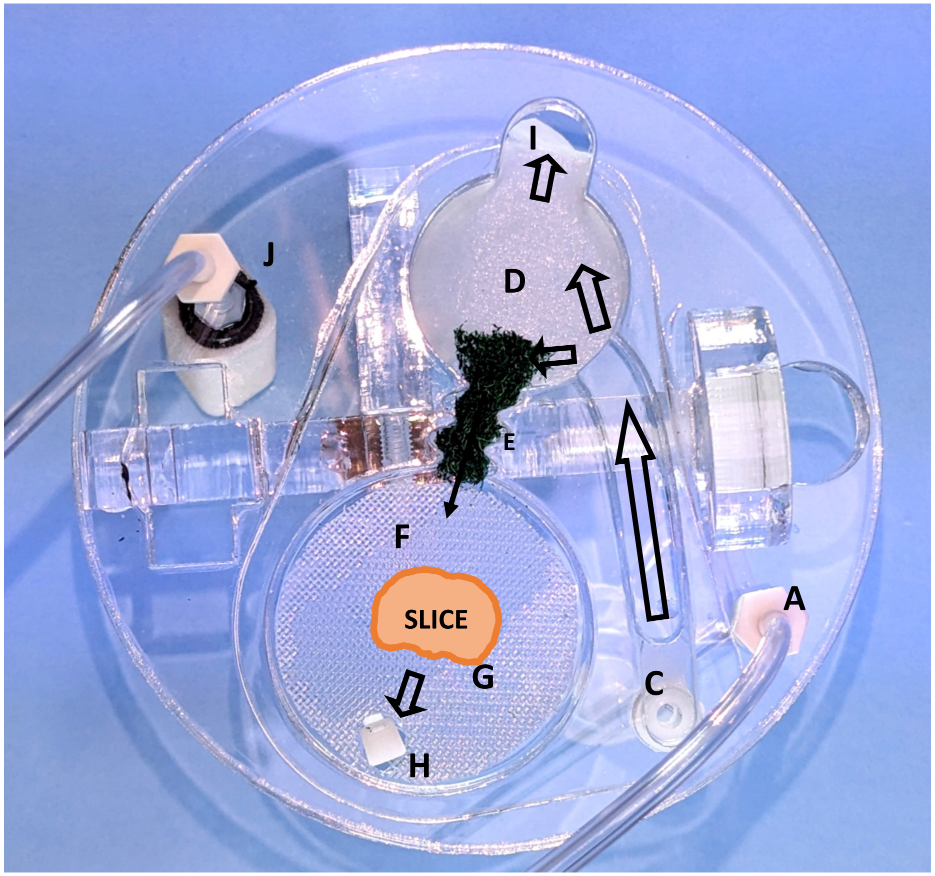
TOP VIEW OF CHAMBER MANIFOLD



Carbogen enters the jar through the top of the lid at **[A]**
where it is connected to the bottom of a larger bore tube. Bubbles rise up the tube taking aCSF to the top chamber part at **[C].**
A small polypropylene mesh disc **[D]**
with a drip control wick where the mesh in bent down **[I]**
receives aCSF and is led to a buffer material [**E**]**.**
A continuous feed of aCSF passes into another larger polypropylene mesh disc [**F**]
upon which the brain slice is laid over a piece of lens tissue **[G].**
Since the polypropylene mesh is wetted at its surface, the lens tissue on which brain slices rest are maintained at an interface with high oxygen concentration with the lid in place.
Excess aCSF falls through a drip point **[H]**
A second carbogen feed goes directly to an air stone bubbler **[J]**
to maintain a high concentration of oxygen.

Scientific Systems

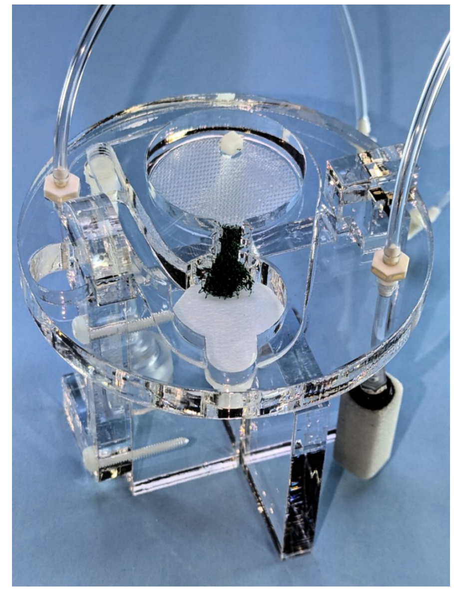
50 Unit #5 Steels Ave East, Milton
Ontario, L9T 4W9, Canada
Tel/Text 905 608 9307
SSD@SCISYS.INFO

INNOVATIVE ENGINEERING FOR SCIENCE

NEW PRODUCT LAUNCH

BRAIN SLICE TRANSPORTER

BST



* Designed for maintaining isolated, living slices *in vitro*
* Enables transportation of brain slices from surgical preparation areas to other laboratory locations
* Maintains oxygenation, circulation of artificial cerebrospinal fluid and humidification during transport
* Specifically addresses the need for maintaining viability during transport, even over distances involving walking or vehicular transportation
* Allows brain slices to remain in interface mode, minimizing disturbance from external motion
* Ensures slices remain viable throughout the transportation process

The transporter manifold is constructed in acrylic plastic, with an upper section containing an interface chamber, a solution feed reservoir and a liquid pump operated entirely by carbogen gas. The chamber is mounted above a reservoir containing oxygen saturated aCSF and contained in a transport jug with a handle for easy handling. A tight seal lid on top of the jug allows for the maintenance of a high oxygen and humidification level above the slices during transport. The diameter of the jug is 85mm, height is 160mm. The transporter module is carried entirely within the jug. The lower section of the jug maintains saturated aCSF with a volume of 500ml and provides humidification with an air stone incorporated into it. The aCSF is pumped up to the interface chamber above by means of a second carbogen line that feeds into a tube to allow bubbles to carry solution to the top, this is the fluid pump. This is fed to a reservoir from which aCSF is wicked into an interface chamber with a base lined with polypropylene mesh. Excess fluid returns from one end to the reservoir to the bottom, likewise extra solution from the reservoir returns to the bottom for re-circulation. Two separate carbogen feed tubes

OPERATION AND SCHEMATIC DIAGRAM

Carbogen enters the jar through the top of the lid at **[A]**
where it is connected to the bottom of a larger bore tube.
Bubbles at **[B]**
rise up the tube taking aCSF to the top chamber part at **[C].**
A small polypropylene mesh disc **[D]**
with a drip control wick **[I]**
receives aCSF and is led to a buffer material **[E].**
A continuous feed of aCSF passes into another larger
polypropylene mesh disc **[F]**
upon which the brain slice is laid over a piece of lens tissue **[G].**

Since the polypropylene mesh is wetted at it's surface, lens
tissue on which brain slices rest are maintained at an interface
with high oxygen concentration with the lid in place
Excess aCSF falls through a drip point **[H]**
A second carbogen feed goes directly to an air stone bubbler **[J]**