TRANSCAN

TRANSCAN-3
ERA-NET: Sustained collaboration of national and regional programmes in cancer research

Preliminary Announcement*

The Joint Transnational Call for Proposals 2021 (JTC 2021) co-funded by the European Commission/DG Research and Innovation on:

"Next generation cancer immunotherapy: targeting the tumour microenvironment"

will be launched in April 2021

The ERA-NET TRANSCAN-3, in continuity of the preceding ERA-NET TRANSCAN-2, 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.
The European Commission (EC) will contribute to the call in accordance with the ERA-NET Cofund scheme.

The following 28 **funding organizations** have agreed to participate in the EC co-funded call of TRANSCAN-3 (JTC 2021):

- Austrian Science Fund (FWF), Austria
- Research Foundation - Flanders (FWO), Belgium, Flanders
- Fund for Scientific Research (F.R.S.-FNRS), Belgium, French speaking community
- Canadian Institutes of Health Research (CIHR), Canada
- Estonian Research Council (ETAg), Estonia
- French National Cancer Institute (INCa), France
- ARC French Foundation for Cancer Research (ARC Foundation), France
- Federal Ministry of Education and Research (BMBF), Germany
- National Research, Development and Innovation Office (NKFIH), Hungary
- Health Research Board (HRB), Ireland
- The Chief Scientist Office of the Ministry of Health (CSO-MOH), Israel
- Ministry of Health (IT-MOH), Italy
- Ministry of Universities and Research (MUR), Italy
- Alliance Against Cancer (ACC), Italy
- Tuscany Region (TuscReg), Tuscany, Italy
- Fondazione Regionale per la Ricerca Biomedica (FRRB), Lombardy, Italy

- State Education Development Agency (VIAA), Latvia
- Research Council of Norway (RCN), Norway
- Norwegian Cancer Society (NCS), Norway
- National Centre for Research and Development (NCBR), Poland
- Foundation for Science and Technology (FCT), Portugal
- Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), Romania
- Slovak Academy of Sciences (SAS) , Slovakia
- National Institute of Health Carlos III (ISCIII), Spain
- The Scientific Foundation of the Spanish Association Against Cancer (FCAECC), Spain
- The Foundation for the support of the Applied Scientific Research and Technology in Asturias (FICYT), Spain
- Ministry of Science and Technology (MoST), Taiwan
- The Scientific and Technological Research Council of Turkey (TÜBITAK), Turkey

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

TRANSCAN-3 JTC 2021 will be implemented through a two-stage submission procedure: pre-proposals and full proposals.

The call is planned to be launched on **April 6th 2021** with a submission deadline for pre-proposals on **end of June 2021**. It is expected that consortia invited for the full-proposal stage will be asked to submit their proposal **on November 2021**.

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.

AIMS OF THE CALL

The co-funded call of TRANSCAN-3 (JTC 2021) will focus on:

"Next generation cancer immunotherapy: targeting the tumour microenvironment"

Despite advances in immunotherapies, obstacles and challenges, including limited response rates, the inability to predict clinical efficacy, and potential side effects such as autoimmune reactions or cytokine release syndromes, remain and hinder further applications of immunotherapies in clinics. Thus, a deeper understanding of the TME, able to dissect distinct classes and subclasses of it, is essential for deciphering new mechanisms of immunotherapies, defining new predictive biomarkers, and identifying novel therapeutic targets.

In the context of translational research, this topic at the intersection of laboratory and clinical research in immuno-oncology will comprise two general aims which concur to the possible clinical applications. Proposals will have to cover at least one of the six (6) specific sub-aims listed below. Approaches should be directed to draw up a multidimensional TME map paving the road for new efficacious immunotherapy strategies. Projects should be built from a solid

and established hypothesis and should be relevant with regards to the possible improvements in clinical practice.

Aim 1: Identification and validation of TME subclasses and their contribution to the resistance mechanisms: Translational research using tumour samples collected from retrospective and/or prospective cohorts of patients.

1.1 Dissection of tumour cells/tumour-infiltrating immune/stromal cells and identification of TME subclasses (single-cell analyses, mass cytometry, imaging, multidimensional immunohistochemistry, etc.) for TME studies (3D culture systems; patient-derived organoids; patient-derived xenografts; syngeneic, genetically modified and chemical carcinogenesis-induced mouse models, etc.).

1.2 Definition of the contribution of TME to resistance mechanisms and identification of new therapeutic targets through multiomics (epigenomic, transcriptomic, proteomic, metabolomics, study of the microbiome and virome, etc.) to assess functional characteristics of TME-tumour cell interplay within the primary tumour and/or metastases (e.g the underlying signaling, the transcriptional landscape, the cell-cell communication, the network regulation of immune cells, etc.), to identify candidate TME targets and to assess the activity of pathway-targeting agents.

1.3 Development of tools capable of predicting treatment efficacy and tumour recurrence using minimally- or noninvasive techniques (generation of algorithms modelling the network dynamics, predictive models based on artificial intelligence, integrating -omics data and network approaches). Development of robust noninvasive biomarkers of disease course (radiomics, cell-free circulating tumour DNA, miRNA signatures, circulating tumour cells, etc.). Sex/gender impact must be considered.

Aim 2: Targeting TME to improve efficacy of immunotherapy in human patients.

2.1 Development of new precision therapeutic strategies that may prevent human tumour recurrence or resistance (T-cell-based cancer immunotherapies, immune checkpoint blockers (ICBs), chimeric antigen receptor (CAR)-T-cells, preventive and therapeutic vaccines, etc.).

2.2 Evaluation in translational studies of the impact of TME on treatment efficacy and patient outcome (clinical utility of specific TME feature detections or identifications, clinical utility of specific intratumour or peripheral blood immune biomarkers, sex/gender impact, etc.).

2.3 Phase I and II clinical trials (combinations of available treatments, new therapeutic strategies, new administration schemes, etc.) targeting, or preventing resistance of multiple TME features. Particular attention should be given to gender balance inclusion in order to intercept sex/gender differences and to determine if there is an association between sex/gender and treatment response.

Applicants will have the opportunity to 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 must involve a minimum of three (3) and a maximum of six (6) eligible partners from at least three (3) different countries participating in the call. In addition, a research consortium must not involve more than two (2) research groups from one country.

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 Latvia, Slovakia and Turkey.

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. The consortium 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.). The consortium 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.

Applications will be submitted by the coordinator. Each consortium participant will be funded by the funding organisation from their country/region participating in the JTC 2021. The participants are therefore subject to the eligibility criteria of national/regional funding organisations.

Upon the call publication, applicants will have to refer to the annexes of the document "Guidelines for Applicants" containing all the specific national/regional eligibility criteria and will have to contact their respective national/regional funding organisation contact points for additional clarification.

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