

EpiLiver Technical Specifications

Tissue

Kit: LIV-100 EpiLiver kits consist of 24 individual tissues. Each kit contains tissues, culture medium to support experiments for 24 hours, and plasticware. Please contact MatTek for specific kit contents.

Formats:

- LIV-100: Individual tissues cultured in cell culture inserts. Dimensions: 9 mm tissue diameter (surface area= 0.6 cm²), underlying microporous membrane pore size = 0.4 µm
- Other formats available. Please contact MatTek Technical Service

Culture: Air-liquid interface/ wet film

Lot numbers: Tissue lots produced each week are assigned a specific lot number. A letter of the alphabet is appended to the end of the lot number to differentiate between individual sets of 24 tissues within a given production lot of tissues. All tissue kits within a production lot are identical in regards to cells, medium, handling, culture conditions, etc.

Shipment: At room temperature on medium-supplemented, agarose gels

Shipment day: Every Monday

Delivery: Tuesday morning via FedEx priority service (US). Outside US: Tuesday-Wednesday depending on location.

Shelf life: Including time in transit, tissues may be stored at room temperature (RT) for up to 2 days. However, the best reproducibility will be obtained if tissues are used consistently on the same day, e.g. Tuesday afternoon or following overnight storage at RT (Wednesday morning).

Length of experiments: Tissue cultures can be continued for ONE (1) MONTH or more with good retention of normal morphology. Tissues must be fed every other day with 5.0 mL of maintenance medium (LIV-100-MM). Cell culture inserts are hanging top 12-well plates (HNG-TOP-12) to allow use of 5.0 mL.

Cells

Type: Normal human tracheal/bronchial epithelial cells (NHBE);

Genetic make-up: Single donor

Derived from: Healthy, non-smoker (alternate donors available upon request)

Alternatives: NHBE from Asthmatic, COPD and Smoker donors

Screened for: HIV, Hepatitis-B, Hepatitis-C, mycoplasma

Medium

Base medium: Williams E Medium, phenol red free

Growth factors/hormones: Epidermal growth factor and other proprietary factors

Antibiotics: Gentamicin 5 µg/mL, Penicillin/streptomycin (100 U/mL / 100 µg/mL)

Anti-fungal agent: Amphotericin B 0.25 µg/mL

pH Indicator: None

Other additives: Proprietary

Alternatives: Phenol red-free, antibiotic-free, anti-fungal-free medium and tissues are available. Agents are removed at least 3 days prior to shipment.

Quality Control and Sterility

Visual inspection: All tissues are visually inspected and if physical imperfections are noted, tissues are rejected for shipment.

Sterility: All media used throughout the production process is checked for sterility. Maintenance medium is incubated with and without antibiotics for 1 week and checked for sterility. The agarose gel from the 24-well plate used for shipping is also incubated for 1 week and checked for any sign of contamination.

Screening for pathogens: All cells are screened and are negative for HIV, hepatitis B and hepatitis C using PCR. However, no known test method can offer complete assurance that the cells are pathogen free. Thus, these products and all human derived products should be handled at BSL-2 levels (biosafety level 2) or higher as recommended in the CDC-NIH manual, "Biosafety in microbiological and biomedical laboratories," 1998. For further assistance, please contact your site Safety Officer or MatTek technical service.

Notification of lot failure: If a tissue lot fails QC or sterility testing, the customer will be notified and the tissues will be replaced without charge. Because our QC and sterility testing is done post-shipment, notification will be made as soon as possible (Under normal circumstances, ET-50 failures will be notified by Thursday 5 p.m.; sterility failures will be notified within 8 days of shipment)