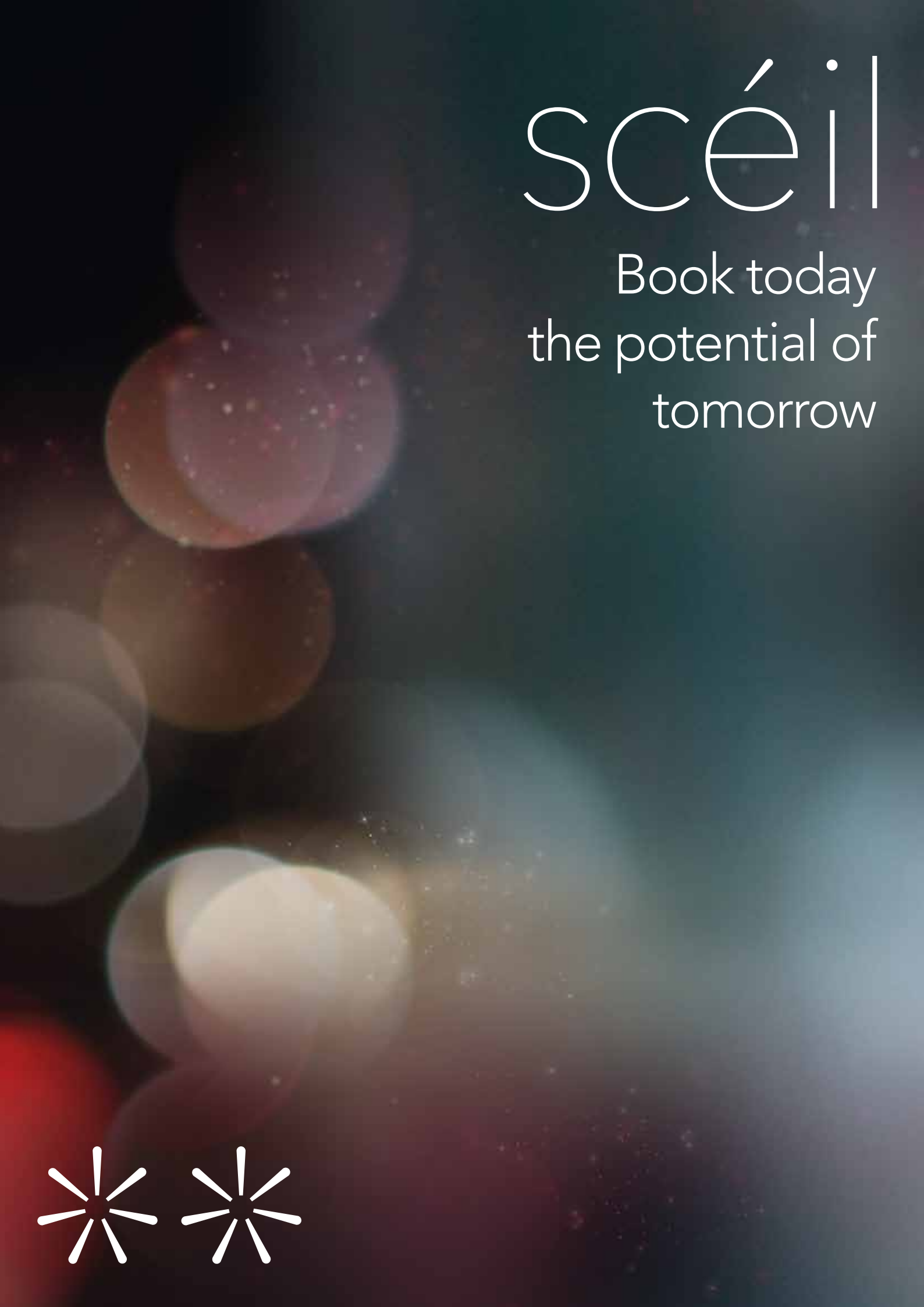
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scéil

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Retrieval of the personal iPS deposit would occur upon request at a time when there is a need for an approved regenerative medicine therapy. At any time cells can be collected, reprogrammed to iPS and stored, to provide a backup for tomorrow.

Scéil is a company dedicated to provide services relating to the production and storage 'induced pluripotent stem cells' (iPS cells) from a skin sample obtained from individual persons with a view to a potential future use for their own benefit.

Scéil is made up of two companies wholly owned by Cellectis SA, the global specialist in genome engineering and stem cells research. Scéil is the first and only company in the world to offer individuals the chance to have a sample of their cells transformed into iPS cells and stored for their lifetime until they have a need in the future for treatment as soon as regenerative medicine techniques become available.

Focus on iPS cells

What is a stem cell?

Stem cells are the first cells of life that develop a few hours after fertilization. A stem cell is a pristine cell in a "Day Zero" state of life, capable of transforming into any cell type of the body such as skin, heart, muscle or neuron. We are all the result of the development of stem cells into an embryo through proliferation and differentiation into various tissues and organs that make up our bodies. There are 2 categories of stem cells:

- embryonic stem cells that only exist after fertilization and develop into an embryo and subsequently a fully-fledged human being.
- adult stem cells, found throughout the body in many types of tissue. Adult stem cells are natural specialised cells of our bodies, capable of replacing dead cells or repairing injured tissues.

Our program - Scéil

Scéil offers a process in which iPS cells are removed, stored, and later given back to the same person. At Scéil, we propose to organize collection of tissue samples from individual clients in order to produce and store our clients' iPS cells.
These remain available for their lifetime. Thanks to this "time freezing" operation, the iPS cells will be stored at -180°C and can be retrieved after many years in the exact same genetic state that they were initially collected in. Thus, the earlier in a lifetime the deposit is made, the fitter the cells will be for future use.

Why the hype surrounding stem cells?

Microscopic in size, stem cells are big news in the medical and scientific world because they can potentially be used to replace, heal or even reconstitute damaged tissues and cells in the body. They can serve as a built-in repair system for the human body, replenishing other cells as long as a person is still alive. Scientists and researchers are excited about the healing potential of stem cells. These undifferentiated biological marvels have the ability to grow into specialized cells such as heart or liver cells, and when extracted and grown under the right conditions could be used to repair damaged tissues and organs.

The stem cell revolution

In October 2012, Professor Shinya Yamanaka and Professor John Gurdon were awarded the Noble Prize in Medicine for the discovery that mature cells can be reprogrammed to become pluripotent, stem cell-like cells, called iPS cells (or induced pluripotent stem cells). This discovery revolutionised the face of stem cell biology and has wide implications in medicine: due to their ability to grow into specialised cells, these iPS cells could be used to repair most damaged tissues or organs.

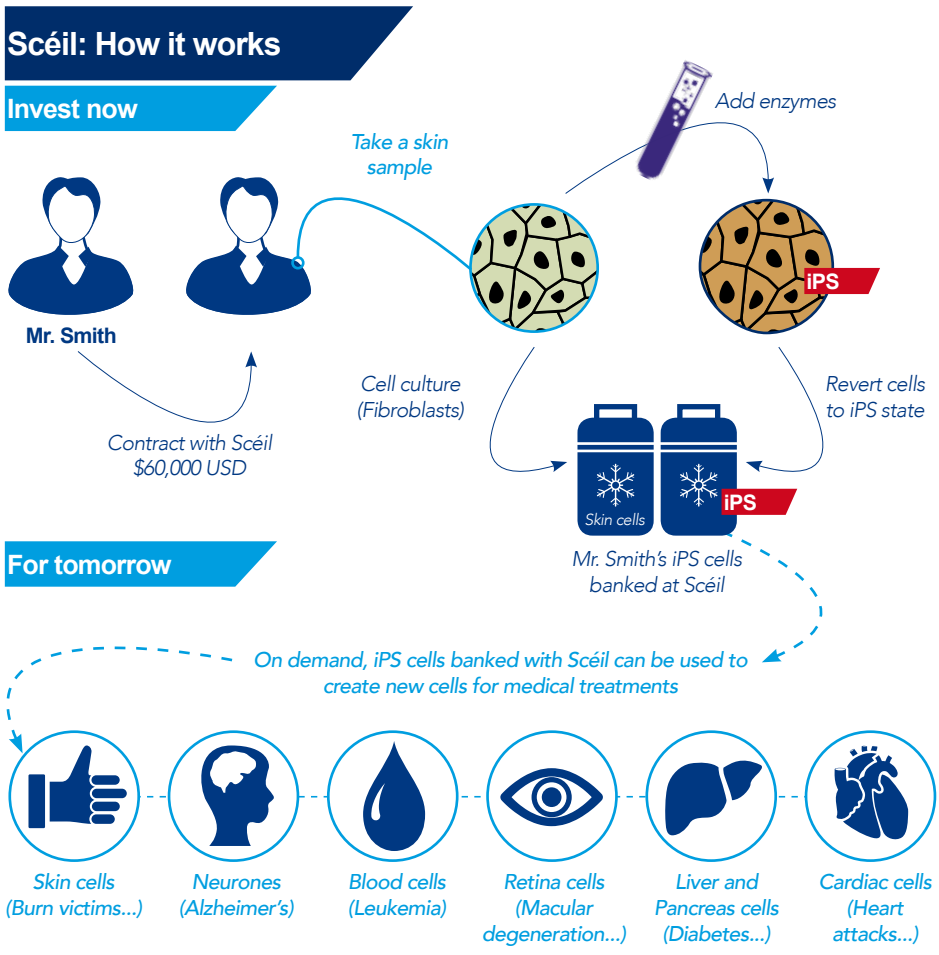
Capturing the future potential of regenerative medicine

Stem cell applications are hailed as a major revolution in the field of regenerative medicine and are currently being used in clinical trials, especially in eye diseases (such as macular degeneration). It is anticipated that in the near future, stem cells will have applications in a wide range of diseases, including neurodegenerative diseases (e.g. Parkinson's, Alzheimer's), metabolic diseases (diabetes), heart failure and muscle damage. In the long term, these revolutionary methods will allow to grow a new lung, liver or heart, depending on what the patient needs.

Starting from "Day Zero", an ordinary cell that multiplies gradually looses its potential to divide. As the human body grows old, cells and tissues are further away from "Day Zero".
However, at any age, it is possible to reprogram cells back to that point where their potential is fully restored.

iPS cells

Thanks to Professor Yamanaka's discovery, iPS cells are produced from differentiated, mature adult cells taken from an adult tissue (like skin for example) that are reprogrammed to recover a "Day Zero" stem cell state (i.e. they are able to indefinitely self-renew and are capable of differentiating into any cell type of the body). Hence iPS can potentially be used to regenerate or heal damaged, diseased or ageing tissues and organs.



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cellectis

Cellectis is a world-leading biotechnology company created by André Choulika and David Sourdive, originally researchers at the Institut Pasteur (Paris, France).

Cellectis deploys a large part of its resources in the development of state-of-the-art therapeutic programs. One of Cellectis' main areas of expertise is stem cells, with over 13 years of experience leading to a unique know-how in pluripotent stem cell derivation, production, storage and applications.

Cellectis' long-standing collaborations with leading scientists around the world, including Professor Yamanaka, enabled the company to become the first therapeutic license holder for iPS cells following the discovery of this revolutionary technique. In 2012, Cellectis was awarded, by the US National Institute of Health (NIH), the first ever contract to make clinical-grade iPS cells. Cellectis has all the scientific expertise and infrastructure to collect a sample of adult cells, transform it into iPS cells, and multiply and store them ready for when they may be needed some time in the future once the technology has been clinically established.