

## CALL FOR PROPOSALS

# SIGN'IT 2025

## Signatures in Immunotherapy

– Diagnose, predict and follow the response to treatment –

### Call text

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### **1. Background**

As evidenced recently by the boom of immunomodulators targeting the PD-1/PD-L1 pathway, immunotherapy is a fast-growing field in oncology and a great source of hope for cancer patients. Moreover, therapies using patient-derived immune cells such as CAR-T cells / bispecific T-cell engagers or cancer vaccines represent an emerging field and a great promise for the future. All these novel approaches achieve major and unexpected results and spark the mobilization of the medical and scientific community. The accumulation of knowledge, clinical trials, practices, and therapeutic achievements make this field an area ready for further investigations. Indeed, more research is urgently needed to improve the treatment of cancer patients with immunotherapy.

In fact, several limitations have been identified. For example, some cancers are less sensitive to immunotherapies and, for a given localization, immunotherapies do not exhibit the same efficacy in all patients. In routine care, several questions have arisen concerning immunotherapy treatments such as treatment response, toxicity, hyper- and pseudo-progression, resistance, etc. Moreover, immunotherapy combinations have demonstrated their ability to maintain the promise to increase the number of patients achieving long-term benefit. However, the incredibly huge number of combinations under clinical investigation – which frequently have a poor rationale to be assessed – might delay substantial improvement due to trial completion and increase patient exposure to undue toxicities. For these reasons, it is still essential to increase research efforts in this field to deliver the right treatment to the right patient at the right time.

In this context, the Fondation ARC launched in 2018 a specific call for proposals (CFP), SIGN'IT, to support research on Signatures of response to Immunotherapy. **Seven successful editions resulted in 47 funded projects, representing a total support of 24,7 M€.**

Today, the number of indications for immunotherapy continues to rise, with a growing number of market authorizations. Considering the latest advances in the field, including the first results of the SIGN'IT funded projects, the Fondation ARC has decided to scale up its support in this strategic area. **Therefore, SIGN'IT is renewed and updated, with an additional aim dedicated to the clinical validation of signatures of response to immunotherapy.**

## **2. Objectives**

As part of its scientific strategy, the ambition of the Fondation ARC is to accelerate the safe deployment of immunotherapies for more indications and more patients (including paediatric and geriatric populations). Thus, this CFP mobilizes French expertise around original, ambitious, and innovative projects aiming at **the identification (Aim 1) or the validation (Aim 2) of signatures in cancer patients treated by immunotherapy.**

## **3. Scope of the call**

In the context of this CFP:

- **“Immunotherapy” (IT)** is defined as a therapeutic strategy that aims to (re)activate the immune system anti-tumour functions.
- **“Signature”** is defined as an indicator or a combination of indicators (clinical, biological, immunological, genetic, epigenetic, pathological, radiological, etc.) which can predict the tumour response under immunotherapy and help the therapeutic decision-making.
- **Patients should be treated for their cancer with IT(s), including cell therapy, alone or in combination.** In case of a combination therapy, the studied IT can be associated with another IT or other treatment(s) (radiotherapy, chemotherapy, targeted therapy, etc.).

This CFP is divided into 2 parts:

- **Aim 1:** projects seeking the identification of signatures of response to IT.
- **Aim 2:** projects seeking the clinical validation of signatures of response to IT.

#### 4. Aim 1: projects seeking to IDENTIFY response signatures in cancer patients treated by immunotherapy

##### 4.a. Aim 1: Characteristics of the projects.

- The **translational project** must be relevant in the field of cancer research and aims to **identify signatures in cancer patients treated by immunotherapy**.
- The project can be prospective or retrospective, or, based on samples obtained from routine care.
- Biological samples should be **already collected** and/or **being collected**.
- Data and/or databases should be **already available**.
- The project should have adequate control groups including, when available, control arms in the case of randomized clinical trials.
- Data showing efficacy for the class of molecule/treatment in the given cancer site(s) (including FDA approval) should be available.
  
- The project must be **feasible within the grant period**. A clear description of the feasibility, a timetable and proven capacity to complete the collection and analysis timely have to be included.
- The **experimental design** must be rigorous and based on a solid research hypothesis, a comprehensive statistical analysis plan, and a well-defined study population having a clear indication of potentially answering the research hypothesis.
- Projects investigating early surrogate markers for treatment response and long-term benefit would be appreciated, in particular projects favouring non-invasive methods such as liquid biopsies and new available tools.
- In addition to their scientific relevance, the projects should present **the most reliable ethical guarantees** and have to be conducted according to the existing legislation.
  
- **To ensure the project feasibility, the availability and access to the samples and to the clinical data of patients must be secured and described.** To this end:
  - 1) The project leader should attach a letter of commitment from the sponsor or from the biobank operation manager or from the pathologist in charge of the collection (see ANNEX 1 for "Mandatory files");
  - 2) A clear description of the study design with a description of the specific clinical context should be included. The projects based on samples being collected should also contain a provisional timetable and curves of inclusions (see ANNEX 2 for "Assessment criteria").
  
- Projects are expected to **contribute to reproducible science**. **Discussing a plan to disseminate data and results in the submitted application is strongly recommended, in particular:**

- Sharing of results in public databases, particularly after initial publication.
- Publication of data in addition to the results adhering to FAIR principles.
- Publication of data analysis, methods, and code on established resources (e.g. Github, Zenodo).

#### **4.b. Aim 1: Exclusion criteria.**

- Clinical trials: tasks directly dedicated to the execution of a clinical trial (inclusion of patients, collection of blood samples, biopsies, etc.) will not be funded. **Only the analyses conducted as part of ancillary studies related to clinical trials will be eligible for funding** (sample analyses, data analyses, modelling, statistical analyses, etc.).
- Projects in which the intellectual property is exclusively industrial (in particular in case of research studies associated with a clinical trial with industrial sponsorship).

## 5. Aim 2: projects seeking to VALIDATE response signatures in cancer patients treated by immunotherapy

### 5.a. Aim 2: Characteristics of the projects.

- The **clinical project** must be relevant in the field of cancer research and aim to **validate signatures in cancer patients treated by immunotherapy**.
- A **strong scientific rationale** (= a signature already identified) that supports the hypothesis and objective of the project is required.
- **Data showing efficacy for the class of molecule/treatment** in the given cancer site(s) (including FDA approval) should be available
- In order to achieve the main objective of the project (*i.e.* to validate a response signature ready for clinical use), the project may be:
  - o prospective or retrospective;
  - o (based on) a clinical trial, upcoming or already existing;
  - o based on a routine care cohort, upcoming or already existing;
  - o ...
- Clinical trial endpoints must be clearly defined.
- Drugs not yet having a marketing authorisation will only be accepted if the pharmaceutical company undertakes to make them available without charge.
- The project can be associated with the constitution of a collection of derived biological resources (DNA, RNA, proteins, microbiota, mycobiota, tumour avatars, etc.), helping to strengthen the developed concept.
- The project must be **feasible within the grant period**. A clear description of the feasibility, a timetable and proven capacity to obtain regulatory authorisations, to complete the collection and to do the analysis timely have to be included. A clear description of the study design should be included, with a provisional timetable and curves of inclusions.
- The **experimental design** must be rigorous and based on a solid research hypothesis, a comprehensive statistical analysis plan, and a well-defined study population having a clear indication of potentially answering the research hypothesis.
- In addition to their scientific relevance, the projects should present **the most reliable ethical guarantees** and have to be conducted according to the existing legislation.
- **To ensure the project feasibility, the availability and access to the samples and to the clinical data of patients must be secured and described.** To this end, the following documents must be provided (see ANNEX 1 for "Mandatory documents"):
  - If the project relies on a clinical trial, a letter of commitment in principle from the sponsor **to carry out the trial** if the project is selected for funding, and **to guarantee the access to the samples**.

- If the project relies on a sample collection: the project leader should attach a letter of commitment from the from the biobank operation manager or from the pathologist in charge of the collection **to guarantee the access to the samples**.
- A commitment in principle from the pharmaceutical company specifying the conditions of participation, and in particular the free provision of medicines without marketing authorization.
  
- Projects are expected to **contribute to reproducible science**. **Discussing a plan to disseminate data and results in the submitted application is strongly recommended, in particular:**
  - Sharing of results in public databases, particularly after initial publication.
  - Publication of data in addition to the results adhering to FAIR principles.
  - Publication of data analysis, methods, and code on established resources (e.g. Github, Zenodo).

#### **5.b. Aim 2: Exclusion criteria.**

- Apart from the signature validation experiments (if required), **no additional translational analysis** will be funded.
- Projects whose intellectual property is exclusively industrial (particularly in the case of research backed by industrially promoted clinical trials).
- Phase 3 and Phase 4 clinical trials and solely preclinical projects will not be supported

## 6. GENERAL eligibility criteria, for both aims.

Applications not in accordance with eligibility criteria will not be considered.

Complete applications must be submitted online by the **18th March 2025, 2:00 pm** at [appelsaprojets.fondation-arc.org/](http://appelsaprojets.fondation-arc.org/)

- **The project must be in the scope of this CFP.**
- Unless otherwise stated, **the application and all files must be written in English.**
- The application must be submitted **by the project leader**, who is the coordinator recognised by the associated teams. She/he will be fully engaged in setting up the project and fully invested in the project monitoring.
- The project leader must hold a full, permanent position in a hospital, university or research body in France; failing that, the project leader must hold a temporary position covering the grant period.
- As a project leader, a given researcher **can only submit one project among the two aims of SIGN'IT 2025.**
- The Fondation ARC calls for proposals **Programmes labellisés 2025** and **SIGN'IT 2025** are simultaneously open for submission. As a project leader, a given researcher **can only apply to one of the two calls for proposals.**
- **Attention will be given to the involvement of a project leader as collaborator to one or several other projects in order to verify the overall feasibility**
- Each team involved in the application must be affiliated with a public research institution (university, public science and technology research bodies etc.) or a non-profit organisation (association, foundation etc.) or a public health institution.
- Foreign and industrial/commercial partners can participate as long as they provide their own funding for the project.

## 7. Funding procedure

### 7.a. Project duration and funding

#### **AIM 1 - identification of signature:**

Funding is granted for a period of **24 or 36 months.**

The maximum amount that can be applied for is **€600,000.**

#### **AIM 2 - validation of signature:**

Funding is granted for a period of **36, 48 or 60 months.**

The maximum amount that can be applied for is **€1,000,000.**

### 7.b. Eligible expenses

- Operating costs, including software licenses and fees, and acquisition work in the field (travel costs involved in investigations, etc.).
- Service provisions are allowed. However, private sector service companies (start-up, biotech, etc.) should not claim any intellectual property rights in relation to the results and potential signatures that may arise from the project.

- Publication costs.
- Equipment.
- Computers hardware (computers, accessories and software) can be covered by the funding only if it is justified in the financial application.
- Recruitment of non-permanent staff (post-doctoral researchers, engineers, technicians, data manager or other) for a period not exceeding the grant period.
- Travel expenses (attending symposiums, conferences etc...). Except for a particular situation (evidence must be provided), travel expenses must not exceed 4% of the total requested budget.
- The budget is freely allocated, particularly regarding the proportion devoted to personnel.

**- For AIM 1 - identification of signature only:**

Expenses related to experiments on pre-clinical models will be covered only if they are justified and necessary for the project's progress.

**- For AIM 2 - validation of signature only:**

- Academic promotion of a trial (administrative procedures to open the trial, insurance, eCRF, follow-up, etc.), patient enrolment.
- Purchase of drugs studied in the trial (only if they have market authorization).
- Costs related to biological sample banking and analysis, insofar as they relate to the clinical validation project.

### **7.c. Expenses not covered by the grant**

- Management fees for managing organizations.
- Salaries of doctoral students.
- Salaries of civil servants and permanent staff.
- Vacations.
- Internship allowances and bonuses.
- Office supplies.
- Subscriptions to learned societies and/or membership fees.
- Equipment maintenance costs.

## **8. Selection of the projects**

The assessment of the projects will be conducted as follows:

- An *ad hoc* committee composed of international experts will review the applications (cf ANNEX 2 for "Assessment criteria") and will issue its recommendations. The project leader will respond to the potential comments issued by the committee and will **make the requested improvements within a period of 1-2 weeks** (last weeks of May 2025);
- The Fondation ARC's Scientific Board, based on the expert assessments conducted by the *ad hoc* committee, will select applications and make its recommendations to the Board of Directors, which will then vote the funding.

- The Fondation ARC guarantees that each application will be assessed under confidentiality agreements, in compliance with its procedure for preventing and managing conflicts of interests.




## 9. Provisional timetable

- Launch of the call: **December 3<sup>rd</sup> 2024**
- Return of complete applications: **March 18<sup>th</sup>, 2025, 2:00 pm**
- Examination of projects by the *ad hoc* committee: **March–May 2025**
- Possible return of application amended in accordance with the *ad hoc* committee's recommendations: **mid–May 2025**
- Selection by the Scientific Board of the Fondation ARC: **June 2025**
- Decision by the Board of Directors of the Fondation ARC: **June 2025**
- Notification of results: **end of June 2025**
- **Project start: Autumn 2025**

## 10. Submission procedures

- The **complete application package, including all files** (see ANNEX 1 “Mandatory files”) required for scientific and technical assessment of the project, have to be in accordance with this notice and submitted **online** at:  
[appelsaprojets.fondation-arc.org](https://appelsaprojets.fondation-arc.org)  
**no later than March 18<sup>th</sup> 2025, 2:00 pm**
- The project leader will have **to select the right aim (1 or 2) of the SIGN'IT 2025 call for proposals**.
- **Be careful:** For the application to be admissible, the project leader has to submit it online before the closing date (click on “*submit my application package*”).
- **Until the closing date**, the project leader can re-open/modify his/her application **as many times as desired**.
- An acknowledgment of receipt will be sent by email to the project leader upon validation of the online application.
- **Optional supplemental information:** until **May 5<sup>th</sup> 2025**, the project leader can supplement, in the annex tab, the application package with the following documents:
  - Publication update: manuscripts that are in review or have been accepted for publication (please attach letter from the publisher and acknowledgement of receipt).
  - Notification of changes in the administrative situation.
  - Notification of acceptance/use of any grant obtained from another funding organization.

## 11. Contact

-  [signit@fondation-arc.org](mailto:signit@fondation-arc.org)
-  +33 (0)1 45 59 59 51
-  [www.fondation-arc.org/sign-it](http://www.fondation-arc.org/sign-it)

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### ANNEX I: Mandatory files

To be admissible, the application must be submitted online at [appelsaprojets.fondation-arc.org](https://appelsaprojets.fondation-arc.org) along with the mandatory files indicated in the table below:

Mandatory files	Content	Format	Deadline for online submission
<p><b><u>Commitment letter</u></b></p> <p>Certified by: Trial sponsor <b>OR</b> Biobank operational manager <b>OR</b> Pathologist in charge of sample collection</p>	<ul style="list-style-type: none"> <li>To carry out the clinical trial (Sponsor - <i>if applicable</i>)</li> <li><b>Availability and number of biological samples and/or data included in the project;</b></li> <li>Agreement allowing access to these biological samples and/or data;</li> <li>Conditions and expected date for the provision and/or transfer of the samples and/or data;</li> <li>Terms of agreements on intellectual property rights;</li> <li>Compliance with regulations concerning data storage (French Data Protection Authority [CNIL] declaration, etc.);</li> <li>Quality accreditation of the organization (indicate any potential NF or ISO accreditations).</li> </ul>	Free format	<p><b>March 18<sup>th</sup>, 2025, at 2pm</b></p> <p>(to upload in the online application, section "Clinical research")</p>
<p><b><u>Referring staff</u></b></p>	List of referring staff for the different disciplines/fields (clinical, immunology, genetics, epigenetics, anatomic pathology, biostatistics, bioinformatics, medical imaging, etc.).	<a href="#">Downloadable online</a>	
<p><b><u>Scientific signature sheet</u></b></p>	Signatures of the associated team leaders and/or persons in charge of the research facilities.	<a href="#">Downloadable online</a>	<p><b>May 5<sup>th</sup>, 2025, at midnight</b></p> <p>(to be attached to the online application )</p>

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### ANNEX 2: Assessment criteria

The international *ad hoc* committee will review the applications in line with the 8 assessment criteria listed below, with a special attention to the quality of experimental design and statistical plan, studied population and feasibility of the work plan.

#### 1. Global scientific quality of the project and impact

Overall scientific quality and innovativeness  
Clarity of hypotheses and objectives  
Potential scientific and medical impact

#### 2. Relevance and originality of the project

Relevance of the project to the objective of the CFP  
Originality of the project

#### 3. Clarity of the biological hypotheses and the objectives

Clarity and appropriateness of the experimental design.  
Clear definition of the studied population.

#### 4. Quality of methodology, statistical analysis and the studied population

Appropriateness of the statistical methodologies.  
Comprehensiveness and quality of statistical analysis plan.  
Anticipation of potential problems, and proposal of alternative approaches

*In case of study based on clinical trials:* Pertinence in the selection of the patients and samples;  
Justification of the sample size; Clear synopsis and/or study protocol.

#### 5. Competence of the applicants and quality of the research collaborations

Competence and expertise of the applicant and his/her team.  
Consistency and complementarity between the associated teams

#### 6. Feasibility of the work plan

Clarity of the work plan.  
Overall feasibility of the work plan.  
Appropriateness of the research environment, staff, and infrastructures.  
(If applicable) provisional patient inclusion plan.

#### 7. Funding sustainability

Appropriateness of the project's financial plan.

#### 8. Ethical issues

Accordance with the legislation in force  
Respect for good clinical practice