Expression of Interest (EOI) through email from the experienced vaccine manufacturer/ pharma companies/ R&D Institutions/In-vitro Diagnostic (IVD) kit manufacturers for joint collaboration in the following two categories–

I. Development of vaccine candidate against Monkeypox disease

II. Development of diagnostic kits for diagnosis of Monkeypox virusinfection.

The EOI Document containing the details of qualification criteria, submission details, brief objective & scope of work and evaluation criteria etc. the same can be downloaded from the ICMR website (https://www.icmr.gov.in). Due to the current COVID-19 pandemic situation, the EOI may be submitted through email to jitendra.narayan@gov.in . Shortlisted firm(s)/organization(s) shall only be contacted for the further process of finalization of agreement.

Schedule for the Proponents is as under:

EOI Document Number	ICMR/EOI/MPXV/2022 dated 27/07/2022
Date of Publication	Date: 27/07/2022
Last date of submission	Date: 10/08/2022

Note: EoI must be submitted separately for each category, whichever is selected by the interest of the firm.

ICMR reserves the right to cancel this EOI and/ or invite afresh with or without amendments, without liability or any obligation for such EOI and without assigning any reason. Information provided at this stage is indicative and ICMR reserves the right to amend/add any further details in the EOI, as may be desired by the competent authority at ICMR, which shall be duly notified on its website.

1. Background

The Indian Council of Medical Research (ICMR), New Delhi, the apex body in India for the formulation, coordination and promotion of biomedical research, is one of the oldest medical research bodies in the world. The ICMR has always attempted to address the growing demands of scientific advances in biomedical research on the one hand and to the need of finding practical solutions to the health problems of the country, on the other.

ICMR-National Institute of Virology (ICMR-NIV), Pune, one of the Institutes of the Indian Council of Medical Research (ICMR), New Delhi has isolated the Monkeypox virus, which is being propagated on specific cell lines under the biosafety laboratory conditions. These isolates were further purified and characterized. Tissue culture infective dose ($TCID_{50}$) has been estimated and bulk propagation of the virus stock has been achieved.

ICMR reserved all the Intellectual Property Rights and Commercialization rights on the Monkeypox virus isolates and its method/ protocols for purification, propagation and characterization. ICMR is lawfully entitled to enter into any form of non-exclusive agreements with experienced Drug/Pharma/Vaccine/IVD manufacturers through defined agreement for undertaking R&D as well as manufacturing activities using characterized Monkeypox virus isolates of ICMR for development of vaccine against Monkeypox disease or Diagnostic kit for diagnosis of Monkeypox virus, hereinafter referred to as the 'Product(s)'.

2. Objective

ICMR is willing to make available Monkeypox Virus strain/isolates for undertaking R&D, validation as well as manufacturing activities using characterized isolates of Monkeypox virus under the joint collaboration in the public-private partnership mode for the following two activities–

2.1 Development of vaccine candidate against Monkeypox disease.

2.2 Development of diagnostic kits for diagnosis of Monkeypox virus infection.

3. Broad Scope of Work

i. ICMR is in possession of characterized Monkeypox Virus isolates/strain and is thereby willing to collaborate with experienced vaccine manufacturer as well as the *in-vitro* diagnostics (IVD) manufacturers on **Royalty** basis on fixed term contract condition for undertaking R&D and manufacturing activities for Joint development and validation of

potential vaccine candidate against Monkeypox disease, development of diagnostic kit (IVD), for detection of the monkeypox virus leading to Product development.

ii. The firm(s)/organization(s) would be granted rights to undertake further R&D, manufacture, sell, and commercialize the end product(s) **'vaccine candidate/IVD'** against the Monkeypox disease under defined Agreement.

iii. The Agreement, following EoI will be executed on "Non-Exclusive" basis with single/multiple firms, due to the extensive demand of Monkeypox virus isolates which is being envisaged to develop vaccine candidates/IVD kits.

iv. ICMR-NIV has in its possession Monkeypox virus isolates envisaged to be useful for development of a vaccine against Monkeypox disease and development of IVD kits. ICMR-NIV has expertise in various techniques, methods and information relating to said virus strain/isolate. The scientific information available with ICMR experts could be utilized for development of vaccine, drug, IVD and other R&D activities etc.

v. ICMR-NIV will provide expert guidance & technical support on the R&D and product development, in all phases as per the terms of the Agreement to be executed with the firm. Such technical oversight by ICMR-NIV would accelerate the development of the Product.

vi. ICMR would provide technical support in development of IVD kits including serology assays and molecular kits and will also facilitate the validation of kit as per the terms & conditions under Agreement.

vii. The process/ Product developed by firm(s)/organization(s) during the course of development of the Product encompassing IP, shall be owned jointly by ICMR and firm(s)/organization(s). IP shall mean patents, rights to inventions, copyright and related rights, moral rights, rights in designs, rights in trademarks, rights to preserve the confidentiality of information (including know-how and trade secrets) and any other intellectual property rights, in each case whether registered or unregistered and including all applications (or rights to apply for and be granted), divisional, continuations, continuations-in-part, reissues, renewals or extensions of, and rights to claim priority from, such rights and all similar or equivalent rights or forms of protection which subsist or will subsist now or in the future in any part of the world regarding the Product(s) and shall include without limitation, the Technology (hereafter defined) Patents and

Trademarks, developed/ created for product(s) pursuant to this EOI through ICMR support;

4. Intellectual Property Rights

ICMR National Institute of Virology (NIV), Pune one of the constituent Institutes of the Indian Council of Medical Research (ICMR), New Delhi, has isolated Monkeypox virusisolates and is the owner of the said TECHNOLOGY including any underlying Intellectual Property(ies) and Commercialization rights. By virtue of financial support and research endeavor provided by ICMR, legally possess the rights and authority to retain full or part of the 'TECHNOLOGY' by itself or to assign at its discretion full or part of the 'TECHNOLOGY' including any patent(s) or intellectual property rights(s) on the invention(s) arising out of such endeavors, and/or ICMR is lawfully entitled to enter into any form of Agreement with selected vaccine/ diagnostic kits manufacturer(s) including transfer of the 'TECHNOLOGY'.

5. Royalty Payouts

Interested companies/manufacturers with demonstrated capabilities in vaccine manufacturing/ Diagnostic kit development are invited to join hands with ICMR for further development & validation of vaccine candidate and diagnostic kits (IVD).

The manufacturers/companies interested in this collaboration may quote **Royalty** not less than 5% (five percent) on **Net Sales** of the **END PRODUCT** on half yearly basis as entered in the books of account maintained by Company/Manufacturer, up to 30th September and up to 31st March respectively every year regularly and punctually and in any event not later than the last day of April and last day of October immediately following in every such year provided that the liability of the Company/Manufacturer to pay royalty shall accrue upon the commencement of the commercial sale of the '**Product'** manufactured at the plant, as per the terms of "**ICMR-Technology Transfer and Revenue Sharing Guidelines-2021"** and as per the amendments approved by the competent authority from time to time.

In the event of default in payment of royalty as above, interest @ 12% (twelve per cent) per annum on the **Royalty** due shall be charged for the first six months. If default persists for more than six months interest at similar rate will be charged on the accrued interest also from the due dates of payments till realization/recovery of such amounts by the ICMR. Taxes and levies, as made applicable by the Government, shall be charged at the time of payments made to ICMR over and above the payments that shall be applicable as per terms of specified license Agreement

to be executed with selected companies.

"NET SALES" shall mean Revenue from sales of goods or services by all ICMR grantees/Licensees/ Sub-licensee(s) base on the net sales realization from operations, net of discounts and indirect taxes as defined by cost Accounting Standards-24 and certified by the Chartered Accountant.

6. Validity of contract

i. An Agreement shall be executed with Company/Manufacturer to decide conditions for execution of this collaborative activity. The Agreement shall have a defined time line, which will be decided mutually by both the parties, considering the R&D requirements for product development.

ii. The Agreement shall be valid from the EFFECTIVE DATE and subject to covenants and conditions herein contained and shall remain in force for a specific period which shall not be less the twenty (20) years or shall be decided mutually with the approval of competent authority, commencing from the accrual of Company's obligation to pay **Royalty** to ICMR, after the commercialization of the Product (the "Term"). After the end of term of the Agreement, the Product(s) will be royalty free.

7. Details of documents to be furnished

Proponents are requested to go through all pre-qualification requirements, scope of work for execution & requirements with respect to technical / financial capabilities for acceptance and submission of documents for verification by ICMR.

Documents to be furnished are:

i. Authorization Letter (Format – 1)
ii. Declaration - Expression of Interest (Format – 2)
iii. Undertaking with regard to Blacklisting (Format-3)
iv. Undertaking with regard to laboratory facilities (Format – 4)
v. Undertaking with regard to Non-Litigation (Format – 5)
vi. Production Capacity Undertaking (Format-6)
vii. Royalty Offer (Format-7)
viii. EOI document with each page duly stamped and signed by the Authorized signatory.
ix. Supporting documents, as mentioned in Format-2

x. MSME Certificate (if applicable)

xi. Concept note on business plan

xii. Registration Certificate of Company/ organization etc.

xiii. Any other information which proponent may like to provide.

ICMR reserves the right to call for any clarifications confined in the broad scope, wherever such a clarification become necessary for proper judgment in evaluation.

8. Rejection Criteria

The application is liable to be rejected if:

i. The proposal is not submitted as per the requirements indicated in the EOI.

ii. Not in the prescribed format.

iii. Not properly stamped and signed as per requirements.

iv. Received after the expiry of due date and time.

v. All relevant supporting documents are not furnished with the Pre-Qualification criteria.

vi. The proposal shall be substantially responsive without any material deviation, failing which the proposal shall be summarily rejected.

9. Evaluation Methodology

Screening of EOIs shall be carried out as per Pre-Qualification criteria (Section 10) mentioned in the EOI document and based on verification of documents submitted. Only shortlisted proponents shall be contacted for execution of the Agreement.

10. Pre-Qualification Criteria (PQC)

The following will be the minimum Pre-Qualification Criteria (PQC). Responses not meeting the minimum PQC will be summarily rejected and will not be evaluated further:

Sl. No.	**Pre-Qualification Criteria**	**Supporting copy of documents required**(All documents must be self-attested by the authorized person of the proponent)
1	The proponent shall be a legal entity, registered as Institution/Company/ LLP/ Society/ partnership firm/ proprietorship firm under respective acts in India.	Registration of firm/organization/Company Incorporation Certificate from ROC/Partnership deed etc. whichever is applicable.

2	The proponent must be registered in India with taxation and other administrative authorities.	GST Registration or GST exemption certificate/ PAN Card.
3	The proponent should have prior experience in R&D and manufacturing of vaccine/ drug/ pharma product/IVD for any infectious disease and must have marketed such products in three (3) immediate preceding years.	Research paper/Pamphlet / brochure of the product/DCGI License for existing product.
4	The proponent must be profitable and should not have incurred overall loss in past three (3) years. (Applicable on commercial firms/organizations only)	Certificate from the Chartered Accountant of the Organization/ Audited Balance sheets for last three financial years or Income Tax return.
5	The proponent should have good track record and not black-listed by any Central / State Government / Public Sector Undertaking, Govt. of India, at least in three (3) immediate preceding Years. (Applicable on commercial firms/organizations only)	Undertaking on the Letter Head of the Proponent duly signed & Stamped by Authorized Signatory (As per format – 3).
6	The proponent should have a registered office and manufacturing unit in India	Registration copies of both.
7	The proponent should have functional laboratory to carryout R&D for the product development	Undertaking on Proponent's Letter Head, duly signed and stamped by the Authorized Signatory (As per format –
8	The proponent should not be involved in any major litigation that may have an impact of affecting or compromising the conditions required under this EOI and in the MoU.	Undertaking on Proponent's Letter Head, duly signed and stamped by the Authorized Signatory (As per format – 5)
9	GMP and ISO Certification (applicable on commercial firms/organizations only)	Registration copies of both.
10	Capacity to produce at least one lakh doses per week	Undertaking (As per format – 6).
11	Royalty offer	(As per format – 7)
12	Business Plan	A brief concept note on planning & execution, product development, clinical trials/ validation, regulatory affairs, production, marketing etc. (not more

11. Disclaimer

i. ICMR shall not be responsible for any late receipt of applications for any reasons whatsoever.

ii. ICMR reserves the right to cancel the EoI without assigning any reasons thereof.

iii. ICMR may relax or waive any of the conditions stipulated in this document as deemed necessary in the best interest of the ICMR, without assigning any reasons thereof.

iv. To include any other item in the Scope of work at any time after consultation with proponents or otherwise.

12. Contacts

In case of any clarification required, please contact:

For Scientific issues-
Dr. Pragya Yadav, Scientist-F, ICMR-NIV, Pune, Email: - hellopragya22@gmail.com;

For Administrative issues-
Dr. R. Lakshminarayanan, DDG (Admin), ICMR HQ, New Delhi
Email: - lakshminarayanan.r@icmr.gov.in

Format-1

Authorization Letter
(To be submitted on Agency's Letter Head)

To,

The Director General,
Indian Council of Medical Research,
Ansari Nagar, New Delhi.

Subject: Letter for Authorized Signatory

Ref: EOI No. ICMR/EOI/MPXV/2022 dated

Sir,

This has reference to your above-mentioned Expression of Interest (EOI) for Collaboration in R&D and manufacturing, commercialization of IVD Kits/Vaccine candidate *(only tick whichever is applicable)* against Monkeypox disease.

Mr./Ms./Mrs./Dr……..is hereby authorized to submit the EOI documents and participate in the processing on behalf of M/s……. (Company's Name)……., who's signature is below.

(Specimen Signature of Representative)

Date:
Place:

Yours faithfully,

(Signature of the Authorized signatory)
Name:……..
Designation:……..
Seal:……..

Format-2

Expression of Interest

(To be submitted on Agency's Letter Head)

To,

The Director General,
Indian Council of Medical Research,
Ansari Nagar, New Delhi.

Subject: Submission of Expression of Interest (EOI) for joint collaboration in R&D and manufacturing, commercialization of IVD Kits/Vaccine candidate *(only tick whichever is applicable)* against Monkeypox disease.

Ref: ICMR/EOI/MPXV/2022dated

Sir,

The undersigned having read and examined in detail all the EOI documents pertaining to your transfer of technology, and do hereby express the interest to undertake the research & development/ commercialization /manufacture/ sell of the product as mentioned in the EOI document. The details of the Company and contact person are given below:

Name of the Proponent	
Address	
Name, designation & address of the person (to whom all communications shall be made)	
Telephone No. (with STD code)	
Mobile No. of the contact person	
Email ID of the contact person	

The following documents are enclosed:

Sl. No.	**Documents required**	**Type of document**	**Page**
1	Company Incorporation Certificate from ROC/Partnership deed etc.		
2	GST Registration or GST exemption certificate/ PAN Card.		
3	DCGI/CDSCO license for the existing products available in the market		

4	Certificate from the Chartered Accountant of the Organization/ Audited Balance sheets for last three financial years, Income Tax return.		
5	Proof of registered office and manufacturing Unit in India.		
6	GMP and ISO Certification. Registration copies of both		
7	Authorization Letter	As per format – 1	
8	Undertaking on the Letter Head of the Proponent duly signed & Stamped by Authorized Signatory	As per format – 3	
9	Undertaking on Proponent's Letter Head, duly signed and stamped by the Authorized Signatory	As per format – 4	
10	Undertaking on Proponent's Letter Head, duly signed and stamped by the Authorized Signatory	As per format – 5	
11	Undertaking for declaring capacity to produce at least one lakh doses per week	As per format – 6	
12	Royalty Offer	As per format – 7	
13	MSME Certificate (if have any)		
14	Business Plan	A brief concept note on planning & execution, product development, clinical trials/ validation, regulatory affairs, production, marketing etc. (not more than 5 pages)	

I/we hereby declare that my/our EOI is made in good faith and the information contained is true and correct to the best of my/our knowledge and belief.

Thanking you,

Yours faithfully,

(Signature of the Authorized signatory)
Name:
Designation:
Seal:
Place:

Format-3

Undertaking with regard to blacklisting
(To be submitted on Agency's Letter Head)

To,

The Director General,
Indian Council of Medical Research,
Ansari Nagar, New Delhi.

Subject: Undertaking regarding Blacklisting / Non-Debarment.

Ref: ICMR/EOI/MPXV/2022dated

Sir,

It is hereby confirmed and declared that M/s……has not been blacklisted / debarred by any Government Department / Public Sector Undertaking / or any other agency for which works/assignments/services have been executed / undertaken.

Yours faithfully,

(Signature of the Authorized signatory)
Name:
Designation:
Seal:
Place:

Format-4

Undertaking with regard to laboratory facility

(To be submitted on Agency's Letter Head)

To,

The Director General,
Indian Council of Medical Research,
Ansari Nagar, New Delhi.

Subject: Undertaking regarding laboratory infrastructure.

Ref: ICMR/EOI/MPXV/2022dated

Sir,

It is hereby confirmed and declared that M/s…..... do have adequate laboratory infrastructure (equipped laboratory facility) and experienced staff/skilled manpower to undertake R&D and product development that is Vaccine candidate/IVD Kit *(only tick whichever is applicable).*

Yours faithfully,

(Signature of the Authorized signatory)
Name:
Designation:
Seal:
Place:

Format-5

Undertaking with regard to Non-Litigation
(To be submitted on Agency's Letter Head)

To,

The Director General,
Indian Council of Medical Research,
Ansari Nagar, New Delhi.

Subject: Undertaking regarding Litigation.

Ref: ICMR/EOI/MPXV/2022dated:

Sir,

It is hereby confirmed and declared that M/s…..... and owner of the firm / Board of Directors, do not have any litigation / arbitration pending/under trial in court.

Yours faithfully,

(Signature of the Authorized signatory)
Name:
Designation:
Seal:
Place:

Format-6

Undertaking with regard to production capacity

(To be submitted on Agency's Letter Head)

To,

The Director General,
Indian Council of Medical Research,
Ansari Nagar, New Delhi.

Subject: Undertaking with regard to production capacity.
Ref: ICMR/EOI/MPXV/2022dated

Sir,

It is hereby confirmed and declared that M/s…… does have the capacity in all mean (including infrastructure, fund, material, staff etc.) for manufacturing of vaccine doses/IVD kits, min. 01 (one) lakh unit per week.

Yours faithfully,

(Signature of the Authorized signatory)
Name:
Designation:
Seal:
Place:

Format-7

Undertaking for Royalty

(To be submitted on Agency's Letter Head)

To,

The Director General,
Indian Council of Medical Research,
Ansari Nagar, New Delhi

Subject: Undertaking for Royalty.
Ref: ICMR/EOI/MPXV/2022dated

Sir,

It is hereby confirmed that M/s ……, agrees to pay a **Royalty** of ……. % (……. Percent) to the ICMR to be calculated against the **Net Sales** done with respect to the product developed under this collaboration.

(As per the terms of ICMR-Technology Transfer and Revenue Sharing Conditions, the **"NET SALES"** shall mean Revenue from sales of goods or services by all ICMR grantees/Licensees/ Sub-licensee(s) base on the net sales realization from operations, net of discounts and indirect taxes as defined by cost Accounting Standards-24 and certified by the Chartered Accountant.

Yours faithfully,

(Signature of the Authorized signatory)
Name:
Designation:
Seal:
Place:

SCHEDULE – (A)

Joint collaboration for development of vaccine against Monkeypox Disease

1. **About the Technology/Product/Process:**

The Monkeypox virus (MPXV), belonging to Orthopoxvirus genus and Poxviridae family, has been endemic in Central and West Africa since 1970, and now have shown the emergence in various non-endemic countries in 2022. It is a viral zoonotic infection, meaning that it can spread from animals to humans. It can also spread from person to person.There is no specific vaccine against Monkeypox but a smallpox vaccine was shown to be protective against Monkeypox in the past, current data on the effectiveness of newer smallpox/Monkeypox vaccines in the prevention of Monkeypox in clinical practice and in field settings are limited.

To overcome this problem, ICMR took the farsighted initiative for development of a new vaccine candidate which is intended to have higher efficacy and safety of the recipients. ICMR NIV Pune has isolated and characterized MPXV isolate during the current outbreaks of MPXV in India. The genomic analysis was carried out with the whole genomes of MPXV isolated was carried out which indicated West African lineage of virus that is current outbreak strain circulating globally in other WHO regions. Genome-wide sequence analysis of the recent outbreak strain of MPXV and other monkeypox viruses shows a very high conservation, with 97.9% (protein-based) and 97.8% (nucleotide-based) sequence identity.

Similarly, there are no indigenous enzymelinked immunosorbent assays (ELISA) IgM/IgG available to qualitatively analyze Human Monkeypox Virus (MPV) in Human serum, plasma. Very few ELISA kits are available which are costly and needs to be imported. To undertake serologic surveys in human population there is need for development of cost-effective ELISA kits specific for Monkeypox.

With the MPXV isolated from the current outbreak it’sprescient to develop variety of molecular assays with precise genetic targets for accurate diagnosis of Monkeypox virus infection. Using the recent isolate in development of IVD may have higher sensitivity and specificity in the outbreak patient.

2. **Need and utility of invention:**

Through several observational studies vaccination against smallpox was demonstrated to be about 85% effective in preventing Monkeypox. At the present time, the original (first-generation) smallpox vaccines are no longer available to the general public. While one vaccine (MVA-BN) and one specific treatment (tecovirimat) were approved for Monkeypox, in 2019 and 2022 respectively, these countermeasures are not yet widely available. A still newer vaccine based on a modified attenuated vaccinia virus (Ankara strain) was approved for the prevention of monkeypox in 2019. This is a two-dose vaccine for which availability remains limited. Scientific studies are now underway to assess the feasibility and appropriateness of vaccination for the prevention and control of Monkeypox. Some countries have, or are developing, policies to offer vaccine to persons who may be at risk such as laboratory personnel, rapid response teams and health workers.

Therefore, it may be appropriate to develop a new MPXV vaccine candidate using current circulating strains. With availability of fewer diagnostic kits for diagnosis of Monkeypox virus infection it's prudent to initiate the development of the cost effective diagnostic assays.

3. **Scope for collaboration:**

This collaboration will open up scope for development of new MPXV vaccine candidate and diagnostic kits for diagnosis of Monkeypox virus infection.

4. **Role of ICMR**

4.1 ICMR would provide technical support through team of experienced scientist in study planning, product development, development of clinical trial protocol, results/data analysis, outcome assessment, safety & efficacy assessment, product improvement, and other, if deemed fit upon the mutual understanding between ICMR and collaborative company.

4.2 ICMR through its Institutes would provide support and facilitation to conduct the clinical trial of new vaccine candidate in India through its Affiliates/ Institutes, in collaboration with company/institutions in a professional and mutually agreed-upon manner and timelines, which will be decided later under the Agreement.

4.3ICMR would provide technical support in development of IVD kits including serology assays and molecular kits and will also facilitate the validation of kit as per the terms & conditions under Agreement.

5. **Role of company**

5.1. The Company will undertake the research & development, manufacturing, and commercialization of Monkeypox vaccine/IVD Kit.

5.2. The partnering company should provide necessary infrastructure and depute experienced/skilled manpower.

5.3. The company will share the technical data with ICMR and participate in all discussions in a professional and mutually agreed-upon manner.

5.4. The company will allow authorized personnel/scientist/team of ICMR to participate in R&D activities and to carry out specific project activities as envisaged under this EoI and subsequent MoA.

5.5. The company shall be responsible for obtaining all the regulatory approvals required starting from R&D for product development to its commercialization.

6. **Methodology/process:**

ICMR-NIV Pune has isolated Monkeypox virus using Vero cells. Confirmation of the isolates was performed using next generation sequencing. These isolates were further purified and characterized using the complete genome sequencing. Bulk preparation of the virus stock was undertaken and Tissue culture infective dose ($TCID_{50}$) was estimated. This virus(inactivated)can be used for the development/validation of diagnostic assays for Monkeypox virus infection.

7. **Envisaged outcome:**

Development of a safe and effective Monkeypox vaccine for eliciting strong, durable, and broad immune responses towards robust clinical protection against Monkeypox virus infection as well as diagnostic kits for diagnosis of Monkeypox virus infection.

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