

**NECESSITY REPORT TO ESTABLISH THE CONTRACTING OF A SERVICE OF DNA AND RNA SEQUENCING AND SPECIALIZED BIOINFORMATIC ANALYSIS FROM TUMOR SAMPLES AND WHOLE BLOOD IN THE FUNDACIÓ HOSPITAL UNIVERSITARI VALL HEBRON - INSTITUT DE RECERCA (VHIR).**

*Proyecto "PI23/01045", financiado por el Instituto de Salud Carlos III (ISCIII) y cofinanciado por la Unión Europea.*



**2025-031 DNA AND RNA SEQUENCING (PI23/01045)**

Dr. Ana Mafalda Antunes de Melo Oliveira, Clinical Research Scientist and Medical Oncologist in the Breast Cancer Group at VHIO, of the Fundació Hospital Universitari Vall d'Hebron - Institut de Recerca and IP of the Project PI23/01045, proposes that the corresponding file be included for the contracting of the service of Next generation sequencing service and data analysis and report including DNA and RNA sequencing from human tumour samples, paired with sequencing of peripheral blood samples as a control sample by the Project PI23/01045 titled "*Plataforma integrativa multiómica para la identificación de biomarcadores predictivos de respuesta a quimioterapia e inmunoterapia en cáncer de mama triple negativo temprano (PORTRAIT-TNBC)*" of the Fundació Hospital Universitari Vall Hebron - Institut de Recerca (VHIR), funded by Instituto de Salud Carlos III (ISCIII) and co-funded by the European Union.

The PORTRAIT study consists of the multi-omic characterisation of novel and dynamic biomarkers in triple negative breast cancer patients treated with neoadjuvant chemotherapy and immune control drugs. The complete genomic characterisation of these tumour samples requires obtaining next-generation sequencing (NGS) information of tumour DNA and RNA and its comparison with the normal state from peripheral blood samples (DNA). For this purpose, samples of frozen tumours and frozen blood will be sent for DNA and RNA extraction from the very same tumor sample by the service providers.

This tender is not divided into lots because it is related to only one service. This service should be performed and processed by a unique provider as the samples per patient are very limited and all the information must be extracted from the same piece of tissue. We seek a service provider capable of processing tumor-derived material (fresh frozen) for DNA and RNA extraction, followed by next-generation sequencing (NGS) and comprehensive bioinformatic analysis. The service should support broader approaches (WGS, RNA-seq), with robust QC and data interpretation pipelines tailored to oncological research. The information recovered must include a description of the genomic landscape of the tumor, a description of the transcriptome, driver mutations, structural abnormalities, HLA typing, HLA tumor status, neoantigen prediction and immune scape prediction, among other things.

As it sets the Document of Technical Specifications, for sequencing it is necessary for this service and Project NovaSeq technology (standard technology in genomics research) or equivalent. This technology is high-throughput, short-read sequencing suitable for large-scale human genomic

studies, including both WGS and RNAseq. Due to its broad adoption, the NovaSeq platform benefits from a mature, optimized ecosystem—ranging from stable reagent supply to extensively validated analysis pipelines and a large user base. This translates into low technical risk, fast troubleshooting, and smooth data integration—critical for the successful execution of the PORTRAIT Project.

Moreover, data reproducibility and comparability must be considered. A significant portion of reference datasets and prior studies were generated using NovaSeq, making it fully compatible with widely accepted bioinformatics pipelines for variant detection, and other state of the art bioinformatics pipelines in oncology research.

The duration of the service object of this tender will coincide with the validity of the aforementioned project which is until 31<sup>st</sup> December of 2026. The service will start on the day following the formalization of the contract.

However, if this project were to be found, for any unforeseen reasons, subject to the request of a possible extension, the end date will be susceptible to being extended, at most to the one that is finally authorized.

The total maximum budget is “ONE HUNDRED SEVENTY-ONE THOUSAND EUROS” (€ 171.000,00), VAT exempted, which is financed by the Project PI23/01045 titled “*Plataforma integrativa multiómica para la identificación de biomarcadores predictivos de respuesta a quimioterapia e inmunoterapia en cáncer de mama triple negativo temprano (PORTRAIT-TNBC)*” of the Fundació Hospital Universitari Vall Hebron - Institut de Recerca (VHIR), funded by Instituto de Salud Carlos III (ISCIII) and co-funded by the European Union.

In view of the need to carry out a negotiated procedure without advertising for reasons of exclusivity, and non-harmonized regulation according to criteria established in Law 9/2017, of 8 November, on Public Sector Contracting, whereby Directives of the European Parliament and of the Council 2014/23/EU and 2014/24/EU, of 26 February 2014, are transposed into Spanish law.

In view of all of the above,

## **IT IS HEREBY DECIDED:**

1.- To order the opening of the tender file for the service of Next generation sequencing service and data analysis and report including DNA and RNA sequencing from human tumour samples, paired with sequencing of peripheral blood samples as a control sample by the Project PI23/01045 titled “*Plataforma integrativa multiómica para la identificación de biomarcadores predictivos de respuesta a quimioterapia e inmunoterapia en cáncer de mama triple negativo temprano (PORTRAIT-TNBC)*” of the Fundació Hospital Universitari Vall Hebron - Institut de Recerca (VHIR), funded by Instituto de Salud Carlos III (ISCIII) and co-funded by the European Union, the maximum budget for this tender is set at 171.000,00€ VAT exempted.

2.- To order the certification of the existence of sufficient credit to certify that the VHIR has a sufficient budgetary endowment to face the expenses arising from this tender file.

3.- To draft the Specific Administrative Bidding Conditions and Technical Specifications in accordance with the provisions of the aforementioned Law.

Barcelona, on the digital signature date.

## **RESPONSIBLE**

**Dr. Ana Mafalda Antunes de Melo Oliveira**

IP of the Project PI23/01045

Clinical Research Scientist and Medical Oncologist in the Breast Cancer Group at VHIO

Fundació Hospital Universitari Vall d'Hebron - Institut de Recerca