



## THE PROJECT

Organ-on-a-chip technologies provide a breakthrough in mimicking human organs on a miniature scale. The chips allow for separate cell culture, connected within a microfluidic system. Organs such as the blood brain barrier (BBB) or kidneys can be set up very similar to in vivo conditions.

TissUse have developed a BBB model based on their HUMIMIC Chip2 technology and adopted the Cellbox technologies to fully utilise their expertise of cell culturing in these chips. This enables the end user to receive a fully functioning healthy model without spending a lot of time and effort with setting it up.

Prior to the shipment, TissUse evaluated the quality of the BBB model by performing TEER measurements, a permeation assay and live/

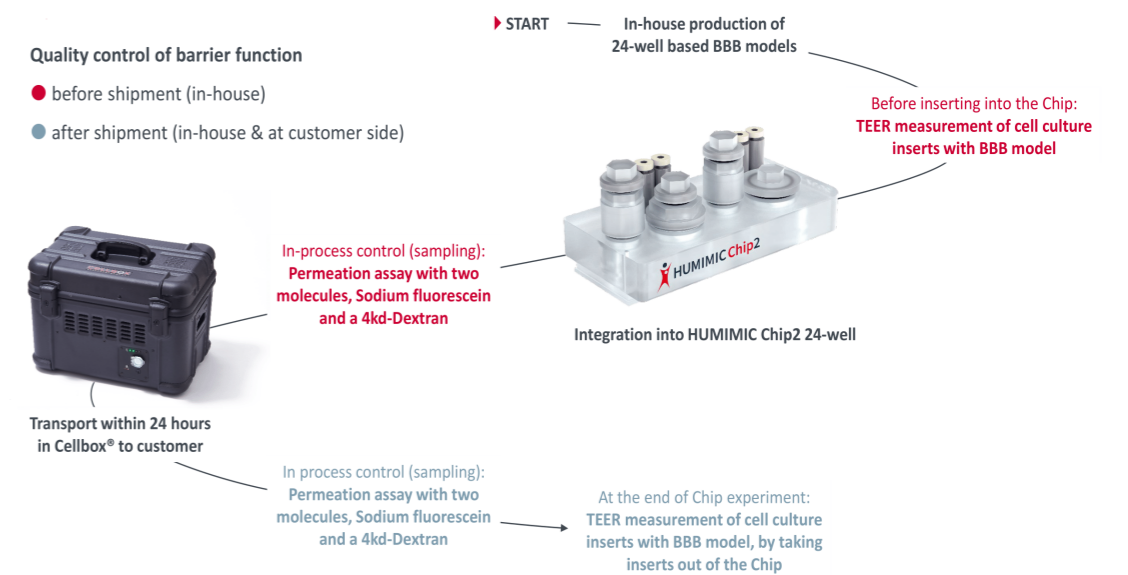
dead staining. The permeation assay evaluates how well the tight junctions between the cells are by using the fluorescent 4kd-dextran and sodium fluorescence. Live/dead staining was done with Calcein Red-Orange AM and CellTox Green.

The samples were packaged according to guidelines, and transport parameters set to 37°C and 5 % CO<sub>2</sub> in the Cellbox Ground CD.

Upon arrival in Belgium, the TEER measurements were repeated to evaluate the post-transport quality of the BBB model.

No significant difference was found between the two time points showing that the Cellbox device can be used to safely transport the organ-on-a-chip models offered by TissUse.

## THE PROCEDURE



# Transporting HUMIMIC Chip2 based Blood-Brain-Barrier Model.

Cellbox Solutions | TissUse

TissUse has developed a unique “Multi-Organ-Chip” platform that provides unparalleled preclinical insight on a systemic level using human tissues. This enabling technology platform consists of a miniaturized construct that closely simulates the activity of multiple human organs in their true physiological context. TissUse’s Multi-Organ-Chips provide a new approach to predict, for example, toxicity, ADME profiles and efficacy in vitro, reducing and replacing laboratory animal testing and streamlining human clinical trials.

TissUse

