SpectraPor® *In Vivo* Microdialysis Hollow Fibers

Introduction

SpectraPor® *In Vivo* Microdialysis Hollow Fibers were developed for applications requiring In Vivo recovery or dispensing of microquantities of biological materials within a localized section of a functioning organ of animals. This concept is an artificial blood vessel implanted within the tissue, to recover substances from or add to the organ. Animal metabolic experiments can be carried out by using radioisotope techniques in combination with analytical chemistry. There will be internal molecular or ionic permeation through the membrane and the tissue. This entire biological test can be conducted with less than a cubic millimeter of tissue.

The SpectraPor® *In Vivo* Microdialysis Hollow Fibers are filled with a water-insoluble, alcohol-soluble liquid to keep the fibers open. This is to prevent fiber deformation during subsequent handling and to maintain the circular shape of the fibers during assembly of the hollow fiber devices. The filling liquid, called isopropyl myristate (IM), is removed with a small amount of ethyl alcohol. It should be noted that cellulose will not swell under the influence of ethyl alcohol.

Applications

- Intracerebral dialysis. Evaluation of transfers, such as catecholamines and neuropeptides in animal brain tissue
- Microdialysis of intracellular adenosine

A unique feature of the *In Vivo* Microdialysis technique allows the comparison of results from *in vitro* and *in vivo* experiments. Concentration of various compounds within the extracellular space can also be determined accurately.

Examples of perfusion fluids are Ringer's solution and cerebrospinal fluid.

Specifications	
Material:	Regenerated Cellulose
Fiber OD	280 µm
Fiber ID	200 µm
Fiber working volume	5 µl per fiber
Fiber flow rate (ml/hr) at 10" Hg	3 ml/hr per fiber

Use

SpectraPor® *In Vivo* Microdialysis Hollow Fibers are not for human use. They are intended for laboratory research on animals.

1. When using the SpectraPor® *In Vivo* Microdialysis Hollow Fiber for the first time, flush fibers with ethyl alcohol to remove the filling liquid. This may be performed by the following procedure: Manually using a syringe equipped with a narrow-gauge needle (no larger than 35 gauge), pass at least 1 ml of ethyl alcohol through the fibers. Remove alcohol by rinsing with deionized water or the perfusion solution of interest.
2. Store the used SpectraPor® *In Vivo* Microdialysis Hollow Fibers in a vial filled with perfusion fluid.

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