

*Designed for measuring drug, nutrient, water, and other transport across intact intestine*



- Unique chamber design supports fully functional tubular intestinal sections between 2-8 cm in length
- Provides both luminal and extraluminal perfusion
- Samples can be applied to or collected from either the luminal or extraluminal sides, or from both
- Ideal for studies focusing on absorption or excretion including drug development, acute and chronic illness (e.g.; cholera or cystic fibrosis), and nutrition analysis
- Permits full temperature control in the bath environment
- Supports both short term and long term measurements

Temperature in the water bath (tray) is maintained by a thermostatically controlled circulator such as our Grant TC-120.

An additional accessory needed to complete the system are peristaltic pumps (up to 12 channels) sufficient to drive solution through both the luminal and extraluminal spaces associated with each of the six intestinal sections.

This system has been or is currently in use at Ely Lilly and Yale University.

The Tubular Ussing System is designed to support up to six intestinal sections ranging in length from 2 to 8 cm within small plastic tubes that are then submerged in a thermostatically controlled waterbath. The intestinal sections are cannulated onto movable supports that allow the section to be positioned without stretch within the chamber tube without contacting the tube walls.

Perfusing solutions, usually with dissimilar composition, flow independently through the luminal and extraluminal sides of the intestine. This configuration allows samples to be collected from either side of the intestine over time for longitudinal transport measurements.

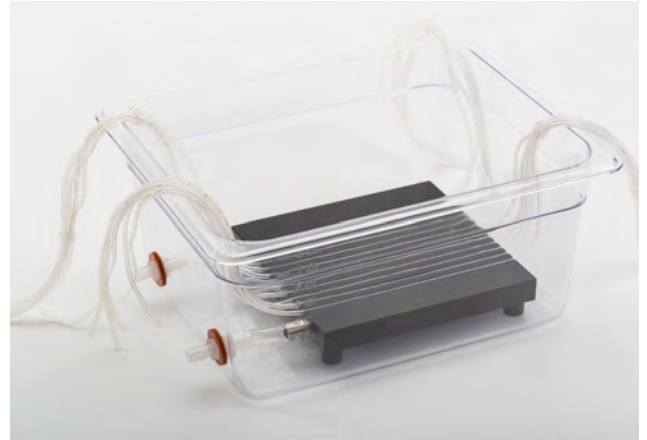
The base package is comprised of six tubular Ussing chambers, a chamber holder, a water bath, Tygon tubing for the perfusion lines, and an assembly tool.



# GUT-6 Gastrointestinal Ussing Tube

## Specifications

	<b>Intestine</b>
Intestine length	1 to 4" (10 cm)
Intestine OD	no greater than 1/2" (1 cm)
Intestine ID	no less than 1/8" (3 mm)
Luminal perfusion rate	up to 8 ml/min (value subject to change)
Species	no species restriction beyond size -known to support mouse, rat, guinea pig
	<b>Chamber</b>
Ussing tube	material polycarbonate
Ussing tube end caps	Delrin (white)
Perfusion tube fittings	nylon, barbed
Perfusion	Luminal and extraluminal flow maintained by peristaltic pump 2 channels needed per chamber
Perfusion rate	up to 10 ml/min (value subject to change)
	<b>Chamber holder</b>
Dimensions	rack assembly, 18 x 18 x 5 cm
Slots	6, one for each chamber
Slots	separation 2.5 cm
	<b>Chamber water bath</b>
Dimensions	32.5 x 26.5 x 15 cm
Inlet and outlet ports	nylon, 3/8" (9 mm) barb
Temperature range	5-50 °C, maintained by thermostatic water circulator



Water Jacket with Heat Exchanger



Six Tube Holder



Order #	Model	Product
64-3056	GUT-6	Gastrointestinal Ussing Tube, Six channel complete system
<b>Accessories and replacement parts</b>		
64-3057	GT-1	Replacement Tube with fixed and variable end caps
64-3058	GT-2	Replacement Tube without caps
64-3059	RW-1	Replacement Water Jacket
64-3060	GT-3	Replacement Six Tube Holder
64-3061	HT-12	Replacement Heat Exchanger
64-3062	RFE	Replacement Fixed End
64-3063	RVE	Replacement Variable End
64-1504	HE-1	Replacement Assembly Tool
64-3067	TY-38	Tygon Tubing 3/8", 1/2", 25 Feet
64-0167	TY-50	Tygon Tubing 1/16", 1/8", 50 Feet
72-4924	TC-120	Thermocirculator, 5 L Bath 120VAC
72-4921	TC-120	Thermocirculator, 5 L Bath 240VAC