



राष्ट्रीय पादप जीनोम अनुसंधान संस्थान

(जैव प्रौद्योगिकी विभाग, विज्ञान एवं प्रौद्योगिकी मंत्रालय, भारत सरकार का स्वायत्त अनुसंधान संस्थान)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH

(An Autonomous Institution of the Department of Biotechnology, Ministry of Science and Technology, Government of India)

अरुणा आसफ अली मार्ग, पो. बाक्स नं. 10531, नई दिल्ली-110067

Aruna Asaf Ali Marg, Post Box Number 10531, New Delhi-110067

संख्या: 9/2015/रा.पा.जी.अनु.सं./एस एण्ड पी

दिनांक: 16/5/2014

विषय / Subject: मुहरबंद कोटेशन का निमंत्रण / Invitation of Sealed Quotations

Sir,

We are interested to **outsourcing of RNA sequencing i.e. whole genome transcriptome sequencing of twelve rice samples** as per the following specifications for our Institute.

Technical specifications and requirements

1. Required mRNA library preparation and transcriptome sequencing of twelve rice samples using Illumina platform with 2x100bp paired-end sequencing chemistry.
2. Need to generate approximately read length of more than 100 bp paired-ends, 25-30 million reads per sample that should give at least 6 Gb clean high-quality sequence data for each sample (with less than 5% clonal/duplicated reads).
3. Need to carry out complete Bioinformatics analysis for genome assembly and mapping of transcript sequence data generated for twelve rice samples which includes:
 - a. Quality checking of sequence reads, filtering of high-quality sequence data and *de novo* assembly of contigs.
 - b. Mapping/aligning of sequence reads onto the rice reference genome (MSU pseudomolecule version 7.0; <http://rice.plantbiology.msu.edu>) and generation of high-quality genome assembly and sequences.
 - c. Structural and functional annotation of sequences (e.g., identification of protein-coding genes, CDS, UTRs, signal peptides, peptide cleavage sites, novel transcripts, and gene ontology, enrichment and pathway analysis)
 - d. Estimation of abundance of assembled transcripts and identification of novel splice variants of genes
 - e. Expression quantification by FPKM and differential gene expression profiling
 - f. Sequence variants like SSRs and SNPs discovery and their detail structural and functional annotation on genes
 - g. Hierarchical clustering of differentially expressed genes (DEGs) to see if the DEGs are functionally similar or not, assigning GO terms to DEGs, chromosomal alignment of DEGs clusters to see if genes with similar expression have similar location and regulation pattern
 - h. Gene coverage (ratio of bases of gene covered by the unique reads / total bases of that base)
 - i. Identification of specific/preferential genes and splicing (both *cis* and *trans*).
4. Payment terms and conditions, confidentiality of project and a previous at least three years' work experience in transcriptome sequencing with publication proofs is necessary in details.
5. Details of all protocols/methods followed for sequencing, and raw as well as high-quality assembled sequence data should be provided in appropriate storage devices.
6. Bioinformatics analysis should be carried out by an experienced person (with publications on the same to his/her credit) who should have a Ph. D. degree in the relevant subject.

Cont. 2

7. Details of analysis and regular up-dates of work progress should be provided to the respective scientist.
8. Bioinformatics and post-analysis, which should not be limited to the above mentioned descriptions, some of the requirement may change depending on the initial leads, bioinformatics support is required until manuscript preparation and even to satisfy the reviewer's comment, if any.
9. Vendor should provide in-house Illumina Hiseq 2000/2500 facility certificate explicitly on the name of Company (it should not be in lease or a tie up).
10. Samples or data should not be outsourced outside India at any stage.

You are therefore requested to please send your offer along with a copy of PAN & Tin no. certificate and maximum discount that you will be able to offer in a **Scaled Envelope** duly super-scribed on top of envelope as "Quotation for **"Outsourcing of RNA Sequencing"** so as to reach to the undersigned latest by **02/06/2014 (3:00 p.m.)**, the same shall be opened on same day at **3:30 p.m.**.

धन्यवाद,

(कय एवं भण्डार अधिकारी)

Encl: Terms & Conditions (Annex – I)

Annexure – I

नियम और शर्तें:

- The quotations must accompany a Demand Draft amounting to ₹ 20,000/- (Rupees Twenty Thousand only), being the EMD in the name of Director, NIPGR, New Delhi.
- The rates quoted by you for the said services shall be valid for a period of one year from the date of award letter and no requests for any increase in the rates will be entertained during the contract period. No advance payment will be made. In addition to this, Service Tax shall not be payable on the said services since NIPGR is exempt from payment of Service Tax as per GOI, Ministry of Finance, Department of Revenue, Central Board of Excise & Customs, Tax Research Unit Circular No. B1/14/2013-TRU dated September 19, 2013.
- The Director, NIPGR reserves the right to amend any of the terms and conditions contained in the Tender Document or reject any or all applications (offers) or not to award the contract to the lowest bidder without giving any notice or assigning any reason thereof. The decision of the Director, NIPGR in this regard will be final and binding.
- The successful tenderer shall be required to deposit an interest free amount equal to 10% of the tender value of the contract in the form of Demand draft as Performance Security after adjusting the EMD, within 10 days from the date of issue of award letter, which will be released after expiry of the defect liability period of the contract.
- The bids will be accepted in respect of those companies having successfully completed one similar work costing not less than ₹ 8,00,000/- or two similar works each costing not less than ₹ 5,00,000/- or three similar works each costing not less than ₹ 4,00,000/- and having annual financial turnover of ₹ 10,00,000/-, during the last three financial years ending March 2014. Similar works means, work related to sample sequencing using next generation sequencing technology in Government National Laboratories / Institutions / Universities and reputed Organizations, engaged in the area of Research Development. Intending tenderers must enclose documents such as Completion Certificates and Work / Supply orders / certified Balance Sheet / ITR Returns for three last financial years.

(कय एवं भण्डार अधिकारी)