

Posting Date: May 7, 2021

Closing Date: May 17, 2020 11:30 a.m. ET

Reference Number: 21-032635

To: NCI Bid Board

From: Tanika Crossen  
NCI P-ARC Program Analyst  
crossent@nih.gov

Subject: NCI Bid Board Posting – Multi-omics imaging of early-stage lung cancer

The Laboratory of Human Carcinogenesis (LHC) has a multifaceted research program integrating basic, translational, clinical, and population research, with a major focus on common and lethal human cancers that include tumors of the breast, colon, esophagus, liver, lung, pancreas and prostate. LHC studies utilize a Precision Medicine Strategy. It's main objectives are to conduct investigations that assess: (1) Mechanisms of carcinogenesis including the cellular functions of cancer driving genes; (2) experimental approaches in biological systems for the extrapolation of carcinogenesis data and mechanisms from in vitro models and experimental animals to humans; (3) molecular integrative epidemiology of human cancer risk; and (4) cancer biomarkers of diagnosis, prognosis, and therapeutic outcome.

The Laboratory of Human Carcinogenesis (LHC) has previously used 16S sequencing to determine changes in the microbiome of non-small cell lung cancer patients. LHC identifies one genus, *Acidovorax*, as highly dysbiotic and enriched in cancer patients, particularly smokers and those with *TP53* mutations. Additionally characterized the metabolomes of lung cancer patients were analyzed for the presence of creatine riboside (CR). CR is a metabolite generated by the urea cycle and is predictive of tumor stage and likelihood to experience recurrence. However, knowledge of the abundance of both bacteria and CR in early stage lung cancers is lacking, particularly if these two are associated or not.

LHC propose performing RNA *in situ* hybridization (ISH) technology called RNAscope on 50 Stage IA lung tumors, using a fluorescent multiplex panel of probes targeting the urea cycle genes *ASS1*, *CSPI*, and *OCT* as well as 16S rRNA..

Sole Source Justification:

Advanced Cell Diagnostics is the sole provider of RNAscope.

Attached Documents:

SF18

Statement of Work

FAR Clause 52.204-24 Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment.

FAR Clause 52.213-4 Simplified Acquisitions Terms and Conditions (AUG 2020) is applicable and available in full text upon request.

<b>REQUEST FOR QUOTATION (THIS IS NOT AN ORDER)</b>	THIS RFQ <input type="checkbox"/> IS <input checked="" type="checkbox"/> IS NOT A SMALL BUSINESS SET-ASIDE	PAGE 1 OF 1 PAGES 1
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1. REQUEST NO. 21-032635	2. DATE ISSUED 5/7/2021	3. REQUISITION/PURCHASE REQUEST NO.	4. CERT. FOR NAT. DEF. UNDER BDSA REG. 2 AND/OR DMS REG. 1	RATING
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5a. ISSUED BY NCI CCR Purchasing Administrative Resource Center	6. DELIVER BY (Date)
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5b. FOR INFORMATION CALL (NO COLLECT CALLS)	7. DELIVERY <input checked="" type="checkbox"/> FOB DESTINATION <input type="checkbox"/> OTHER (See Schedule)	9. DESTINATION
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NAME Tanika Crossen, Program Analyst	TELEPHONE NUMBER AREA CODE NUMBER 301 480-0602	a. NAME OF CONSIGNEE NIH, NCI
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8. TO: a. NAME	b. COMPANY Advanced Cell Diagnostics	b. STREET ADDRESS
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c. STREET ADDRESS	c. CITY Bethesda
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d.. CITY	e.. STATE MD	f.. ZIP CODE 20892	d.. STATE e. ZIP CODE MD 20892
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10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK 5a ON OR BEFORE CLOSE OF BUSINESS (Date) 5/7/2021 11:30 EST	<b>IMPORTANT:</b> This is a request for information, and quotations furnished are not offers. If you are unable to quote, please indicate on this form and return it to the address in Block 5a. This request does not commit the Government to pay any costs incurred in the preparation of the submission of this quotation or to contract for supplies or services. Supplies are of domestic origin unless otherwise indicated by quoter. Any representations and/or certifications attached to this Request for Quotations must be completed by the quoter.
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**11. SCHEDULE (Include applicable Federal, State and local taxes)**

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)
	Multi-omics imaging of early-stage lung cancer. See statement of need (SON)  Notice of Intent: If submitting a capability statement, please e-mail only 1 copy of the technical capability statement to Tanika Crossen @ crossent.mail.nih.gov  See attached statement of work  This will be awarded as a Firm-Fixed Price Contract.				

12. DISCOUNT FOR PROMPT PAYMENT	a. 10 CALENDAR DAYS (%)	b. 20 CALENDAR DAYS (%)	c. 30 CALENDAR DAYS (%)	d.. CALENDAR DAYS NUMBER PERCENTAGE
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NOTE: Additional provisions and representations  are  are not attached.

13. NAME AND ADDRESS OF QUOTER	14. SIGNATURE OF PERSON AUTHORIZED TO SIGN QUOTATION	15. DATE OF QUOTATION
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a. NAME OF QUOTER	16. SIGNER	
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b. STREET ADDRESS	a. NAME (Type or print)	b. TELEPHONE AREA CODE
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c. COUNTY	e. STATE	f. ZIP CODE	c. TITLE (Type or print)	NUMBER
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# STATEMENT OF NEED (SON)

## 1.0 TITLE

Multi-omics imaging of early-stage lung cancer

## 2.0 BACKGROUND

The Laboratory of Human Carcinogenesis (LHC) has previously used 16S sequencing to determine changes in the microbiome of non-small cell lung cancer patients. We identified one genus, *Acidovorax*, as highly dysbiotic and enriched in cancer patients, particularly smokers and those with *TP53* mutations. We additionally characterized the metabolomes of lung cancer patients were analyzed for the presence of creatine riboside (CR). CR is a metabolite generated by the urea cycle and is predictive of tumor stage and likelihood to experience recurrence. However, our knowledge of the abundance of both bacteria and CR in early stage lung cancers is lacking, particularly if these two are associated or not.

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## 3.0 TYPE OF ORDER

This is a Firm Fixed-Price Purchase Order.

## 4.0 SPECIAL ORDER REQUIREMENTS

### 4.1 PRODUCT FEATURES/SALIENT CHARACTERISTICS

The following product features/characteristics are required for this requirement:

All reagents listed below work exclusively with the RNAscope platform.

- Assay services material cost – cost of TMA construction and custom labeling of target probes for the genes listed above.
- Tissue processing with sample QC and validation – Sample quality control for RNA ISH, assay optimization, control probe QC scoring and 40x full-slide scanning; may include sample embedding, sectioning and H&E staining
- Marker Evaluation - Target assay with marker evaluation and scanning
- Reporting - Project Report with materials and methods, optimized assay conditions, probe design information, sample QC results, representative images of target and control probes, project summary, and conclusions OR Study brief with materials and methods, final assay conditions, sample of representative images of marker and control probe, project summary and conclusions
- Data Analysis - Visual semi-quantitative analysis of markers OR quantitative image analysis with HALO software including analysis project report OR Pathologist scoring with optional Pathologist notes