



העמותה לחקר בריאות העין
ומניעת עיוורון בישראל (ע"ר)

The Israeli Initiative in bio banking of stem cells for clinical use

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For the Israeli Innovative Staff for Research and Development of Stem Cells
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This proposal highlights the use of stem cell lines derived from human embryonic and adult tissues for clinical uses in medicine for the benefit of patients. We aim to use both pluripotent stem cells and adult stem cells for urging clinical needs as outlined below.

1. The Israeli National Stem Cell Bank - The Pluripotent Stem Cell Arm

Cellular therapies are one of the major advancements in current health care. The use of cellular therapies in regenerative medicines is being heralded for the curative treatment of neurodegenerative and heart diseases, diabetes, and a multitude of other serious, debilitating illnesses that impact society and affect mankind.

Given the unique properties of pluripotent stem cells, they may serve as unlimited sources of human cells for transplantation therapy, and the replenishment of malfunctioning or dying cells. In addition, they may serve to model human diseases for development of novel therapeutic modalities and drugs.

The Israeli National Bank of Stem Cells will provide guidance and support to multiple research groups that are studying various disorders. The bank will also develop a repository of patient stem cells lines that will serve the national and international scientific community.

The key project goal is to establish a national bank of Israeli universal donor stem cell lines for the development of products suitable for human therapeutic use.

The bank will be established at Hadassah, relying on Hadassah's GMP regulatory platforms and vast experience. The bank will provide the clinical and research-grade stem cell lines worldwide, placing Israel on the global map in scientific and medical communities.

חברי ועד מנהל: פרופ' ארי ברזילי, פרופ' דב ויינברגר, פרופ' אלי חזום, פרופ' ענת לוינשטיין, פרופ' חנא גרוזוי, פרופ' יעקב פאר, פרופ' אהוד אסיה, פרופ' אידו פרלמן, פרופ' דרור שרון, פרופ' יאיר מורד, פרופ' אבי סלומון, ד"ר חני ורבין, ד"ר רונית לוינגר, ד"ר יפית שטרק, גבי אריס שפיגל, מר מרק עמוס, ד"ר ניר ארדינסט, מר יאיר שפר, מר אשר גרינבאום



2.The Israeli National Stem Cell Bank - The Adult (Tissue) Stem Cell Arm

Adult or Tissue stem cells are cells that reside in each of our organs and have the capacity to replace lost cells of a specific organ.

We aim to generate banks of expanded tissue stem cells from individuals that are healthy or have just become ill with various diseases. This method is now being established at the Sheba Medical Center.

Aims of the Center at the Sheba Medical Center

- 1) Establish stem cells for drug screening, discovery, repurposing and testing.
- 2) Personalized medicine: Utilize patient-derived stem cell- for disease modeling.
- 3) Establish patient-based disease-specific biobanks.
- 4) Provide stem cells for (re)generative medicine (repair of injured tissue and/or as an alternative to organs for transplantation).

Altogether, the idea is to generate a national infrastructure for derivation, expansion and manipulation of stem cells for clinical use.