

REQUEST FOR PROPOSALS:

SPECIFIC AND TECHNICAL CONDITIONS FOR

**A company or research lab to conduct library and sequencing analysis for stool
microbiota composition determinations**

(File 58-2023)

I. OBJECT

The present document (the "Pliego") to contract a company or research lab to conduct library and sequencing analysis for stool microbiota composition determinations within the framework of the project "Air pollution, gut microbiota, and neurodevelopment in the first 24 months of life (ALTER project)" (official reference code PI21/01278), funded by the Carlos III Health Institute (Instituto de Salud Carlos III) Co-funded by the European Union – Open Procedure.



CON CÓDIGO OFICIAL PI21/01278
FINANCIADO POR EL INSTITUTO CARLOS III Y
COFINANCIADO CON FONDOS FEDER

All the technical specifications contained in this document are considered to be part of the minimum requirements and do not exclude any other needs for compliance with the purpose of the service contracted.

II. CONTENT OF THE WORK

The biological mechanisms by which **early exposure to air pollution** is associated with children's health effects, specifically neurodevelopment, is a significant knowledge gap, and more research is needed. Our hypothesis is that exposure to air pollution during pre- and postnatal life induces **gut microbiota dysbiosis** (i.e. alterations in gut microbiota composition and biological activity), which partially explains the association between air pollution exposure and subclinical neurodevelopment delays in the first years of life.

The main objective of the ALTER project is **to longitudinally assess the impact that pre and post-natal exposure to air pollution has on the gut microbiota composition and its biological activity in the first two years of life**. We also aim to explore whether gut microbiota dysbiosis mediates the association between air pollution exposure and neurodevelopment outcomes.

The study will be conducted in a general population birth cohort (BiSC birth cohort) with a detailed assessment of prenatal and postnatal air pollution at personal and home levels. Gut microbiota composition (rRNA 16s or, if budget allows, shot-gun metagenomics) and its biological activity (with the assessment of short chain fatty acids - SCFAs) will be assessed at the age of 6 and 18 months (in total, N=1000 samples), while neurodevelopment will be assessed between the 6th and 24th month of life (using international validated tests).

Scope of work

ISGlobal is looking for a company or research lab to conduct library and sequencing analysis for stool microbiota composition determinations. Extracted DNA of the 1000 stool samples is already available. The bidder will conduct the library and sequencing of the extracted DNA samples. Due to budget constraints, a priori the analysis will be done using 16s RNA amplicon sequencing technology, with at least 45.000 reads. However, if the bidder is able to offer the analysis of the samples using shot-gut metagenomics (instead of 16s RNA) at a competitive price, this offer will be prioritized. In this case, the metagenomics sequencing should be at 5Gbp/Sample, at least.

III. PERSON RESPONSIBLE FOR THE CONTRACT

Mireia Gascon Merlos (mireia.gascon@isglobal.org).

IV. MANAGEMENT OF WORK AND QUALITY CONTROL

ISGlobal and the bidder may meet at any time if any of the two parties considers it appropriate, depending on the progress of the work hired. At any meeting the responsible person may choose to bring additional participants from ISGlobal if considered convenient. The results obtained from the analysis will be shared periodically as soon these are available, so that ISGlobal can check and confirm the quality of the analyses done.

V. REQUIRED QUALIFICATIONS

Microbiota composition of stool samples has to be determined, a priori, using 16s RNA amplicon sequencing technology, with at least 45.000 reads. The offer should include library and sequencing of amplicons. However, if the bidder is able to offer the analysis of the samples using shot-gut metagenomics (instead of 16s RNA) at a competitive price, this offer will be prioritized. In this case, the metagenomics sequencing should be at 5Gbp/Sample, at least.

VI. PERIOD OF EXECUTION AND DELIVERY OF THE RESULTS

The execution of the work will be carried out through 12 months since the signature of the contract. As indicated above, the results obtained from the analysis will be shared periodically as soon these are available, so that ISGlobal can check and confirm the quality of the analyses done.

VII. ESSENTIAL CONTRACTUAL OBLIGATIONS

The following will be considered as essential obligations of the successful bidder:

- Having a laboratory with the required conditions to conduct 16s RNA or shot-gun metagenomics analysis
- Experience in conducting 16s RNA or shot-gun metagenomics analysis
- Availability to conduct the analyses of 1000 samples in 12 months since the signature of the contract
- Excellent management, project planning, and organizational skills
- Availability to meet with ISGlobal whenever it is required

VIII. CONTRACT PERIOD

The duration of the contract will be of 12 months.

The estimated start date of the contract is November 1st^h 2023.

IX. BUDGET, PRICE AND ESTIMATED VALUE OF THE CONTRACT

The contract budget amounts to the maximum amount of **€80.000 excluding tax**.

The award amount will not exceed this budget in any case. The price of the contract, consequently, will be that to which it rises plus the corresponding Value Added Tax, in the case of non-exempt bidders, which must be included in the separate item.

X. ADVERTISING

The present contract will be published by announcement in the Contracting Profile of the entity on the website: www.isglobal.org

XI. PLACE AND DATE OF SUBMISSION OF PROPOSALS

The economic proposals must be submitted by email to the address licitaciones@isglobal.org.

The deadline for submitting proposals will end on 16th October 2023.

XII. LEGAL SYSTEM OF THE CONTRACT

The contract is considered a private contract and is subject to private law, ruling by this Schedule, by the contract and documentation attached, and in everything not provided by the applicable civil and commercial legislation.

XIII. EXPENDIENT OF RECRUITMENT, AWARD PROCEDURE OF THE CONTRACT AND DOCUMENTATION TO BE PROVIDED TENDERS

The contracting of the reference services will be awarded by the procedure envisaged in Section IX of the Internal Contracting Instructions of the entity. From the day of publication of the tender notice, interested companies can obtain the necessary documentation to prepare their proposals through the contractor's profile on the website www.isglobal.org.

XIV. PAYMENT METHOD

The bidder will periodically send the results as soon as these are available. Payment will always be made under invoice and 30 days invoice date by bank transfer:

First payment: 50%

Final payment upon completion of work: 50%

Barcelona, October 3rd, 2023