Research & Services | Antioxidants, Reactive Oxygen Species and Oxidative Stress (Yissum)

code: 34-2007-1843

Ron Kohen, HUJI, School of Pharmacy, Pharmaceutics

Categories	Antioxidants, free radicals, reactive oxygen species (ROS), oxidative stress

Objective/function

- The Antioxidants, Reactive Oxygen Species and Oxidative Stress Laboratory is active in the field of antioxidant-related research: their mechanism, natural compounds, and designing new antioxidants; hypothesis formulation on in vivo antioxidant action; network regulation; delivery enhancement; oxidative stress in the aging process; biological oxidation-reduction (redox) potential; new approaches for evaluating biological redox state; ROS-related diseases; polyphenols and their activity in vitro and in vivo, development of new methodologies, biosensors

Research provided

The laboratory is currently engaged in research in:

- Modulation of the total antioxidant capacity of the organism by exogenous antioxidants
- Oxidation in the gastrointestinal tract and its relevance to various diseases
- The existence of a common mechanism for different types of stress
- How antioxidants work in vivo
- New approaches for quantification of the biological redox state
- Oxidation processes in the brain and its relevance to brain pathologies
- The mechanism of activity of polyphenols

Advantages

- The laboratory is staffed by highly skilled, experience researchers utilizing state-of-the-art equipment and technologies

Available equipment

- The Antioxidants, Reactive Oxygen Species and Oxidative Stress Laboratory can perform
- Tissue cultures
- Spectroscopy methods (E.g. Electron spin resonance, UV, Fluorescence, chemiluminescence)
- Separation techniques
- Cell biology techniques
- Animal models of disease states associated with oxidation
- In vitro simulation of biological oxidation process
- Electrochemical techniques (E.g. voltammetric measurements)

Staff

- Ron Kohen, PhD

- Ran Numa (PhD candidate)
- Meital Portugal (PhD candidate)
- Erez Koren (PhD candidate)
- Shlomit Gurelik (PhD candidate)
- Esther Kanyvski (PhD candidate)

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