

SANYO Biomedical Reference

Cell Therapy Processing Facility, Northwestern Memorial Hospital



Overview:

The Cell Therapy Processing Facility at Northwestern Memorial Hospital in Chicago, IL is part of an NIH funded study consisting of 7 instrumental institutes across the country granted 8 million dollars each to demonstrate the processing and production of islet cells for transplantation of the pancreas in hopes of finding a cure to diabetes.

SANYO Product Solution: MCO-5AC, MCO-5M, MDF- U73VC, MPR-1410, MPR-720, MDF-U537D, Virus Washer

Application: Islet Cell Therapy Processing and Production

At this facility, they produce Islet cells for tranplantation, which is an experimental procedure for organ donation. Islets are taken from the pancreas of a deceased organ donor and then purified, processed, and transferred into a recipient. Once implanted, the beta cells in these islets begin to make and release insulin. The result is a biologically-produced safe injection site so the body accepts the donor organ and connect to it, increasing the chances of a succesful transplant.

SANYO Advantages:

- Great quality and value for a competitive price
- Quick CO2 response time, unit goes right back to 5% without unnecessary alarms or sensors
- Exceptional and personalized service and customer service team
- Innovative, patented UV technology greatly cuts down the amount of cleaning time
- The small, stackable size makes them easy to segregate different culture media
- Convenient and easily movable because no water jacket
- Very economical on CO2 usage due to the injection system
- All the freezers are quiet and have extremely accurate temperature ranges even with multiple door openings.



MCO-5AC

Cell Therapy Processing Facility Reference Information

Competitive Analysis:

"We have two brand-new NuAire units that are already giving us endless trouble. We bought them because we needed an incubator that could go down to -22, but the circulating cooler doesn't hold a temperature. There is no stability whatsoever or objective reason why it changes."

"I've used Forma/Thermo units before and they are very expensive for no gain. Once you buy it, if it breaks, it's your problem. I buy based on service more than anything else. You need consistency.

What SANYO represents in my mind is quality and consistency, but nothing is perfect. I am a creature of habit and the SANYO units work consistently, but when there is the rare problem, SANYO is deep in customer service and responds immediately and proactively. We have enough issues on a daily basis, equipment shouldn't be one of them."

Industry Highlights and Current Research:

Aside from their primary research on patient-specific islet cell development, the facility is also busy developing stem cells for transplantation, including GBH, the removal of immune cells that may cause problems in cardiac heart transplants. They manipulate and purify the cells to prepare them for the injection site so acceptance chances are higher. The SANYO Virus Washer is fundamental in this process as the area must be 100% clean and performed under aseptic technique. They are also studying human-derived neurons for curing spinal cord injuries and are in the early testing stages of studying these transplants in dogs.



Left: SANYO Virus Washer in lab, Right: Northwestern University Certificate of Excellence in Cell Therapy

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-Dr. Richard Meagher, Cell Processing Facility, Northwestern Memorial Hospital

Conclusions:

An early adopter of new technology, Dr. Meagher was drawn to SANYO incubators for their innovativeness in UV technology and untraditional approach from the water jacket. He believes the SANYO equipment plays an integral part in his Islet research advancing as fast as it is and that the successful implantation rates are due to the quality of contamination control. Islet cell therapy research is advancing at an incredible rate, and the hope is that diabetes patients can soon permanently be cured of needing insulin injections.

Contact Info: Dr. Richard Meagher, Cell Therapy Processing Facility, Northwestern Memorial Hospital 710 N Fairbanks Court Chicago, IL 60611

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