Ref: 3622/TOK/G.24/624   27ᵗʰ Sept, 2024

Tender No.TRA/Tocklai/2024-25/T-245 Dated 14.10.2024

Sealed tenders in two parts (Technical Bid & Financial Bid) are invited by the Director, Tea Research Association from authorized parties for denovo RNA sequencing under the National Tea Research Foundation sponsored "Evaluation of an RNA interference strategy to eliminate pesticide tolerance in the tea mosquito bug (*Helopeltis theivora*): A novel and advanced Insecticide Resistance Management (IRM) approach." at Tocklai Tea Research Institute, Jorhat - 785008, Assam. Both the bid documents are to be put in sealed envelopes separately super scribing the words "Technical Bid " & "Financial Bid" which are to be put together in the sealed envelope super scribing the Tender No. The details of required services are shown as 'Annexure – A' enclosed herewith.

Last date of issue/receipt of tenders: 08/11/2024 up to 5:00 PM

Terms and Conditions:
1)   The tenderer should submit the following documents along with the tender:
      a)   Dealership certificate/authorization certificate
      b)   List of users
      c)   Up-to-date sales tax/GST /income tax clearance certificate
2)   **Earnest Money 2% (refundable)** of the quoted amount is to be deposited by the tenderer in the form of Bank draft/Bankers certificate in favour of "**Tea Research Association**" payable at **Jorhat.**
3)   **Tender Document Cost (non refundable) of Rs.1,000/-** is to be deposited in the form of **separate Bank Draft** in favour of "**Tea Research Association**" payable at Jorhat.
4)   Tenders must accompany with the product catalogues/ specification.
5)   Tenderers must quote the warranty period of the product.
6)   **Tenderers must quote the year-wise rate for CMC or AMC separately for a further period of 5 years beyond the warranty period.**
7)   **Instruments / Equipments are to be delivered/installed FOR/CIP at Tocklai Tea Research Institute, Jorhat – 785008, Assam.**

TRA reserves the right to accept or reject the bids without assigning any reason thereof. The tender document can be obtained from the office of the undersigned during working days from Monday to Friday (8-30 am to 5.00 pm) or **may be down loaded from the website www.tocklai.org**.

Tender should be accompanied by Tender Document Cost of Rs.1,000/- and Earnest Money 2% of the quoted amount, failing which the tender will be rejected. The drafts for EMD and Tender Document Cost should be enclosed with "Financial Bid" only. All tenders should be sent to the following address:

                              The Director,
                              Tea Research Association
                              Tocklai Tea Research Institute,
                              Cinnamara, Jorhat-785 008, Assam.

                                                  DIRECTOR

Annexure – A

SPECIFICATIONS OF REQUIRED SERVICES

Sl No.	Sample No.	Description/ Specification of Items

1	12	**Service Required**: Denovo RNA sequencing (Transcriptome including lnc RNA analysis)
		 Sample Type: Whole insect samples
		 Sample family: Miridae
		 Sample collection location: Tocklai Tea Research Institute, Jorhat, Assam, 785008 (Sample transport (in dry ice) costs should be included)
		 Platform: Illumina Novaseq6000
		 Library type: PE150
		 Depth/sample: 10 GB/Sample
		 Bioinformatics: Yes
		
		 Bioinformatics Analysis Required:
		 • Individual raw and processed samples FASTQ files
		 • Individual raw and processed samples QC report (Trimmomatic analysis is required)
		 • Summary of rRNA filtration
		 • De-novo assembled transcript (FASTA), using closely related species genome.
		 • Transcript CDS (FASTA) and Protein (FASTA) based on evidential gene/transdecoder analysis.
		 • Transcript absolute counts of individual samples
		 • FPKM normalized transcript counts of individual samples
		 • The principal component analysis (PCA) plot showing variation between groups.
		 • Sample to sample distance cluster plot based on their euclidean distance using the regularized log transformed count data
		 • The DESeq2 result with complete set of upregulated and down-regulated gene/transcript counts, unadjusted p-value, adjusted p-value, fold change, log2foldchange,q statistics should be provided in.xls format.
		
		 NOTE: DESeq2 result need to be filtered based on the following 6 cutoffs, and shared as a provisional report
		    1. FDR <0.05 AND LOG2FC 2
		    2. FDR <0.05 AND LOG2FC 1.5
		    3. FDR <0.05 AND LOG2FC 1
		    4. Uncorrected p value <0.05 AND LOG2FC 2
		    5. Uncorrected p value <0.05 AND LOG2FC 1.5
		    6. Uncorrected p value <0.05 AND LOG2FC 1
		      Annotation using BLASTX against
		      a. NCBI's NRDB (based on client's specified Taxonomy ID),
		      b. UniProt
		      c. InterproScan / eggNOG

		d. KEGG Automatic Annotation Server • Heatmap of 200 most variable transcripts • MA plot (based on suggested statistical test and LogFC) • Volcano plot (based on suggested statistical test and LogFC) • Gene Set Enrichment Analysis (GSEA) based on the availability of the suggested closest genome in the reference database

***************END ***************