ABSTRACT

The present disclosure describes a microfluidic chip for culturing and *in vitro* testing of 3D organotypic cultures. The tests may be performed directly on the organotypic culture in the microfluidic chip. The microfluidic chip includes at least one microfluidic unit which includes two fluidic compartments, such as upper and lower, separated by a permeable supporting structure, one or more access opening for the fluidic compartments, and a set of lids interchangeable with a set of insets. The permeable support structure serves as a support for the organotypic culture. The upper and lower compartments may include inlets and outlets which allow fluids to be perfused into the lower compartment and fluids to be perfused into the upper compartment. The access opening may be closed with a lid or accommodate an inset.

FIG. 4a