

## Research & Services | Heart Research Laboratory - Evaluating the Effects of Drugs on the Heart (Yisum)

**code:** 34-2009-2318

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### **Novel methodologies to provide an a priori evaluation of whether a drug will cause heart damage and identify the mechanism through which injury takes place**

#### **Categories**

Heart injury, Inflammatory disease, Diabetes

The Chevion Heart Research Laboratory, Institute of Medical Research, Faculty of Medicine

#### **Laboratory Capabilities**

- New and classical methodologies to evaluate the capacity of the heart to withstand severe ischemia and subsequent reperfusion
- Similar methodologies adapted to the evaluation of the effects of such drugs on the kidney and/or liver

#### **Advantages**

The Laboratory's technologies evaluate possible deleterious effects of new drugs on the heart. These evaluations are similar to the mandatory requirement for complete toxicological evaluations of new drugs, prior to public use. The Laboratory's evaluations avert the possibility of a drug being banned after it has received marketing approval and is in clinical use, preventing damage to the drug company's reputation and saving funds.

#### **Research Background**

Recently, several approved drugs in clinical use, including anti-diabetic and anti-inflammatory drugs, have been found to cause injury to the heart and their use halted.

#### **Researcher and Research Interests**

[Professor Mottie \(Mordechai\) Chevion](#), , The Dr. W. Ganz Chair of Heart Studies For more than twenty years Professor Chevion focused on the study of the biological roles of reactive oxygen-derived and nitrogen-derived species (RONS). Major interests of his lab included the mechanisms of damage to the major salivary glands by free radicals (such as under ionizing irradiation). Other interests included reperfusion injury of various organs such as heart and eye, following ischemia.


#### **Available Resources**

The Chevion Heart Research Laboratory is equipped with two advanced systems for running experiments utilising isolated heart models coupled to a PC-based data acquisition and manipulation system, as well as all necessary equipment for physiological and biochemical measurements. In addition, the Laboratory enjoys free access to additional general and heavy equipment of the Department of Inter-Departmental Equipment located in the same building. Three Ph.D. and two M.Sc. candidates

#### **Laboratory Contact**

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