



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: 9/2016-17/रा.पा.जी.अनु.सं./एस एण्ड पी

दिनांक: 14/6/2016

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

Sealed Tenders are invited on behalf of Director, NIPGR from the authorized service providers of **RNA Sequencing i.e. whole genome transcriptome sequencing of four samples**, as per the following specifications in two bid system for our Institute.

**Technical specifications and requirements**

1. Required mRNA library preparation and transcriptome sequencing of four 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, 60 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).

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 cleavages 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).

You are therefore requested to please send your offer in **two bid system** indicating the maximum discount offered. The quotations must accompany a Demand Draft amounting to ₹ 4,000/- (Rupees Four Thousand only), being the EMD in the name of Director, NIPGR, New Delhi and must be sent in a **Sealed Envelope** duly super-scribed on top of envelope as "**Quotation for Bisulphite Sequencing**" so as to reach to the undersigned latest by **04/7/2016 (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)

नियम और शर्तें:

- The quotations must accompany a Demand Draft amounting to ₹ 4,000/- (Rupees Four Thousand only), being the EMD in the name of Director, NIPGR, New Delhi. In the event of non fulfillment of work awarded / withdrawal of quotations, the EMD will be forfeited by the Institute. The EMD shall be released upon completion of work to the satisfaction of Indentor Scientist.
- The rates quoted by you for the said services shall be valid for a period of one year from the date of issue of Work Order and no requests for any increase in the rates will be entertained during the contract period. No advance payment will be made.
- 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.
- Payment will be released after completion of work to the satisfaction of the Indentor Scientist and after deduction of tax at source as per Rules.
- The bids will be accepted in respect of those companies having successfully completed one similar work costing not less than ₹ 1,60,000/- or two similar works each costing not less than ₹ 1,00,000/- or three similar works each costing not less than ₹ 80,000/- and having annual financial turnover of ₹ 2,00,000/- during the last three financial years. Similar works means, work related to sequencing / analysis of similar samples 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)