Miri® TL

"An affordable, time lapse incubation system for IVF"
Who is behind Esco Medical - Esco Micro Pte.
Esco is an established market leader in the manufacture of laboratory equipment for use in life science laboratories. With more than 35 years of providing high quality to your laboratory equipment, Esco is focused at setting new standards with attractive priced IVF products, supplied with a broad set of desirable features, without compromising existing work & QC routines at your laboratory. Our constant aim is to offer customers high value for their money and exceed our customers’ needs and expectations.

When controlled environment solutions are important to you, depend on Esco equipment for proven safety and performance.

A range of innovative products for the IVF laboratory available worldwide.
The Miri® TL incubators are designed and built specifically for IVF clinics with the goal of improving time to pregnancy. The Silent Embryo Hypothesis:

Parents keep a watchful eye on their children to make sure they are safe. It is no different during IVF. It is in fact very important to monitor the developing embryo in a similar way.

The Miri® TL improves on the concept of the silent embryo hypothesis by further minimizing stressful factors that may be introduced when taking the dishes out of the incubator.

The Miri® TL enables time-lapsed image monitoring of the growing embryos and thus gives the embryologist a valuable tool in the embryo decision making process and patient communication.

**Time Lapse Functionality Built on the Miri® Platform**

- **Time Lapse Monitoring**
  - 5 minute picture interval

- **6 Physically Separate Chambers**
  - Up to 6 separate patients
  - Up to 84 total embryos

- **Advanced Temperature Regulation**
  - Direct warming and heated lid

- **Tri mix blend of CO₂, N₂, and ambient O₂**
  - Suppressed O₂
  - Pre-mixed gas is not needed
  - Rapid recovery to optimal environment

**Common Stressors:**
- Temperature fluctuations
- Gas concentration fluctuations
- Non-optimal pH
- Volatile Organic Compounds (VOCs)
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“An affordable time lapse incubation system for IVF”

At the heart of the Miri® TL is its Time Lapse monitoring of embryo development. The Miri® TL viewer is equipped with features such as image stacking, that will be useful for embryo viability evaluation.

“The 6 incubation chambers set new standards, for a safe and secure handling of your embryos”

Capacity:
- 14 embryos per CultureCoin
- 1 CultureCoin per Miri® TL chamber
- Total embryo capacity: 84 embryos

CultureCoin Embryo Culture Dish For The Miri® TL

Embryo Evaluation Tools

Annotations of dish events and results are stored for reference. When an event occurs, the user simply drags and drops the appropriate event from the events list. If two events relate to some result, the time period between the events is highlighted with a corresponding color fill indicating the result.

When a decision regarding the embryo’s viability is to be made, the user needs only to click a button. A resulting ‘transfer map’ gives the user an easy method to identify embryos that have been selected for either embryo transfer, cryopreservation, or discarding.
The main screen shows all 6 chambers and each has a counter showing the duration of time lapse recording done. At the upper right portion is a snapshot of other useful information regarding the incubator such as temperature, CO₂, and O₂ statuses and set points.

When accessing a chamber to start a time lapse, The Miri® TL allows the user to assign patient IDs. Since the Miri® TL’s chambers are physically separate, being able to identify which patient is assigned to which incubation chamber is a very useful and sensible feature.

Time lapse monitoring of all 14 wells of a selected chamber containing a culture dish (CultureCoin) is possible. Shown here is the zoomed view of embryo #2 at time point of 50 hours. Navigation through the stacked timeline is easy and intuitive.

A timeline view displays a matrix of 14 embryos (rows) with a snapshot of time stages of development (columns). This feature provides a powerful tool to make side-by-side comparisons between embryos.
The Miri® TL boasts advanced temperature regulation. Firstly, all of the 6 chambers are separate from each other—no crossover heat. Secondly, each chamber is regulated by two sensors that monitor a heated base and a heated lid respectively.

- **Heated Lid**
  - Prevents condensation.
  - Enhances temperature regulation/recovery.
  - Excellent uniformity between chamber top and bottom.

- **Direct Heat Transfer**
  - < 1 minute temperature recovery

The Miri® TL has a built-in standard pH meter (BNC-type connection pH probes) and is accessed from the pH meter screen.

The Miri® TL data logger logs incubator parameters such as CO₂ regulation data, O₂ regulation data, and temperature regulation data. Similarly, alarms are also logged.

Easy temperature, CO₂, and O₂ validation via the easy access PT1000 connectors and gas sampling ports.
The Miri® TL features a gas mixer and CO₂ & O₂ sensors. The ability to mix gas enables the user to modify gas concentrations anytime.

Other Advantages Include:
- Lower operational costs
- Monitor actual gas concentrations in real time

High Quality Airstream Via:
- HEPA+VOC filter
- 254nm UV-C with 185nm filter

Gas Recovery:
< 3 minutes

Gas Consumption:
- CO₂: 2 L/h
- N₂: 10 L/h

OTHER USEFUL FEATURES:
- Writable Glass Lids
- Large Easy-To-See Displays
- pH Measurement (BNC)
- Alarms With External Alarm Port
Infertility is viewed as a problem that has social, psychological, and economic impacts to the afflicted individuals and couples. It is a global concern that knows no race nor creed. It has been estimated that 1 in 6 couples would struggle with infertility at least once in their lifetime.

The vision of Esco Medical is to support Assisted Reproductive Technologies (ART), such as IVF, by developing practical and state-of-the-art technological solutions for improving clinical success rates and patient satisfaction. All Esco Medical products are designed with the IVF clinic in mind and developed with the Silent Embryo Hypothesis as a guiding principle. The Silent Embryo Hypothesis states that the less disturbed an embryo can remain, the better its developmental potential will be.

It is on these foundations that Esco Medical remains committed to providing world class ART, worldwide. At Esco Medical, life has begun.