Posting Date: January 4, 2024

Closing Date: January 14, 2024 11:30 a.m. ET

Reference Number: 24-011643

To: NCI Bid Board

From: Viviane Rivera NCI CCR P-ARC

viviane.rivera@nih.gov

Subject: NCI Bid Board Posting – Deciphering the epigenetic roles of NSD3 in HPV-negative HNSCC

At the National Cancer Institute (NCI), The Thoracic and Gastrointestinal (GI) Malignancies Branch: 1) conducts innovative laboratory research that is focused on a better understanding of the biology of thoracic and gastrointestinal (GI) cancers; 2) directs pre-clinical studies to identify and validate novel targets for these cancers; 3) conducts clinical trials of new therapies to treat patients with thoracic and GI cancers who have failed standard treatments; 4) provides medical oncology care for patients with thoracic and GI malignancies; and 5) trains medical oncology fellows and postdoctoral researchers.

The primary objective of this purchase is to provide bioinformatics support for datasets obtained through the RNA-seq and CUT&RUN applied in a head and neck cancer cell line (treated in different conditions). These datasets require bioinformatics analysis to be interpreted. The benefit received by the government is that this analysis will ultimately provide insights into the oncogenic function of NSD3 in head and neck cancer and will thus lay the ground to pursue NSD3 as a novel therapeutic drug target for this disease.

The National Cancer Institute plans to purchase RNA-seq and CUT&RUN data analysis from enGene Statistics GmbH, Magnolienpark, CH to perform this work. This is not a request for competitive quotation. However, if any interested party believes it can meet the attached requirements, it may submit a statement of capabilities. The capability statement must be in writing and must contain information and material in sufficient detail to allow NCI to determine is the party can fully meet this requirement. The capability statement must be received in the contracting office by 11:30 AM on January 14, 2024, ET. A determination by the Government not to compete this requirement based upon responses to this notice is solely within the discretion of the Government. Information received will be considered solely for the purpose of determining whether to conduct a competitive procurement. No vendor contact can supply these specific kits.

## Sole Source Justification:

The Saloura Lab has been utilizing a recently developed, state-of-the-art genome-wide sequencing technology known as CUT&RUN assay, which allows for the identification of the genomic sites where a specific protein of interest binds. The bioinformatics processing of CUT&RUN datasets is complex and requires relevant experience which is crucial for the interpretation of these datasets. enGene Statistics is a bioinformatics company with significant experience in analyzing CUT&RUN datasets as well as with the development of bioinformatics pipelines for the analysis of this complex data types. Furthermore, two of the co-founders of the company have had their doctoral tenure in the Paro lab at ETH Zurich, which invented the chromatin immunoprecipitation, underscoring the relevant and necessary biological insights that the company can offer to this analysis. Given the fact that CUT&RUN assays were only recently established, and our phase I analysis was performed by enGENE, pursuing to collaborate with a different company would not be feasible now, and may endanger the validity of the results acquired through analysis of these sequencing datasets.

**Attached Documents:** 

**SF18** 

Statement of Work

FAR Clause 52.213-4 Simplified Acquisitions Terms and Conditions (JAN 2014) is applicable and available in full text upon request

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1	RNA-seq data analysis  CUT & RUN data analysisand downstream analyses  Manuscript preparation  Notice of Intent: If submitting a capability statement, please email only 1 copy of the technical capability statement to Viviane Rivera at viviane.rivera@nih.gov					1					0.00		
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Instructions: This document should be used for the acquisition of SERVICES.
Instructions (and sample language) for completion are in red, and should be excluded from the completed document.

#### 1.0 TITLE

Deciphering the epigenetic roles of NSD3 in HPV-negative HNSCC-Phase II

#### 2.0 BACKGROUND

The Saloura Lab focuses on the identification and functional dissection of chromatin modifiers, a class of proteins that regulate our DNA's function, as novel therapeutic targets in head and neck cancer.

To functionally dissect these chromatin modifiers, the Saloura Lab has been utilizing a recently developed, state-of-the-art genome-wide sequencing technology known as CUT&RUN assay, which allows for the identification of the genomic sites where a specific protein of interest binds. The bioinformatics processing of CUT&RUN datasets is complex and requires relevant experience which is crucial for the interpretation of these datasets. Furthermore, the speedy analysis and interpretation of such datasets is crucial for the advancement of knowledge and ultimately the translation of such findings to the clinic, to allow for patients with head and neck cancer access to promising, novel drugs.

enGene Statistics is a bioinformatics company with significant experience in analyzing CUT&RUN datasets as well as with the development of bioinformatics pipelines for the analysis of this complex data types. Furthermore, two of the co-founders of the company have had their doctoral tenure in the Paro lab at ETH Zurich, which invented the chromatin immunoprecipitation, underscoring the relevant and necessary biological insights that the company can offer to this analysis. This is for phase II of the project.

#### 2.1 OBJECTIVE

The primary objective and results expected from this project are to describe and characterize the differential genome-wide binding profile of the two main NSD3 isoforms, short and long NSD3, in head and neck cancer cell lines, and to correlate it with the mRNA expression patterns associated with the function of each of these isoforms. This genome-wide pattern will also be associated with the genome-wide binding profile of H3K36me2, the enzymatic product of the long NSD3 isoform. The phase I analysis was finished, and now we aim to have our Phase II analysis of our genome wide data.

#### 3.0 SCOPE

The scope of this work is to delineate the oncogenic functions mediated through DNA interactions of the NSD3 isoforms. The second phase of this work will focus on revision on phase I results (from KD samples) by additional filtering like higher stringency. This phase will also include the genome wide data analysis of NSD3 KO cell lines and data integration with transcriptional profiles (RNA-seq data). generating the sequencing tracks and identifying the specific genomic sites where each of the two NSD3 isoforms binds, in addition to downstream genomics data analyses. This analysis is expected to be completed over a period of

approximately 14 working days, however, it is expected that there will be continued interaction with enGene Statistics for optimization and additional questions that may occur and need to be addressed as the analysis proceeds.

#### 4.0 CONTRACT REQUIREMENTS/ AND PERSONNEL QUALIFICATIONS

The Contractor shall perform the following tasks:

- 4.1 Project Management Plan
  - 4.1.1 The Contractor shall develop an overall project plan for the Scope of the project. The Project Management Plan shall describe the development and implementation of the requirements under this contract and detail the timing and mode of key operations.
- 4.2 Analyses of all bioinformatics datasets and collaboration with the Saloura Lab on the interpretation of the results.

#### 5.0 TYPE OF ORDER

This is a firm fixed price purchase order.

#### 6.0 PERIOD OF PERFORMANCE

The period of performance shall be for 12 months from date of award.

## 7.0 PLACE OF PERFORMANCE

10 Center Drive, Bethesda, MD, 20892

AND

enGene Statistics GmbH, Magnolienpark 13, CH-4052 Basel, Switzerland

## 8.0 REPORT(S)/DELIVERABLES AND DELIVERY SCHEDULE

All written draft and final deliverable products shall be submitted in electronic copy for review and comment. Electronic copies shall be submitted in Microsoft Office 2007 OR Word format OR Excel 2013 or more recent version, unless prior approval for another format has been obtained from the COR.

## 9.0 PAYMENT

Payment shall be made <u>once</u>. Payment authorization requires submission and approval of invoices to the COR and NIH OFM, in accordance with the attached payment provisions listed below:

The following clause is applicable to all Purchase Orders, Task or Delivery Orders, and Blanket Purchase Agreement (BPA) Calls: PROMPT PAYMENT (JUL 2013) FAR 52.232-25. Highlights of this clause and NIH implementation requirements follow:

### I INVOICE REQUIREMENTS

- A. An invoice is the Contractor's bill or written request for payment under the contract for supplies delivered or services performed. A proper invoice is an "Original" which must include the items listed in subdivisions 1 through 12, below, in addition to the requirements of FAR 32.9. If the invoice does not comply with these requirements, the Contractor will be notified of the defect within 7 days after the date the designated billing office received the invoice (3 days for meat, meat food products, or fish, and 5 days for perishable agricultural commodities, dairy products, edible fats or oils) with a statement of the reasons why it is not a proper invoice. (See exceptions under II., below.) Untimely notification will be taken into account in the computation of any interest penalty owed the Contractor.
  - 1. Vendor/Contractor: Name, Address, Point of Contact for the invoice (Name, title, telephone number, e-mail and mailing address of point of contact).
  - 2. Remit-to address (Name and complete mailing address to send payment).
  - 3. Remittance name must match exactly with name on original order/contract. If the Remittance name differs from the Legal Business Name, then both names must appear on the invoice.
  - 4. Invoice date.
  - 5. Unique invoice #s for all invoices per vendor regardless of site.
  - 6. NBS document number formats must be included for awards created in the NBS: Contract Number; Purchase Order Number; Task or Delivery Order Number and Source Award Number (e.g., Indefinite Delivery Contract number; General Services Administration number); or, BPA Call Number and BPA Parent Award Number.
  - 7. Data Universal Numbering System (DUNS) or DUNS + 4 as registered in the Central Contractor Registration (CCR).
  - 8. Federal Taxpayer Identification Number (TIN). In those exceptional cases where a contractor does not have a DUNS number or TIN, a Vendor Identification Number (VIN) must be referenced on the invoice. The VIN is the number that appears after the contractor's name on the face page of the award document.
  - 9. Identify that payment is to be made using a three-way match.
  - 10. Description of supplies/services that match the description on the award, by line billed.\*
  - 11. Freight or delivery charge must be billed as shown on the award. If it is included in the item price do not bill it separately. If identified in the award as a separate line item, it must be billed separately.
  - 12. Quantity, Unit of Measure, Unit Price, Extended Price of supplies delivered or services performed, as applicable, and that match the line items specified in the award.\*

- \* NOTE: If your invoice must differ from the line items on the award, please contact the Contracting Officer before submitting the invoice. A modification to the order or contract may be needed before the invoice can be submitted and paid.
  - B. Shipping costs will be reimbursed only if authorized by the Contract/Purchase Order. If authorized, shipping costs must be itemized. Where shipping costs exceed \$100, the invoice must be supported by a bill of lading or a paid carrier's receipt.
  - C. Mail an original and 1 copy of the itemized invoice to:

National Institutes of Health Office of Financial Management, Commercial Accounts 2115 East Jefferson Street, Room 4B-432, MSC 8500 Bethesda, MD 20892-8500

For inquiries regarding payment call: (301) 496-6088

In order to facilitate the prompt payment of invoices, it is recommended that the vendor submit a photocopy of the invoice to the "Consignee" designated for the acquisition in blocks 6A – 6E of the face page of the Order/Award document.

#### II. INVOICE PAYMENT

- A. Except as indicated in paragraph B., below, the due date for making invoice payments by the designated payment office shall be the later of the following two events:
  - 1. The 30th day after the designated billing office has received a proper invoice.
  - 2. The 30th day after Government acceptance of supplies delivered or services performed.
- B. The due date for making invoice payments for meat and meat food products, perishable agricultural commodities, dairy products, and edible fats or oils, shall be in accordance with the Prompt Payment Act, as amended.

## III. INTEREST PENALTIES

- A. An interest penalty shall be paid automatically, if payment is not made by the due date and the conditions listed below are met, if applicable.
  - 1. A proper invoice was received by the designated billing office.
  - A receiving report or other Government documentation authorizing payment was processed and there was no disagreement over quantity, quality, or contractor compliance with a term or condition.
  - 3. In the case of a final invoice for any balance of funds due the contractor for supplies delivered or services performed, the amount was not subject to further settlement actions between the Government and the Contractor.
- B. Determination of interest and penalties due will be made in accordance with the provisions of the Prompt Payment Act, as amended, the Contract Disputes Act, and regulations issued by the Office of Management and Budget.

# IV. PROVIDING ACCELERATED PAYMENT TO SMALL BUSINESS SUBCONTRACTORS, FAR 52.232-40 (DEC 2013)

- a) Upon receipt of accelerated payments from the Government, the Contractor shall make accelerated payments to its small business subcontractors under this contract, to the maximum extent practicable and prior to when such payment is otherwise required under the applicable contract or subcontract, after receipt of a proper invoice and all other required documentation from the small business subcontractor.
- b) The acceleration of payments under this clause does not provide any new rights under the prompt Payment Act.

Include the substance of this clause, include this paragraph c, in all subcontracts with small business concerns, including subcontracts with small business concerns for the acquisition of commercial items.