



SIFU®

Secure Integrated Freezer Unit



Cell and gene therapy is an expanding market with global sales expected to grow significantly over the next 5 years. These therapies require ultracold storage units which are often operationally challenging for typical hospitals. As therapies move from earlier stage trials to late stage and commercial, there will be a need to increase storage capacity while improving ease of access for hospital staff. SIFU is a unique patent pending system designed for the hospital setting which meets the unmet needs of this growing market.



Current Challenges

Typical ultracold (less than -150°C) cell therapy products are handled in blood banks or cell therapy labs, rather than hospital pharmacies, and require trained staff capable of thawing and processing these therapies. Further, these therapies require large specialized storage, sourcing and management of liquid nitrogen, and product temperature monitoring services. Most current cell therapy labs operate on constrained hours, limiting the availability of the therapy to patients in need.

There is no current commercially viable solution for these challenges available in the market. SIFU aims to automate and simplify this process in one electrical device with an easy-to-use interface.

SIFU Capabilities

- No liquid nitrogen required; standard power outlet
- Can maintain ultracold temperatures
- 24/7 availability of product that does not require specially trained staff for access
- Can be operated easily in a hospital pharmacy
- Secure storage and authenticated dispensing with quarantining capabilities
- Product is thawed automatically at the time of need – reducing potential for handling errors
- Can store 144, 50ml vials and can thaw 10 vials simultaneously
- Remote monitoring of temperature and operation of the unit for compliance and availability
- Efficient inventory tracking and restocking of cryopreserved product with minimal exposure to ambient environment

Market Need

- Cell and gene therapy forecast to grow global sales from \$7.2 billion in 2021 to \$58.4 billion by 2026
- There are 1,100+ Cell & Gene Therapy products in Phases 1, 2 & 3 as of 2021
- Significant challenge storing and handling vials that require ultra-cold conditions at clinics/hospitals

Development Status

- Fully functional Alpha prototypes built and tested at a reputed contract design and manufacturing firm to quality and safety standards
- Current design can support further modifications such as vial size flexibility
- Currently seeking partners to license or acquire