This project is co-financed by the
European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından
finanse edilmektedir

TRANSCAN

Ricardo Neves

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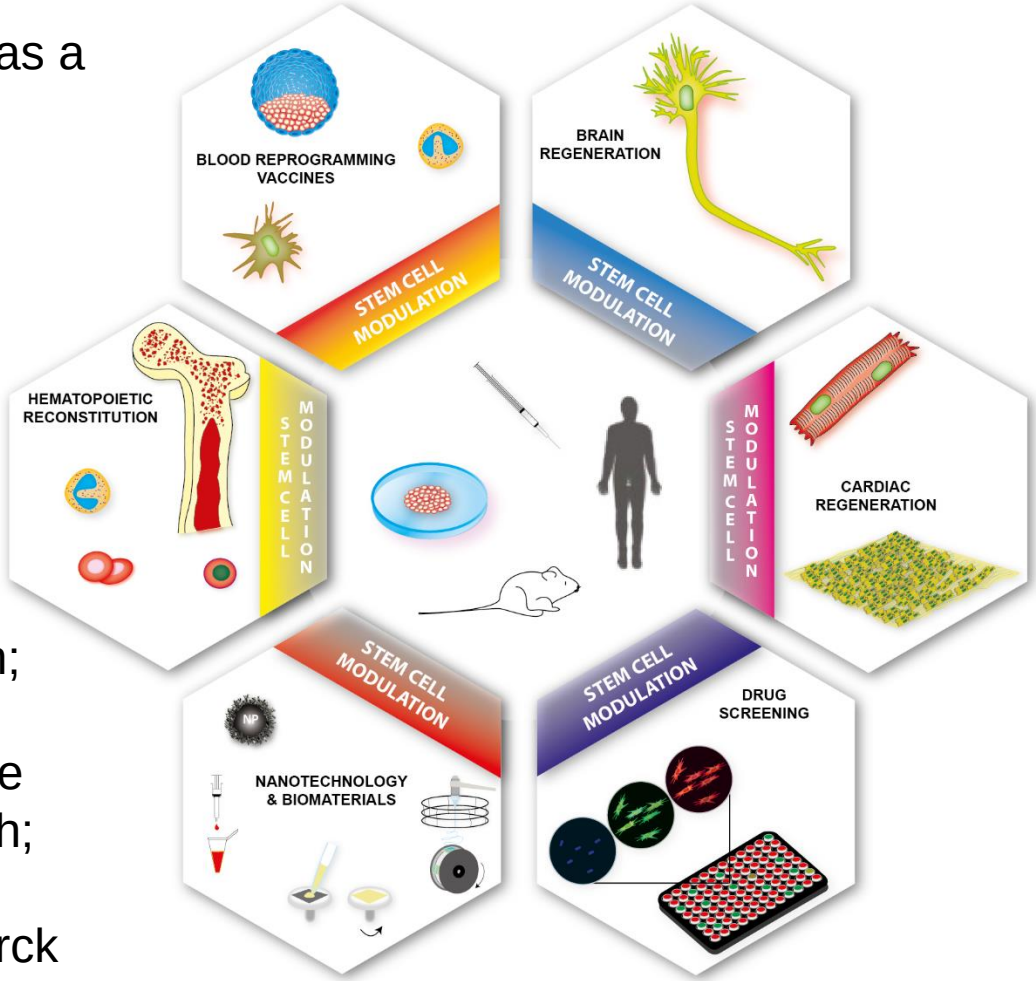
Description of the Organization

non-profit private research institution, has a long-standing record of scientific excellence and internationalization

strategic partnerships with the Coimbra University Hospitals and the BIOCANT biotechnology park

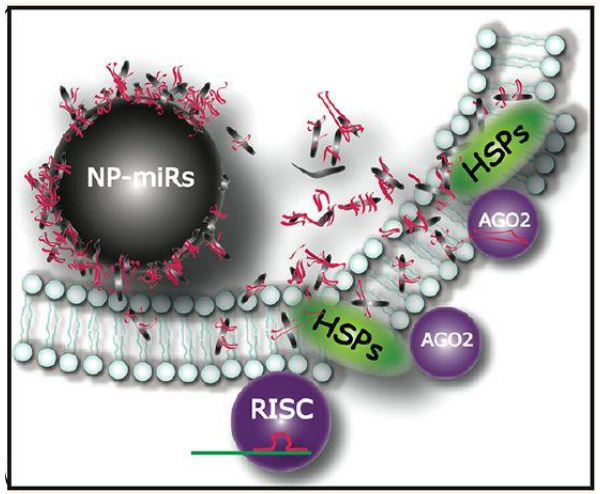
funded by: European Commission; Progeira Foundation; Michael J.Fox Foundation; National Ataxia Foundation; European Foundation for the study of Diabetes; La Caixa Foundation; Lejeune Foundation; National Institutes of Health; U.S. Department of Defense; Medical Research Council; Bayer; Novartis; Merck and others…



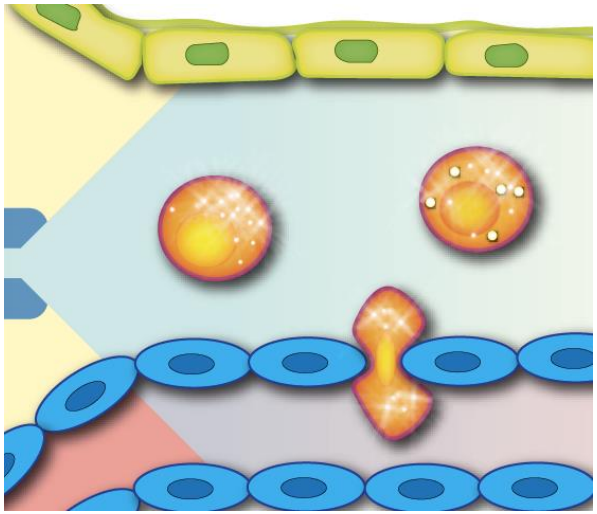
Description of your research interest

The biomaterials and stem cell-based therapeutics was created in January 2008 at CNC.

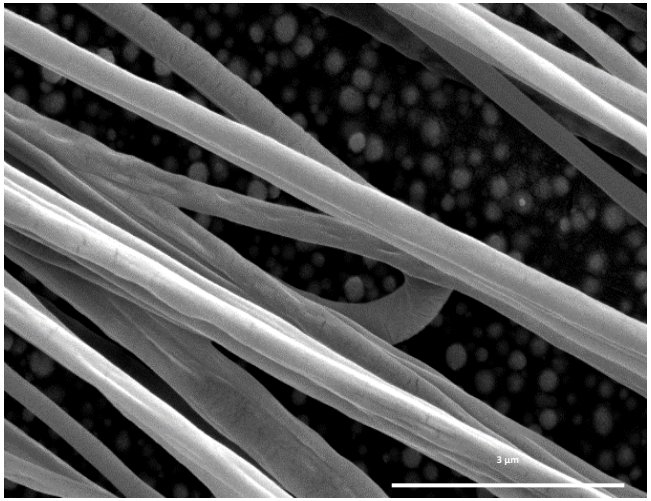
Nanomedicine and Cell Therapy



Gomes et al., *ACSnano.* 2013



Boto et al., 2017
Nature Communications



Gouveia et al., 2017
Biomaterials

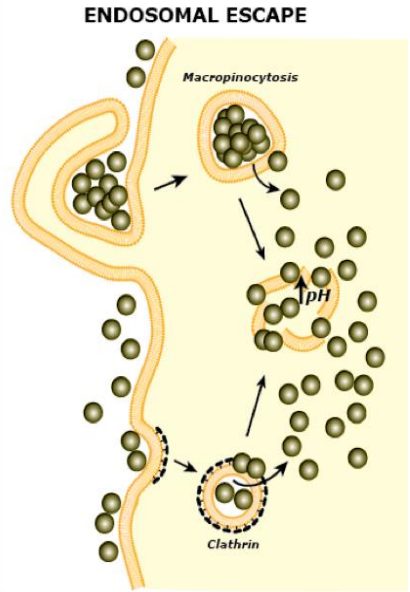
Related funding: ERA@UC H2020 WIDESPREAD2014; NANOSTEM (CPU0298A01#IV0298); Nano_Brain 842405 (CPU0298A02#IV0298); CANCEL STEM (CPF0007006#IV0298)

Description of your research interest

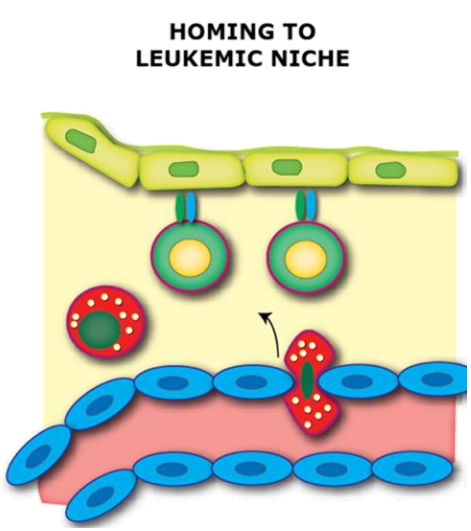
Reprogramming "niches"

How can we do better?

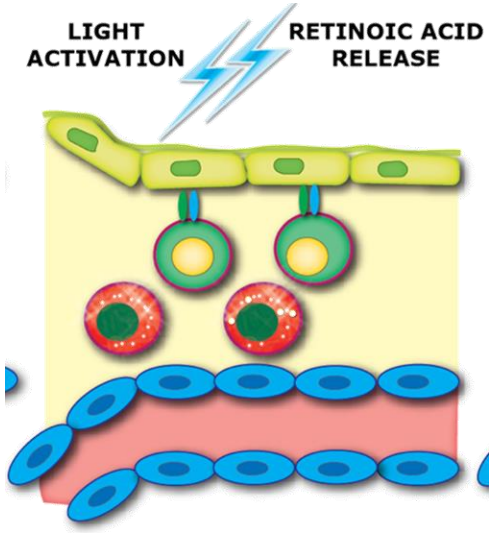
Intracellular Concentration



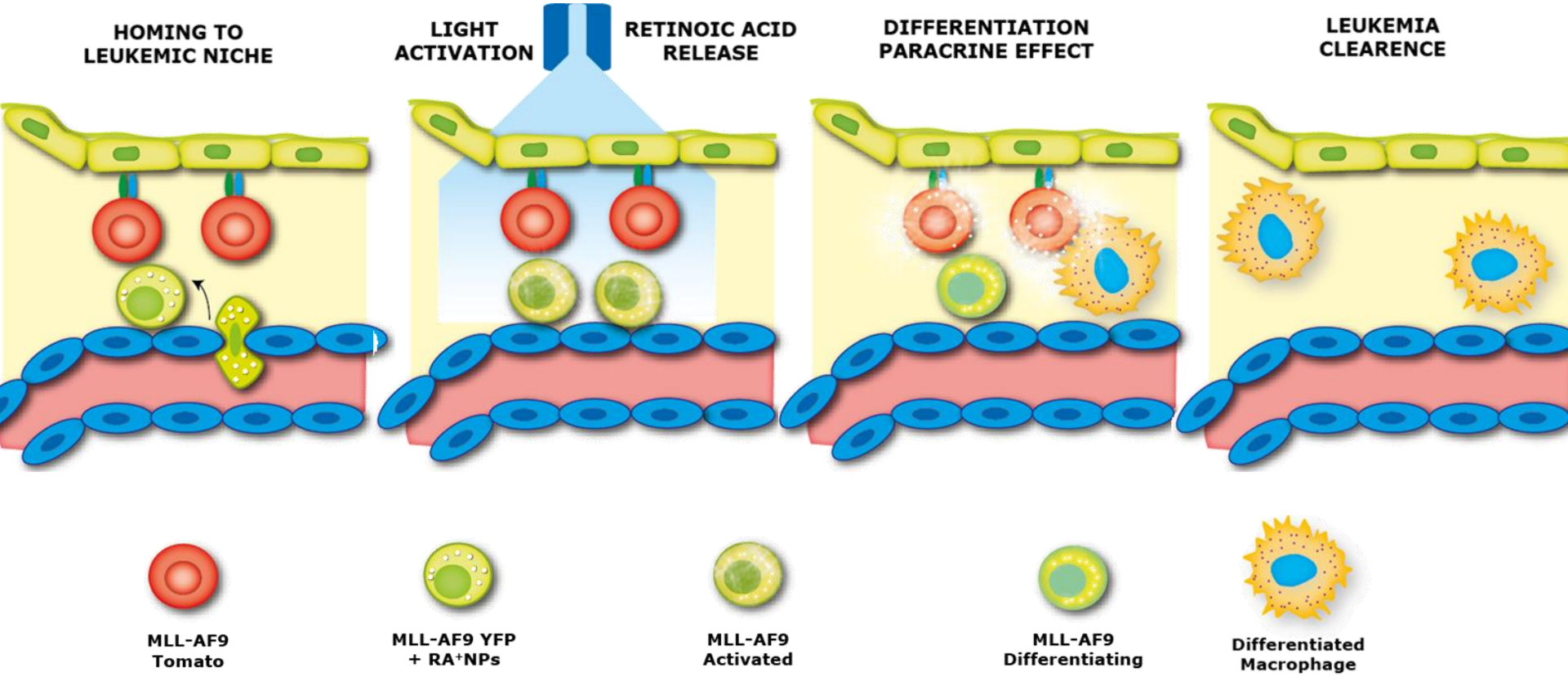
Cell's Natural Tropism



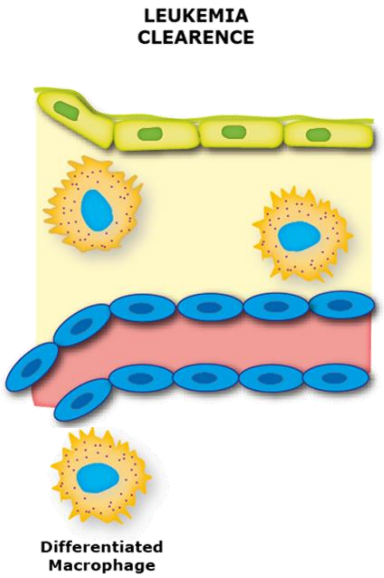
External Trigger

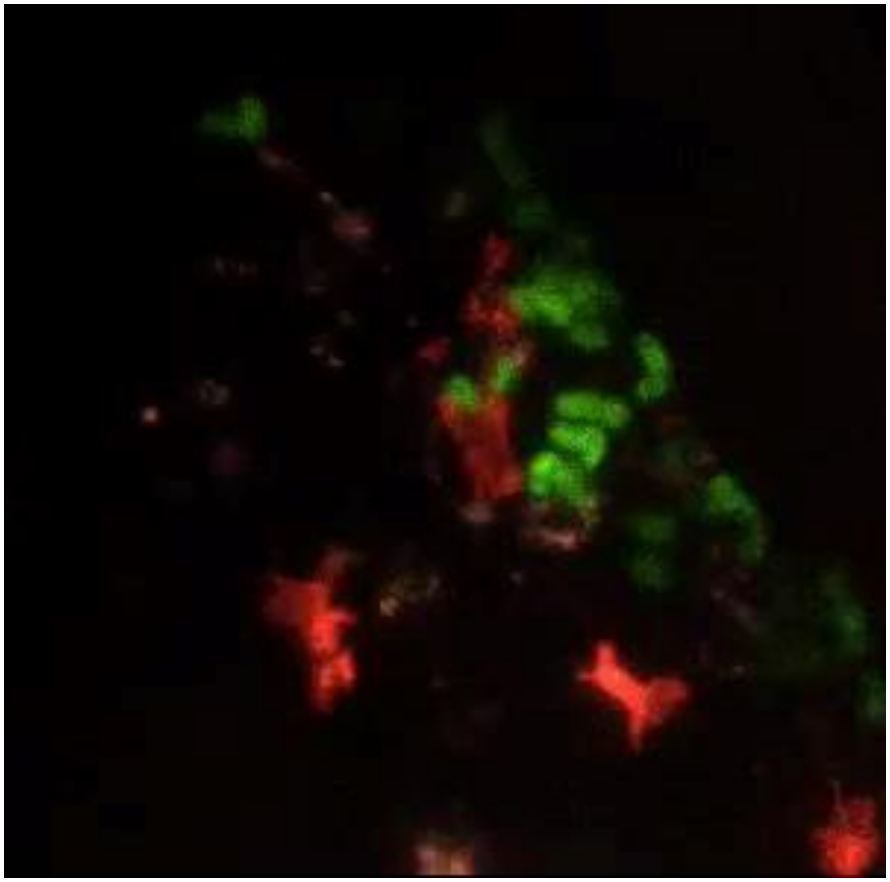


Activation of RA+NPs at the niche can help to reduce the disease burden *in vivo*



Macrophage-like cells intra-vital microscopy





Project Idea

Relevant JTC2021 aim and sub aims

Aim 1: Identification and validation of tumour microenvironment (TME) subclasses and their contribution to the resistance mechanisms

Objectives: Definition of the contribution of TME to resistance mechanisms and identification of new therapeutic targets through multiomics (epigenomic, transcriptomic, proteomic, metabolomics) 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.

- Expected results
  - Identification of new molecules for tackling resistance in TME
  - Development of new nanoformulations for immunotherapy application

Project Idea

Relevant JTC2021 aim and sub aims

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

- Expected results
  - Development of new co-adjuvant retinoic acid nanoformulations for CAR-T and NK-cell immunotherapy improvements in acute myeloid leukemia.

Consortium - required partners

No	Expertise	Type	Country	Role in the project
01	Single Cell Omics	RTD		
02	Immunology CAR-T cells; NK-Cells	RTD		
03	GMP HSC-transplant	INFRA		
04				
05				
06				

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MINISTRY OF INDUSTRY
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TÜBİTAK