



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: 9/2015-16/रा.पा.जी.अनु.सं./एस एण्ड पी

दिनांक: 20/7/2015

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

Sealed Tenders are invited on behalf of Director, NIPGR from the authorized service providers for **ChIP-sequencing**, as per the following specifications for our Institute.

Technical specifications and requirements

1. The work will involve library preparation and Sequencing of ChIPed DNA of 24 rice samples using Illumina platform with 90-100bp paired-end Sequencing chemistry.

2. Need to generate minimum of 55 million high quality reads for each library that should give at least 5 GB clean high quality filtered data. The number of clonal duplicates should be less than 5%.

3. Need to carry out following bioinformatics analysis of Sequence data generated for all the samples which includes:

- Mapping/Alignment of ChIP-Seq reads onto the reference (Nipponbare) Rice Genome Annotation Project TIGR/MSU version 7.0 and cultivar specific assembled pseudomolecule (will be specified later). The alignment summary result should mention overall statistics (including Total, aligned, uniquely aligned, unaligned, percent of reads for each sample) for both the references.
- Peak calling should be performed via the best algorithm (such as MACS, SICER or other, if any) with control background, and need to be evaluated for histone and histone modification peaks (considering FDR, p-value, q-value cut off).
- Generation of Nucleosomal positioning data through the best algorithm (such as NPS, PING 2.0 or other, if any) for all the samples.
- Assessment and integration of biological replicates for significant and reproducible histone modification peaks and Nucleosomal positioning (evaluation of fraction of reads mapped to genome before and after biological replicate assessment).

Following analysis should be performed separately for each sample and also for common and significant peak calls of biological replicates.

- Data upload into suitable recent genome browser for comprehensive visualization.
- Distribution analysis and characterization of histone modification peaks for different genomic regions such as promoter, 5' UTR, 3' UTR, coding exon, intron and Intergenic regions.
- Analysis of peak distribution of the ChIP-Seq reads i.e. number of peaks vs length of peaks (bp).
- Generation of Meta-gene profiles of histone modifications along the generic regions for transposable-element (TE) genes and non-TE genes.

Cont. 2



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- Genome wide analysis and display of histone modification intensities/peak depth, flanking +/-2000 bp to Transcription start site (TSS) and Transcription termination site (TTS) separately and that too for all the samples (tab delimited file and graphical).
- Analysis of common and differential peaks/region between experimental and control samples and also between experimental samples (tab delimited file).
- Functional analysis of peaks relative to annotated genes at GO and pathway level (tab delimited file and graphical).
- Motif analysis of peaks relative to annotated genes (tab delimited file with Locus id, Gene name, Peak region, Fold enrichment and Element).

4. All the information such as description of all the steps and protocols, used reference databases/websites and files, QC details, all the raw and high quality filtered data for each library should be provide in appropriate storage device or via ftp download.

5. The company shall maintain the confidentiality of the work. All the terms and conditions, including sample requirement and turnaround time shall be clearly mentioned.

6. Vendor should provide in-house Illumina HiSeq 2000/2500 facility certificate explicitly on the name of Company (it should not be in lease or tie up).

7. Samples should not be outsourced outside of India at any stage.

8. Vendor has to provide DSIR, NABL accreditation letter.

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 ₹ 28,000/- (Rupees Twenty Eight Thousand only), being the EMD in the name of Director, NIPGR, New Delhi and must be sent in a **Scaled Envelope** duly super-scribed on top of envelope as "**Quotation for ChIP-sequencing**" so as to reach to the undersigned latest by 10/8/2015 (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 ₹ 28,000/- (Rupees Twenty Eight 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 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.
- 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 Letter of Acceptance of Tender, which will be released after expiry of the defect liability period of the contract as per terms and conditions failing which the same will be forfeited.
- The bids will be accepted in respect of those companies having successfully completed one similar work costing not less than ₹ 11,20,000/- or two similar works each costing not less than ₹ 7,00,000/- or three similar works each costing not less than ₹ 5,60,000/- and having annual financial turnover of ₹ 14,00,000/- 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)