

Government of India

BHABHA ATOMIC RESEARCH CENTRE
Food Technology Division

BARC/FTD/OPA/120813

Date: ~~20/11/20~~
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Sub: 16 s rRNA metagenomic analysis for fermented food samples

Sealed quotations are invited for and on behalf of President of India for 16 s rRNA metagenomic sequencing and analysis for fermented food samples. The general description and scope of the work, terms and conditions are as per the Annexure. The sealed quotation should reach on or before 7th Dec 2020 (till 5.30 pm) on the address "Head Food Technology Division, Attn: N. Mallikarjunan., R.No. 17, Food technology Division, FIPLY, Bhabha Atomic Research Centre, Mumbai 400094" by speed post. Kindly quote the reference number and due date on the envelop.

N. Mallikarjunan

Annexure

Sr. No.	Description of Work	Qty/Size
	<p>16 s rRNA metagenomic sequencing and analysis for fermented food samples (Illumina Sequencing Platform)</p> <ol style="list-style-type: none"> 1. DNA QC by Agarose gel electrophoresis 2. 16S Metagenome V3 Region Library Preparation 3. Sequencing on Illumina Hi-Seq Platform (150X2 chemistry) to generate 0.2-0.3M PE Reads per sample 4. NGS Standard Analysis of 16S Genome per Sample <p>Bioinformatics analysis includes below deliverables-</p> <ol style="list-style-type: none"> 1. Analysis Reports (sample wise and comparative) 2. Rarefaction Curve 3. Krona (sample wise) 4. Piechart 5. Comparative reports based on relative abundance values. 6. Heatmap – at 6 taxonomic levels for the top classified taxa. 7. Stacked column plot – at 6 taxonomic levels for the top classified taxa. 8. PCoA 9. PICRUSt Functional Analysis(KO,COG) Reports <p>Methodology of Data Delivery- FTP (File Transfer Protocol)</p>	8

: Specifications for 16 s rRNA metagenomic sequencing and analysis for fermented food samples

1. Technology to be used: Illumina Hi-Seq/Next-Seq Platform
2. Application: 16S Metagenome
3. Sample Type: Fermented Products will be given.
4. **Library Type: Only V3 Metagenome Library**
5. **Read Length: 150 bp for Illumina Hi-Seq/Next-Seq**
6. **Bidder need to generate minimum 0.2-0.3 million reads on Illumina Hi-Seq /Next-Seq Platform**
7. Quality Control should be done as per following criteria;
8. DNA to be extracted from fermented products and Quality control of DNA Samples to be checked using Agarose Gel Electrophoresis and Nanodrop/Qubit Fluorometer
9. 16S Metagenome library to be prepared as per standard procedure; Library to be prepared separately for each biological replication, indexed, and multiplexed and to be run as a single sample for biological replicates (if required).



10. Detailed Technical note should be provided for Bioinformatics Analysis:

Bioinformatics Analysis:

- A. Analysis Reports (sample wise and comparative)
 - B. Rarefaction Curve
 - C. Krona (sample wise)
 - D. Pie chart
 - E. Comparative reports based on relative abundance values.
 - F. Heat map – at 6 taxonomic levels for the top classified taxa.
 - G. Stacked column plot – at 6 taxonomic levels for the top classified taxa.
 - H. PCoA
 - I. PICRUSt Functional Analysis(KO,COG) Reports
11. Data should be delivered through secured server & HDD only. To maintain data confidentiality, firm should not write data in CDs/DVDs.
 12. Bioinformatics Training to be conducted during Analysis work
 13. Establishment of firm: Firm should be established in India 10 years before with NGS lab and experience in handling NGS projects and successful completion (Testimonial should be provided).
 14. Time lines to complete the project with complete analysis should be 6-8 weeks from the date of sample receipt
 15. The details of progress of experiment will be intimated to the customer/scientist and further processing in case of any issues will be based on the instructions of the customer only.
 16. Failure to submit quotation as per the technical specification may deprive the concerned firm from consideration.
 17. The sample in any form will not be taken outside India for any analysis and the experiments will be conducted within the country. Bidder should provide in house installation certificate
 18. Acknowledgement letter given by any scientist who had used your services shall be included.
 19. The company should have good experience/ record in conducting such experiments before with proof of publications and or certificate given in writing.
 20. Genomics lab: Service Provider lab should be certified by Illumina, ISO for lab process. Original Illumina CS Pro certified service provider certificate should be provided along with quotation. Certified labs would be given preference over non certified labs
 21. DAE-BARC reserves right to disqualify any bidder for without certifying any reason.
 22. Proof of Publications: Minimum 500+ publications should be cited for NGS and Analysis.
Proof of lab facility: Sample should have processed within India and Illumina Hi-Seq/Next-Seq Installation certificate should be provided.

N. J. J.

1. Confidentiality clause:-

I Confidentiality:-

No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as "Proprietary" in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

This clause shall apply to the sub contractors, consultants, advisers or the employees engaged by a party with equal force.

II "Restricted information" categories under Section 18 of the Atomic Energy Act 1962 and "Official Secrets" under Section 5 of the Official Secrets Act 1923:-

Any contravention of the above-mentioned provisions by any contractor, sub-contractor, consultant adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

II Prohibition against use of BARC's name without permission for publicity purposes:-

The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public media like Press, T.V. or Internet without the prior written approval of BARC.

20/11/2012