

Radnoti

Radnoti Isolated Perfused Heart:

Rat/Guinea Pig/Rabbit
Mouse
Porcine



Modular construction enables easy updating/substitution of chamber sizes

Water-jacketed heart chambers and tubing ensures uniform circulation and heating

Threaded lid assembly on High-Tech Heart

Chamber minimizes temperature loss and features locking ports for cannulae and additional measuring devices

May be used in single-pass perfusion or recirculation modes

Easy-to-use "Quick Disconnect" fittings

To maintain the isolated heart in vitro, the experimenter must generally supply conditions similar to that the heart experiences in vivo. This includes maintenance of a normal temperature range for the heart and replacement of fluids including blood, which supplies oxygen, substrates, hormones and oncotic proteins, as well as providing for a way to remove metabolites and waste products generated by the tissue. Because of the size of the heart, immersion of the organ in a physiological medium such as Krebs' or Tyrode's solution will not allow an effective exchange through the simple diffusion of oxygen and substrates in and wastes and metabolites out.

In vivo, the heart is perfused through the ostia (hole) at the base of the aorta. As blood is ejected from the ventricle at a pressure of normally 90 mm Hg or more, the blood is forced into the ostia that then feeds the coronary arteries.

Besides maintaining the heart, the heart bath must allow the experimenter to perform various maneuvers, which are selected by both the type of experiment proposed and the possible physiological responses of the tissue. For example, measurement of contractile function may be by force transducer or fluid filled pressure catheter with a balloon filling the ventricular chamber for Langendorff preparations or through the use of solid state Millar catheters. The heart rate may be spontaneous or electrically paced. Radnoti provides temperature control, instrumentation and data collection systems for constant pressure and constant flow Langendorff and the working heart systems.

Radnoti offer's isolated heart systems for Rat, Guinea Pig, Rabbit Mouse, and Porcine in the following configurations:

120101BEZ (rat/guinea pig) / 130101EZ (mouse) /140101EZ (porcine) Radnoti working heart system, pump driven - Atrial and Aortic chambers

120102EZ (rat/guinea pig) / 130102EZ (mouse) / 140102EZ (porcine) Radnoti heart constant pressure re-circulating

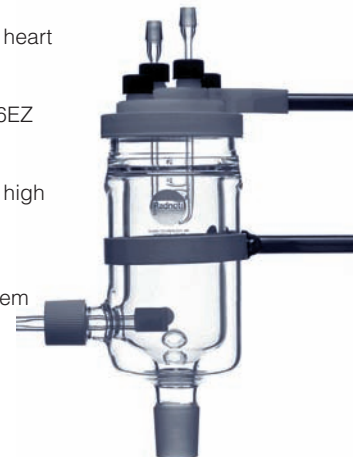
120103EZ (rat/guinea pig) / 130103EZ (mouse) Radnoti heart constant flow non-re-circulating

120105EZ (rat/guinea pig) / 130105EZ (mouse) Radnoti heart constant pressure non-re-circulating pump driven

120106EZ (rat/guinea pig) / 130106EZ (mouse) / 140106EZ (porcine) Radnoti heart constant flow re-circulating

120107EZ (rat/guinea pig) / 130107EZ (mouse) Radnoti high yield myocyte isolation system

120108 (rat/guinea pig)
Radnoti simple myocyte/Langendorff isolated heart system



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