

Sanyo Biomedical Incubation Reference

Herzenberg Laboratory, Stanford University School of Medicine

Overview. Leonore and Kyoto Laureate Leonard (Lee & Len) Herzenberg are professors in the Genetics Department in the Stanford University School of Medicine. They jointly run a biomedical research laboratory and technology development group that will celebrate its 50th anniversary in November, 2009. Known the world over for their seminal contributions to immunogenetics, flow cytometry, biomedical software and monoclonal antibody technology, the Herzenbergs and their Research Associate, Dr. Kondala Atkuri, are pioneering a shift to cell culture incubators that maintain cells physiological oxygen levels to improve responses in studies of mitochondrial disorders, lymphocyte development, lymphocyte function and HIV infection.

Incubators: Sanyo MCO- 175M and Sanyo MCO-18M

Application and Current Research: Immunity, Primary cell culture, Human disease and Redox

The Herzenberg laboratory operates broadly across traditional barriers to do research that ranges from basic molecular, genetic and cell-based studies to clinical trials and patient studies in diseases involving immunological and redox abnormalities. They have recently published a series of studies collectively showing that freshly isolated lymphocytes, macrophages and fibroblasts respond more similarly *in vitro* and *in vivo* when the cells are cultured at incubator oxygen levels (5-10% O₂) that more closely approximate the oxygen levels that the cells encounter *in vivo*.

Recognizing the importance of maintaining cultured cells in this way, Dr. Atkuri has been encouraging his colleagues to shift to culturing cells at “more physiological oxygen levels”. To this end, he currently runs what he playfully calls the “Low ox hotel” at Stanford, where he invites colleagues to use his incubators to determine whether physiological oxygen is better for their cells. The results, he says, “have been spectacular”.

Sanyo Advantages

- Robust yet sensitive Tri-Gas incubators
- Precise O₂ and CO₂ sensors accurately control incubator gas environment
- Fast gas equilibration minimizes oxygen level variability
- Top quality heat sensors that function with great precision
- Incubator design is excellent
- Copper-alloy and UV safe technology minimizes contamination
- Customizable shelf design optimize space usage and sharing
- Multi-door access minimizes gas wastage and variability

Competitive Analysis

Sanyo makes safe, accurate, easy to use Tri-Gas cell culture incubators that maintain the desired culture conditions with great accuracy. In our years of experience with cell culture, we have not seen an incubator that is so trouble free and reliable, that requires so little servicing, and that is serviced so well.

We initially tested Sanyo Tri-gas incubators in a collaborators lab and were impressed with its design and accuracy in maintaining gas percentages inside the incubators. We then ordered two incubators and later two more, and are hoping to order another two as soon as we can find space for them.

Sanyo service is excellent. Its been a pleasure to work with Laura Johnston, Sanyo rep for Bay area. Laura is professional, helpful and gets things done in record time. We have advised several other laboratories at Stanford to purchase Sanyo Tri-Gas incubators and were happy to hear that they have now made the switch.