

ERA-NET: Aligning national/regional translational cancer research programmes and activities

TRANSCAN-2

Preliminary Announcement¹

PLEASE NOTE: In this version, revised on November, 21th, 2017, the list of Funding Organisations has been updated. GSRT and NCBR confirmed their participation in the call, and FNR-Luxembourg and FCT-Portugal have been included.

The Fourth Joint Transnational Call for Proposals 2017 (JTC 2017) will be launched in December 2017

The ERA-NET TRANSCAN-2: Aligning national/regional translational cancer research programmes and activities, is the continuation of the ERA-NET on Translational Cancer Research (TRANSCAN) and has the goal of coordinating national and regional funding programmes for research in the area of translational cancer research. The specific challenge is to promote a transnational collaborative approach between scientific teams in demanding areas of translational cancer research while avoiding the duplication of efforts and ensuring a more efficient use of available resources, to produce significant results of higher quality and impact, and share data and infrastructures. Along this line TRANSCAN-2 will launch the Joint Transnational Call for research proposals (JTC 2017) in December 2017.

The topic of the call will be:

“Translational research on rare cancers”

The national/regional funding organisations listed below have agreed to participate in the TRANSCAN-2 Joint Transnational Call for proposals 2017 (JTC 2017):

- Austrian Science Fund (FWF), Austria
- Research Foundation - Flanders (FWO), Belgium Flanders
- Fund for Scientific Research (F.R.S. - FNRS), Belgium, French speaking community
- Estonian Research Council (ETAg), Estonia
- National Cancer Institute (INCa), France
- ARC French Foundation for Cancer Research (ARC Foundation), France
- Federal Ministry of Education and Research (BMBF), Germany

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- General Secretariat for Research & Technology (GSRT), Greece
- The Chief Scientist Office in the Ministry of Health (CSO-MOH), Israel
- Ministry of Health (MoH), Italy
- Alliance Against Cancer (ACC), Italy
- Lombardy Foundation for Biomedical Research (FRRB), Italy
- State Education Development Agency (VIAA), Latvia
- Luxembourg National Research Fund (FNR), Luxembourg
- Dutch Cancer Society (DCS), Netherlands
- National Centre for Research and Development (NCBR), Poland
- Foundation for Science and Technology (FCT), Portugal
- Slovak Academy of Sciences (SAS), Slovakia
- Spanish Association Against Cancer Scientific Foundation (FCAECC), Spain
- National Institute of Health Carlos III (ISCIII), Spain
- The Foundation for the support of the Applied Scientific Research and Technology in Asturias (FICYT), Spain
- Ministry of Science and Technology (MoST), Taiwan
- Scientific and Technological Research Council (TUBITAK), Turkey

The call will be published simultaneously by the funding organisations in their respective countries and on the TRANSCAN website: <http://www.transcanfp7.eu>.

Interested researchers and/or research teams are advised to prepare and make the necessary contacts and arrangements towards preparing applications. Please see below the details of the call topics and an outline of the eligibility criteria. They will be further detailed when the JTC is published.

MOTIVATION

Rare cancers are traditionally defined on the basis of epidemiologic statistics. Incidence, i.e. the number of newly diagnosed cases of a given disease per 100.000 persons per year (100.000/year), has been consistently identified as the most efficient indicator for rare cancer definition. In this regard, at the European level, an operational definition of rare cancers based on cancer registry data has been provided and adopted within the RARECARE project, an initiative focused on the surveillance of rare cancers in Europe (<http://www.rarecare.eu/>), which has recently evolved into RARECAREnet : http://www.ecpc.org/Documents/Projects/RARECAREnet/RARECAREnet_list_of_rare_cancers.xlsx. Accordingly, rare cancers are identified as diseases whose incidence, when individually considered, is lower than 6 newly diagnosed cases per 100.000/year in Europe. It is noteworthy that, if collectively considered, the 198 cancers identified by the RARECARE project represent the 22% of all newly diagnosed cancers in European countries each year, including rare adult solid tumors, rare hematologic cancers, and pediatric cancers. When

considering prevalence, the overall estimates raise to about 25%, which translates in about 4 millions of European people currently living with a diagnosis of rare cancer. In addition, survival rates for rare cancers are worse than for common cancers (47% versus 65%, respectively).

The creation and implementation of functional networks among the collaborating partners involved at an international level would undoubtedly enhance the translational research potentials of each of the institutions involved. Translational networks may allow the conduct of projects fostering the use of multimodal treatments involving conventional and targeted approaches, drugs successfully used in other neoplasms that may find application in rare tumors, orphan drugs and, most interestingly, novel drugs that may be applied to multiple rare diseases, making them appealing and economically sustainable.

AIMS OF THE CALL

The projects proposed within the TRANSCAN-2 Joint Transnational Call 2017 (JTC 2017) must address the following topic:

“Translational research on rare cancers”

The decisions concerning the focus of the present call are strongly motivated by the challenges related to research and treatment in rare cancers, which are intimately tightened to the low incidence of any single clinical-pathological entity currently listed among these cancers. Proposals will have to cover a minimum of one of the specific aims reported below, and within the aim/s of choice, the applicants will have to address at least one of the topics listed as bullet points. Proposals addressing one single aim and one single bullet point within the chosen aim will be allowed.

Aim 1: Design and conduct of translational research studies exploiting/combining resources from current clinical trials, bio-repositories and epidemiology-type resources.

Translational cancer research on aetiology, pathogenesis and prognosis of rare cancers is tightly linked to the integrated use and facilitated access to biospecimens from patients. Translational research goals in rare cancers may thus be achieved throughout studies of cohorts of patients with available biospecimens adequately stored in biorepositories linked to cancer registry data.

- Translational studies based on the analysis of data and/or of clinically annotated specimens from previously conducted/ongoing trials with adequate follow up.
- Conduct of studies for cancer risk assessment in rare cancers leveraging upon access to institutional and/or national cancer registries.

- Identification and characterization of the etiopathogenetic determinants involved in rare cancers aiming at increasing our knowledge of the underlying pathways to be targeted by means of existing or experimental therapies.

Aim 2: Development and exploitation of translational research platforms (e.g., patient derived xenograft models/organoids/tissue collections) to study drug responses/resistance and toxicity, and perform drug screens or repurpose approved anticancer drugs.

- Tissue collection, and genetic and epigenetic characterization of patient-derived rare tumors xenografts (PDXs). PDX could be used to identify determinants of heterogeneity in patient response to therapy, and thus inform patient-oriented therapeutic decisions. PDX could be used to screen for candidate pathways and/or therapeutics.
- Three-dimensional cultures (or 'organoids') obtained from patients' rare tumors which closely replicate key properties of the original cancers. Organoid cultures could be amenable to the detection of genetic and/or epigenetic changes associated with drug sensitivity and may thus lead the way to targeted approaches that could improve clinical outcomes in cancer patients
- Other translational research platforms that give insights into the drug responses/resistance and toxicity of drugs, and help perform drug screening for the treatment of rare diseases (e.g., induced pluripotent cell clones established from patient tumors and normal cells and induced to differentiate in vitro).

Aim 3: Implementation of precision biomarkers for better stratification of the clinical cohorts.

- Validation and implementation of rare cancers associated biomarkers as molecular predictors of therapeutic response, treatment resistance and disease outcome.
- Use of innovative, high throughput technologies designed to facilitate the comprehensive 'omic assessment of genomes, transcriptomes, proteomes, metabolomes, etc. of patients affected by rare cancers.
- Design and conduct of phase I and/or phase II clinical studies aiming at the validation and implementation of precision biomarkers (including approaches based on liquid biopsies to enable non-invasive assessment of tumour heterogeneity and to monitor tumour dynamics) in patients diagnosed with rare cancers.

Applicants may add an additional part for **capacity building activities** (with an associated separate budget, in compliance with the rules of the respective national/regional funding organisations). These activities have to be coherent with the objectives of the research

project, and aimed to strengthening the ability of participating team(s) to perform the work detailed in the project plan as well as to improve, in the long term, the quality and potential of the translational research performed by the team(s).

MAIN ELIGIBILITY CRITERIA

Only transnational projects will be funded. Each research consortium asking for funding must involve a minimum of three (3) research groups and a maximum of seven (7) research groups. The maximum number of 7 research groups could be increased only with partners from Estonia, Latvia, Slovakia and Turkey, up to a maximum of 4 additional partners from these 4 countries, to reach a maximum total of 11 research groups in a proposal. In each consortium, groups applying for funding must be from at least three (3) different countries participating in the call. In addition, a consortium must not involve more than two (2) research groups from one country (in such cases the minimum number of groups must be 4, coming from 3 different countries).

In order to strengthen the European translational cancer research area, a wide inclusion of research teams from all the countries/regions participating in the call is encouraged, with a particular attention to research teams from Estonia, Latvia, Slovakia and Turkey. A consortium may include one (1) research group (included in the maximum number of seven (7)) with own funding from a country/region not partner in this call. This group must provide a written confirmation that its funding is already secured at the stage of the pre-proposal submission.

Each consortium must involve at least one basic or pre-clinical research team and one clinical team. It is also recommended to include an expert team in methodology, biostatistics or bioinformatics, depending on the type of work planned. Consortia may also involve other teams with specialised skills and know-how (biobanks, model systems, technological platforms, etc.) or expertise (epidemiology and molecular epidemiology, early phase clinical trials, public health, ELSI, etc.). Consortia should have sufficient critical mass to achieve ambitious scientific, technological and medical goals and, along with the particular contribution of each research team, should clearly demonstrate its transnational added value. The translational nature of the research results is the key goal of TRANSCAN-2 and, therefore, each consortium should also clearly demonstrate a knowledge transfer towards clinical, public health and/or industrial applications. While applications will be submitted by the coordinator, the individual research groups will be funded by the funding organisation from their country/region that is participating in the TRANSCAN-2 JTC 2017. The applications are therefore subject to eligibility criteria of national/regional funding organisations. Upon the call publication, applicants will have to refer to the annexes of the document "Call text" containing all the specific national/regional eligibility criteria and will

have to contact their respective national/regional funding organisation contact points for additional clarification.

For further information, please visit the TRANSCAN website: <http://www.transcanfp7.eu>