

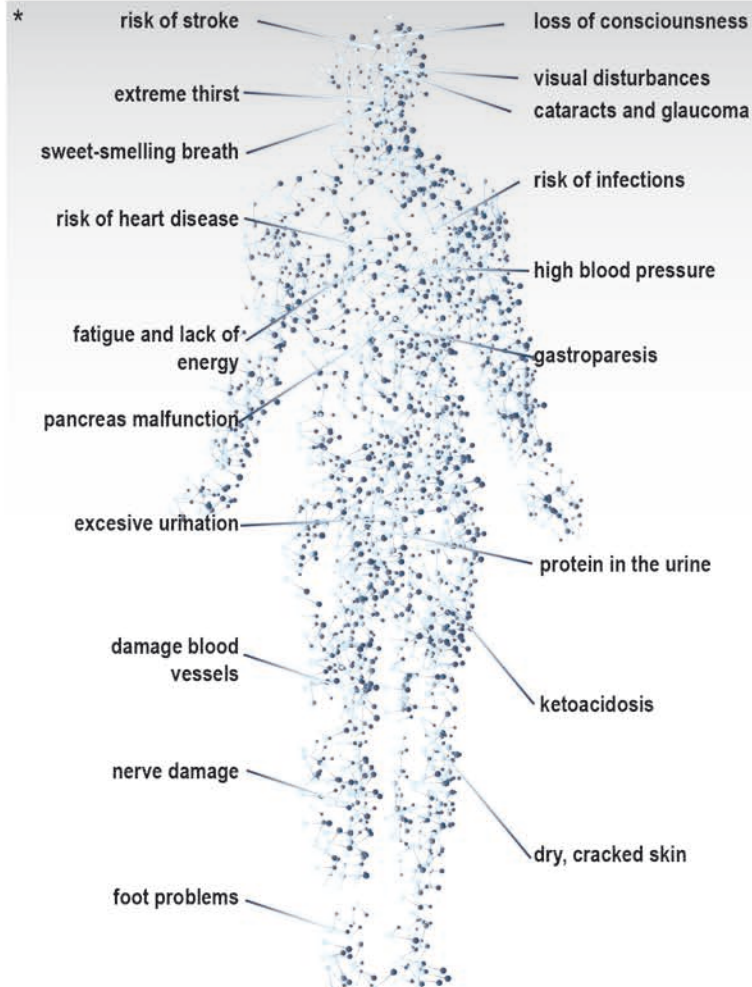
miRNA-based strategy to expand cell therapy potential for treating diabetes

*MIT linQ IDEA² Global 2019
20-21 June*



María Salazar Roa
Spanish National Cancer Research Center

TYPE 1 DIABETES (T1D) is an autoimmune disease that destroys the beta cells, leading to high blood glucose levels and therefore, metabolic failure.**

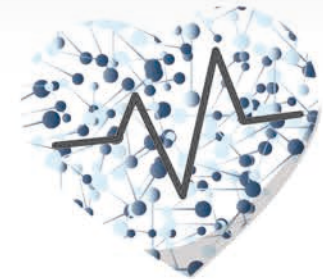


SOCIAL AND ECONOMIC COSTS

insulin injections
constant glucose control



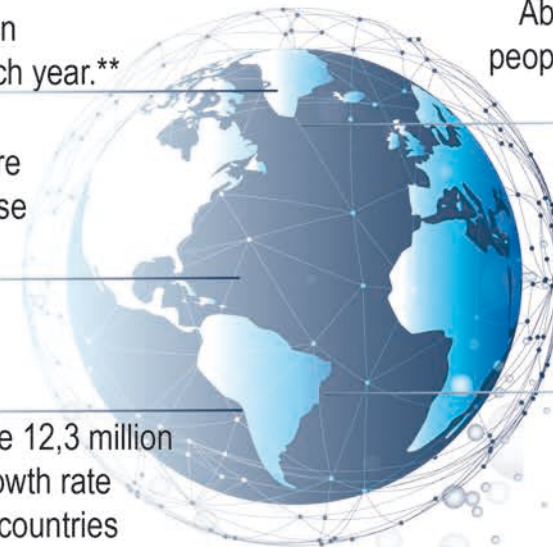
healthy diet and lifestyle



90,000 children
diagnosed each year.**

About 10.2 million
people diagnosed in
2018

>500,000 children are
living with this disease
globally**



14.9 billion USD
only in US

By 2025, there will be 12,3 million
– with the annual growth rate
higher in developed countries
(Spain leading this list)**

* WHO reports <https://www.who.int/news-room/fact-sheets/detail/diabetes>
** Katsarou, A. et al. (2017) Nat. Rev. Dis. Primers doi:10.1038/nrdp.2017.16



DESPITE MUCH PROMISE, THESE STEM CELL-BASED THERAPIES HAVE NOT YET DELIVERED

LOW EFFICIENCY AND EFFICACY



**There is a need to improve the current stem cell-based technology
so it can be considered fully as a clinical tool**



Original Stem cells

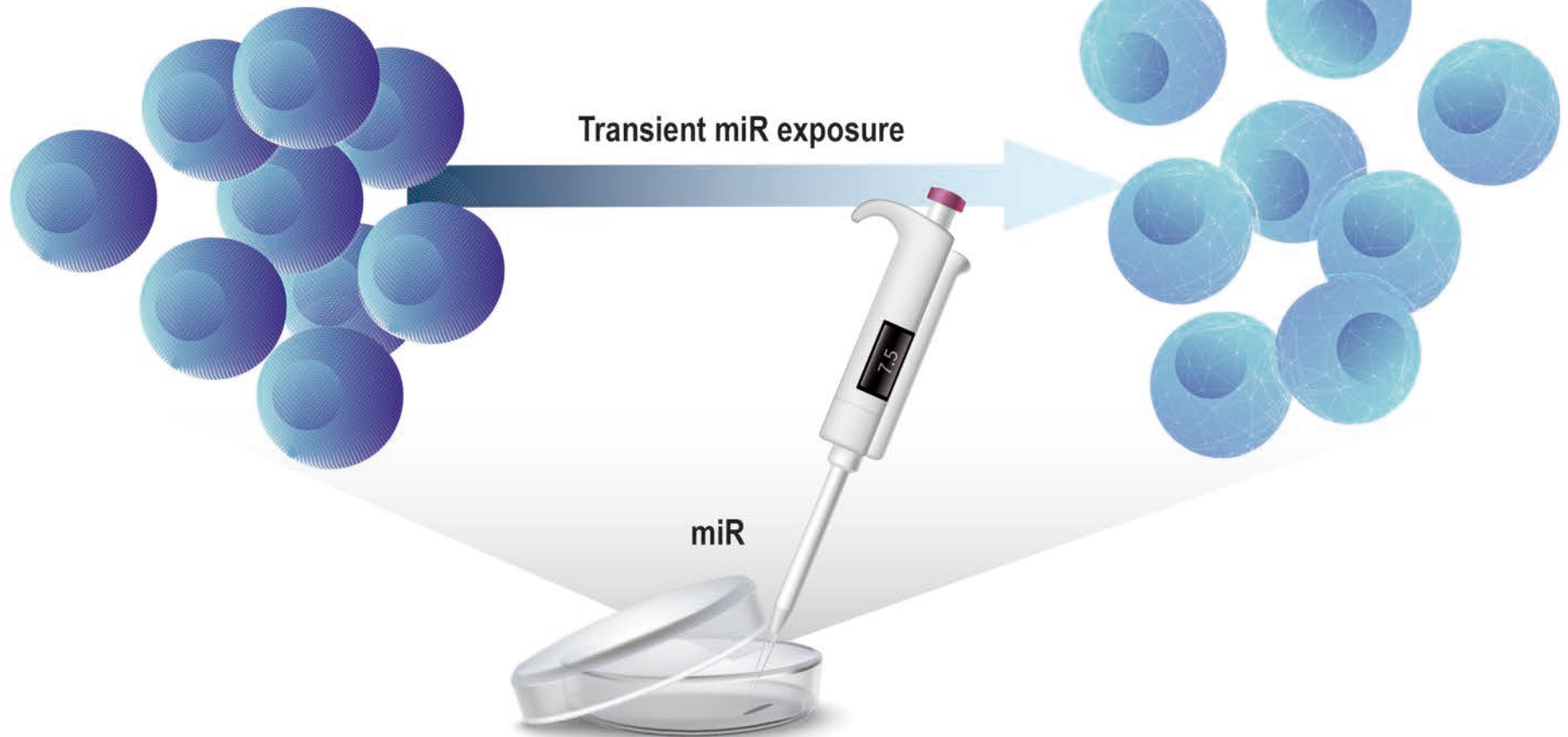
PSCs

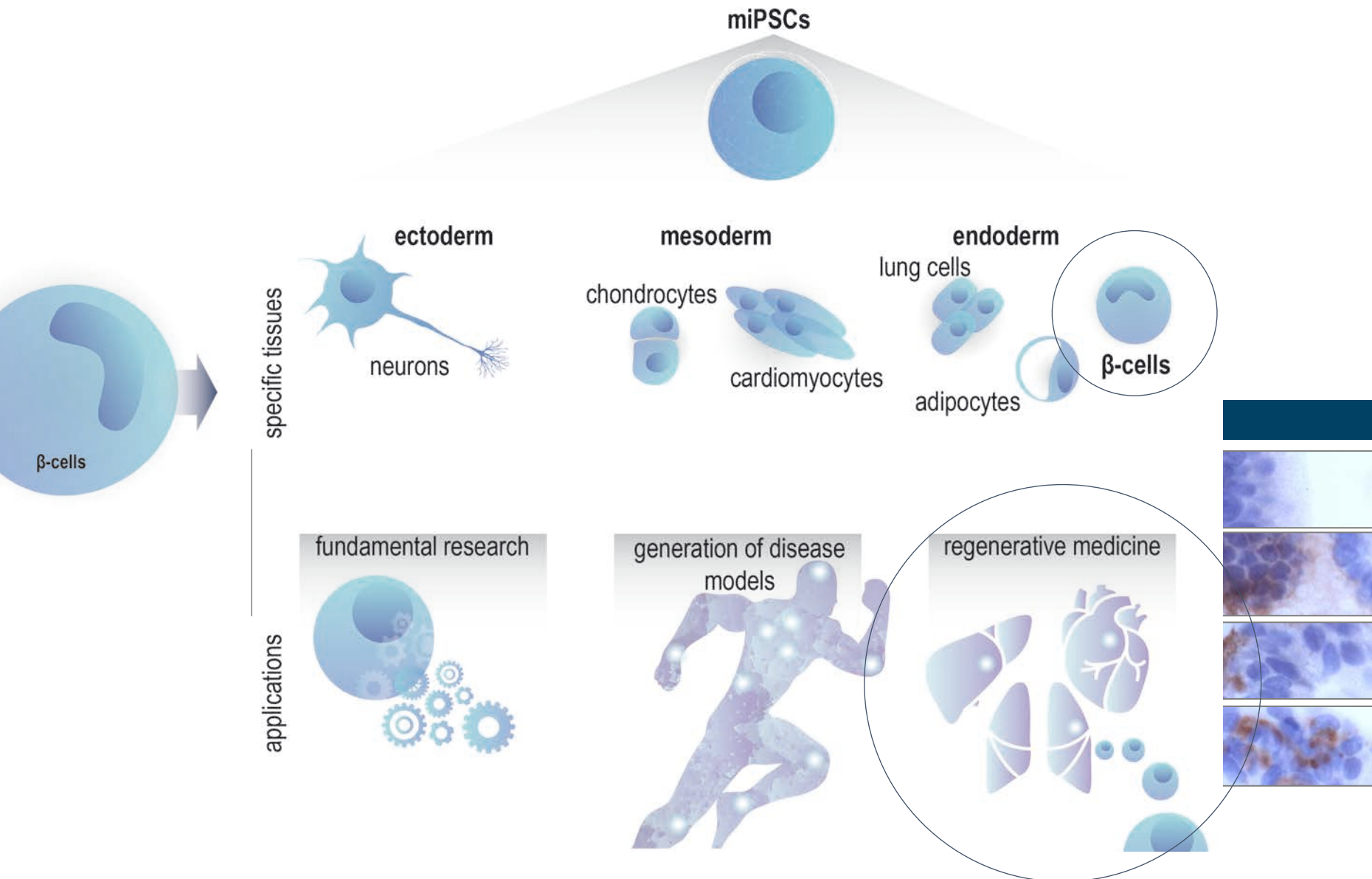
Enhanced Stem cells

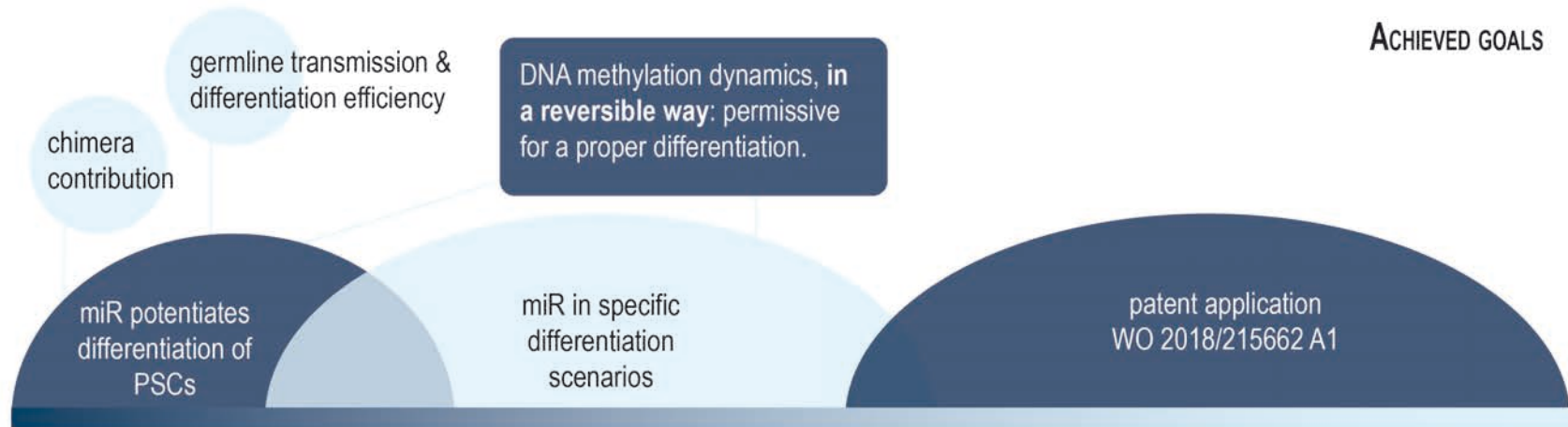
miPSCs

Transient miR exposure

miR





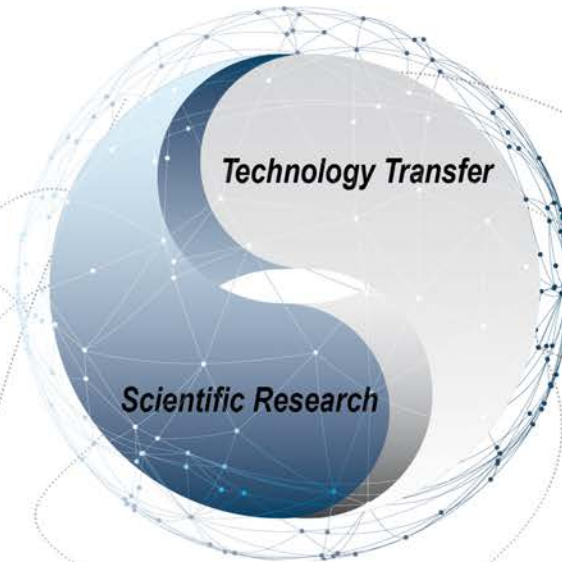


to an applicable and efficient therapy



getting closer to the **definitive cure** of the disease

be
do POSITIVE



Carolina Villarroya, PhD
POSTDOC AT CNIO



Marcos Malumbres, PhD
GROUP LEADER AT CNIO



María Salazar Roa, PhD
STAFF SCIENTIST AT CNIO
Project leader



Carolina Pola, PhD
DIRECTOR OF INNOVATION &
INTERNATIONAL AFFAIRS
AT CNIO



Filipa Martins
PHD STUDENT AT CNIO

miRNA-based strategy to expand cell therapy potential for treating diabetes

*MIT linQ IDEA² Global 2019
20-21 June*



María Salazar Roa
Spanish National Cancer Research Center