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The Authority for
RESEARCH AND DEVELOPMENT

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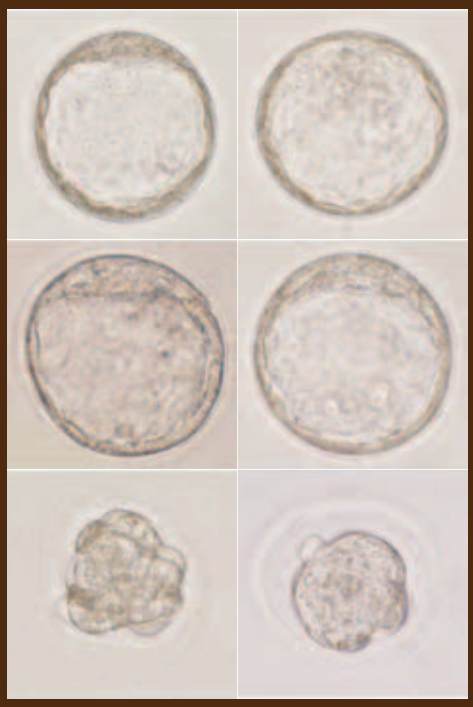
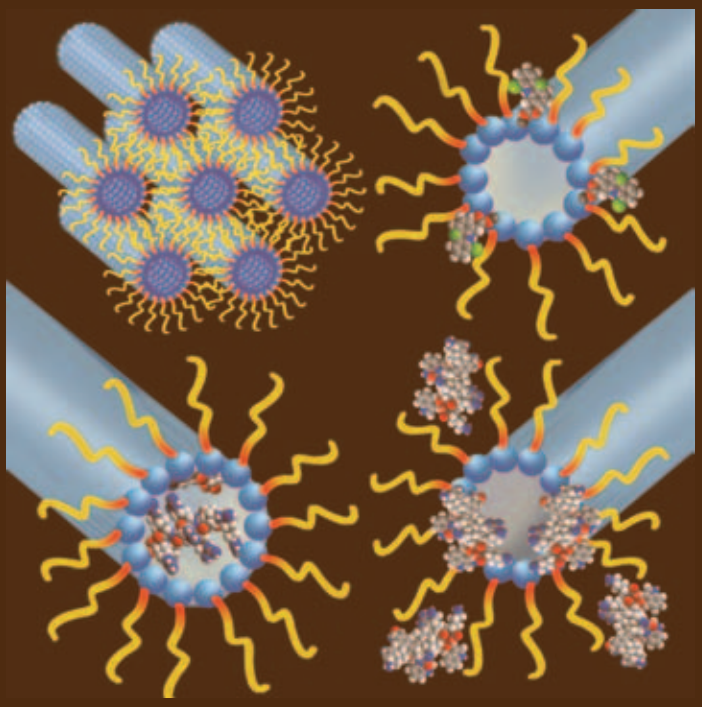
THE KAYE INNOVATION AWARDS

AT THE HEBREW UNIVERSITY OF JERUSALEM

June 2013



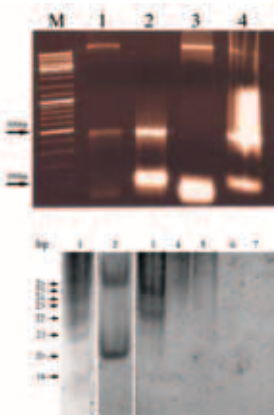


האוניברסיטה העברית בירושלים
The Hebrew University of Jerusalem

The Authority for
RESEARCH AND DEVELOPMENT

ISAAC KAYE

Isaac Kaye



Isaac Kaye is a pharmaceutical chemist who has been very successful at translating novel ideas into marketable profit-generating products. He established Norton Healthcare, a substantial generic pharmaceutical company in the UK, which later merged with the IVAX Corporation of the USA. Teva, Israel's biggest company completed its acquisition of IVAX in 2006, creating the world's largest generics company.

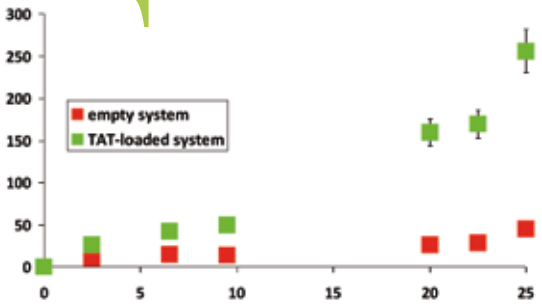
After retiring from IVAX, he turned his attention to venture capital and together with partners founded Israel Healthcare Ventures, or IHCV, a provider of capital to early and expansion stage Israeli companies. IHCV focuses exclusively on healthcare and life sciences. Since its inception in 2000, IHCV has become a leading life science venture capital business in Israel.

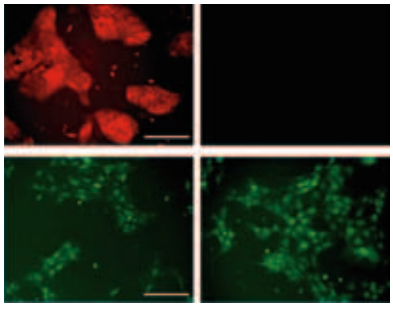
Isaac Kaye's passion for medical innovations that advance human healthcare is matched by a number of other interests, including his love of Israel and its people and his enthusiasm and support for the Hebrew University of Jerusalem and the principles upon which it is based.

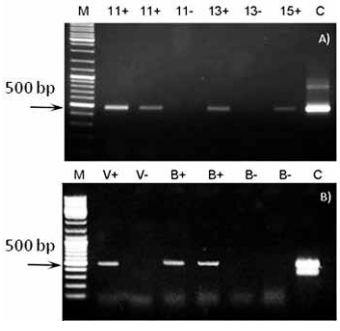
Fortunately for the Hebrew University, Isaac Kaye's interests in pharmacology, therapeutics, and medical devices are very much in line with areas in which the University has considerable expertise and which it is anxious to develop. In 1995 he established the Isaac and Myrna Kaye Chair in Immunopharmacology at our School of Pharmacy, which provides much needed research funds for this field. In 2005, he also established five annual fellowships for outstanding graduate and post-doctoral students. These fellowships, awarded as "The Einstein Kaye Fellowships" encourage recipients to continue their studies at the Hebrew University for a minimum of three years, helping to prevent the University's finest scholars from being recruited by other leading academic institutions. In 2012, upon the completion of five years of the "Einstein Kaye Fellowships," a new five year program of sponsorship for fifteen students began, called the "Kaye Scholarships."

Using a completely different approach to support research, Isaac Kaye established the annual Kaye Innovation Awards at the Hebrew University in 1993. The awards have earned a prestigious reputation since their inception. Prizes are awarded annually for any innovation that shows potential for bringing profit or savings to the University principally through royalties. Applications must be well focused and accompanied by recommendations, but unlike grant proposals, anyone from the most senior to the most junior staff may apply – in fact students are always encouraged to submit proposals. The winners demonstrate not only good science, but also a focus on commercial viability and the benefits this brings to the University.

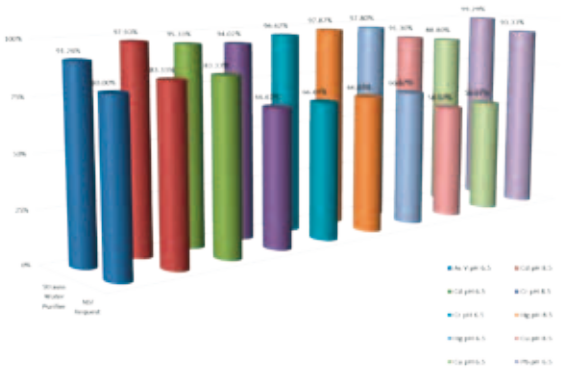
In spite of his demanding and highly successful professional career, Isaac Kaye has always been active on behalf of the Hebrew University. He served as Chairman of the South African Friends organization and became an active member of the University's Board of Governors. Following his move to the UK, Isaac Kaye joined the British Friends and continued as a member of the Board of Governors of the Hebrew University. We are deeply indebted to both Isaac Kaye and his wife Myrna for their deep involvement and concern for the University.

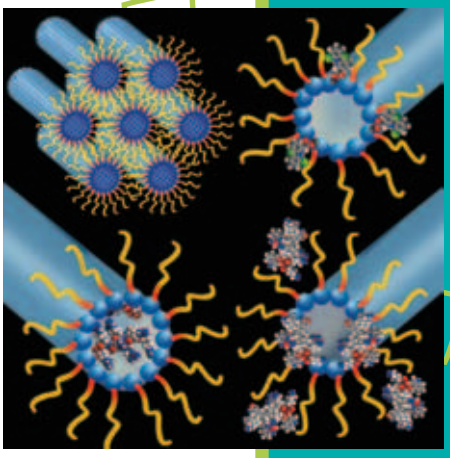






Yissum
Technology Transfer Company of the Hebrew University





For the past 19 years, Yissum has been taking part in the selection process of Hebrew University faculty and students for the prestigious Kaye Awards. These annual awards are given to those inventors whose work exemplifies best the synergy of scientific excellence and commercial potential.

Yissum enjoys a prominent place among the world's leading technology transfer companies, with over two billion dollars worth of products originating at the Hebrew University and licensed by Yissum sold worldwide each year. Since its inception in 1964, Yissum has registered over 8,100 patents covering more than 2300 inventions, 700 of which have been licensed and 80 of these formed the basis for the establishment of start-up companies. Many of the researchers behind these products and technologies have been recognized by receiving the Kaye Award.

This year's first prize is awarded to Prof. Ilan Sela of the Robert H. Smith Institute for Plant Sciences and Genetics, at the Robert H. Smith Faculty of Agriculture, Food and Environment for his invention: "Silencing of bee-affecting viral genes in order to control CCD." This is yet another example of the Hebrew University's cutting-edge scientific leadership in the field of agriculture. In 2007, Yissum licensed the technology to Israeli start-up Beeologics, which was sold for over $100 M in 2011 to Monsanto, one of the world leaders in agricultural products.

Prof. Avi Domb of the Institute for Drug Research (IDR), Faculty of Medicine, receives this year's second prize for his research on "Maze Water Purification System." The technology was jointly developed with Aquasound UK, and was later on acquired by Strauss Water. Today it is sold by China Haier Strauss Water. The product, "Smart Water-Safe Home," addresses a genuine need for clean, safe drinking water solutions.

Prof. Raymond Kaempfer of the Department of Biochemistry and Molecular Biology, Faculty of Medicine, is receiving the Kaye Award for "The Reduction of Inflammatory Disease Symptoms with Short Peptides that Inhibit Signaling through CD28." In 2003, Yissum founded Atox Bio. Currently the company successfully completed phase II clinical trials of AB103, in critically ill patients with Necrotizing Soft Tissue Infections (NSTI). AB103 was granted Fast Track and Orphan Drug designations by the FDA.

The prize is also awarded to three promising students: Uri Ben-David for his research on "PluriSIns – Pluripotent Specific Inhibitors," Marganit Cohen-Avrahami, for her research of "Transdermal Delivery Vehicles for NSAIDs: The Combination of Liquid Crystals with Cell-Penetrating Peptides," and to Noa Kaynan for her research on "Generation of 'Super' Fc Antibody for Improving Medical Treatments."

Yissum is proud to be actively involved in the successful commercialization of these and many other technologies. Our dedicated team is committed to bridging the ever-existing gap between academia and industry in order to bring the fruits of first-class academic research to society at large, and thus provide much-needed funding to support scientific research at the Hebrew University.

We are, as always, indebted to Mr. Kaye for his generosity and personal commitment to support the Hebrew University's researchers in their constant quest for innovation, and extend our sincere congratulations to this year's eminent prize-winners.

YAACOV MICHLIN
President & CEO

YISSUM

Yissum
Hebrew University Technology Transfer

RESEARCHERS

Kaye Winners 2013

First Prize

Prof. **ILAN SELA**
Robert H. Smith Institute for Plant Sciences and Genetics
Robert H. Smith Faculty of Agriculture, Food and Environment
Silencing of Bee-Affecting Viral Genes in order to Control CCD

Second Prize

Prof. **AVI DOMB**
Institute for Drug Research (IDR)
School of Pharmacy, Faculty of Medicine
Maze Water Purification System

Third Prize

Prof. **RAYMOND KAEMPFER**
Department of Biochemistry and Molecular Biology
Institute for Medical Research Israel-Canada (IMRIC)
Hebrew University-Hadassah Medical School, Faculty of Medicine
Reduction of Inflammatory Disease Symptoms with Short Peptides that Inhibit Signaling through CD28

STUDENTS

Kaye Winners 2013

First Prize

URI BEN-DAVID
Department of Genetics
Silberman Institute of Life Sciences
Faculty of Science
Supervisor: Prof. Nissim Benvenisty
PluriSIns – Pluripotent Specific Inhibitors

Second Prize

MARGANIT COHEN-AVRAHAMI
Institute of Chemistry
Faculty of Science
Supervisors: Prof. Nissim Garti and Dr. Abraham Aserin
Transdermal Delivery Vehicles for NSAIDs: The Combination of Liquid Crystals with Cell-Penetrating Peptides

Third Prize

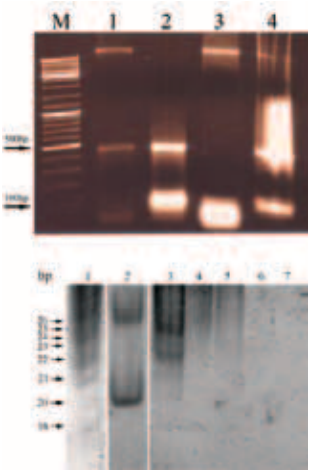
NOA KAYNAN
Supervisor: Prof. Ofer Mandelboim
Lautenberg Center for General and Tumor Immunology
Institute for Medical Research Israel-Canada (IMRIC)
Hebrew University-Hadassah Medical School, Faculty of Medicine
Generation of 'Super' Fc Antibody for Improving Medical Treatments

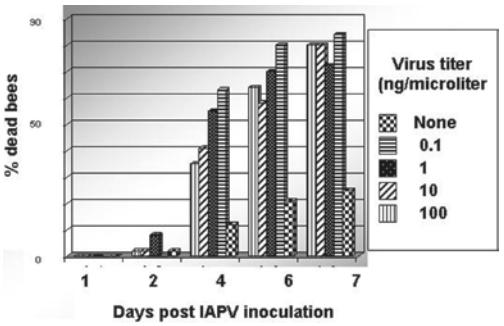
Inventor: ***Prof. Ilan Sela***
Robert H. Smith Institute for Plant Sciences and Genetics
Robert H. Smith Faculty of Agriculture, Food and Environment

Ilan Sela, Professor Emeritus of Virology and Molecular Biology, received his doctorate from the Hebrew University. He joined the faculty of the University in 1968, and has been a full professor at the Faculty of Agriculture, Food and Environment since 1981. Although he formally retired several years ago, he is actively involved in research, and has made significant breakthroughs in the study of virus-based vectors in plants and bees, and in gene silencing. He has served as the Director of the Otto Warburg Center for Agricultural Biotechnology, Head of the Department of Entomology and Chairman of the University's Inter-Faculty Biotechnology Track.

RESEARCHER

Silencing of Bee-Affecting Viral Genes in order to Control CCD

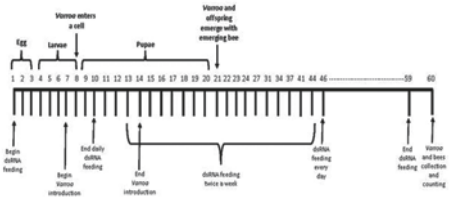


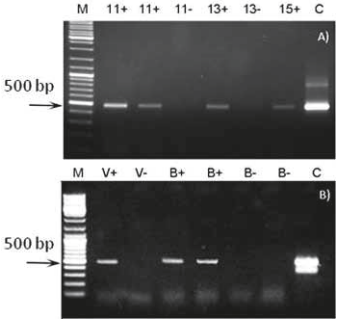


Colony Collapse Disorder (CCD) is a world-wide syndrome of bee disappearance inflicting losses of an estimated $35 billion annually in the USA alone. Following Prof. Sela's discovery of a new virus (IAPV), and the insertion of the IAPV genome in the public database, an American group doing a metagenomic study, associated CCD with IAPV. Subsequently, a group of investors approached Prof. Sela, asking him to be Chief Scientist of a company (Beeologics) whose mission is to control bee diseases and pests. Within three years a method was developed for controlling IAPV by silencing the expression of the viral genes, thus controlling CCD. Likewise, another apiary-threat, infestation by the mite *Varroa destructor*, was also brought under control.

Two patents were written to protect these inventions.

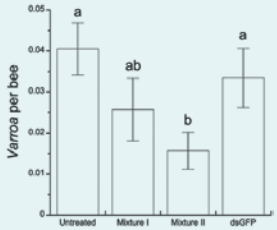
Last year Beeologics was bought by Monsanto for $120,000,000 and the product "remebee" is now commercialized.

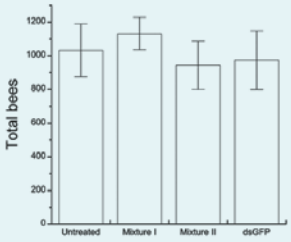


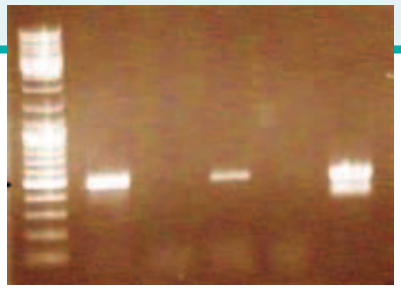


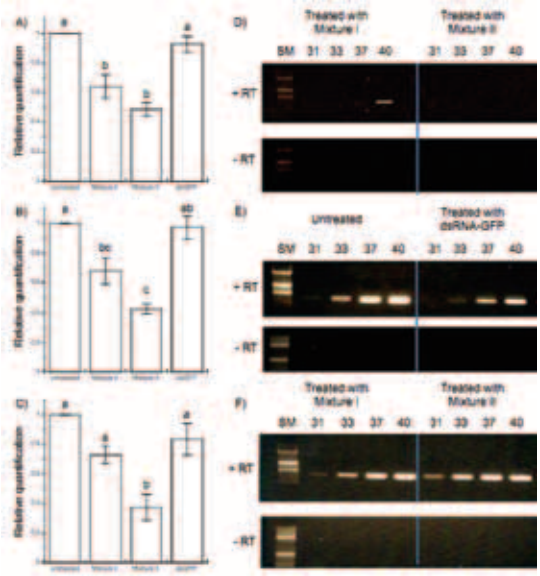

ביאולוג'יקס הישראלית נמכרה לענקית האגרו־כימיה מונסנטו

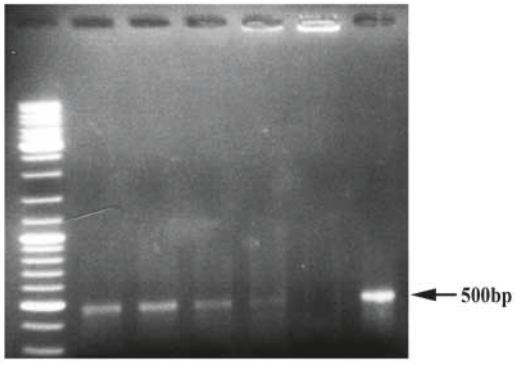
התברה פיתוח פתרון לתסמונת המכונה "האיידס של הדבורים" • תג המחיר המשוער עומד על 100־50 מיליון דולר • נורם בחברה: "לא הקמנו חברה בשביל למכור אותה, המעורבות של מונסנטו נותנת לנו גיבוי כספי, שיווקי, לוגיסטי ומחקרי"

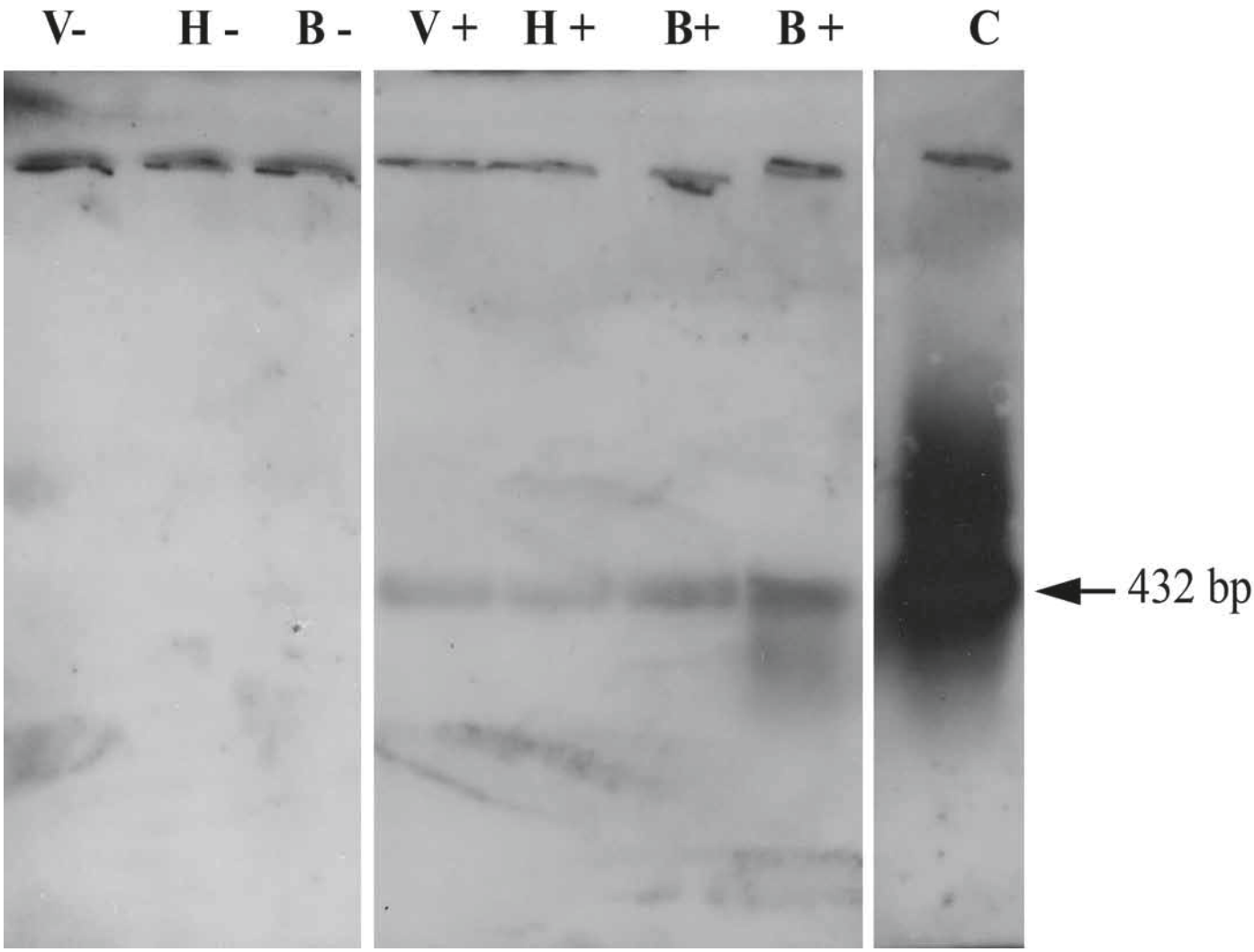

Varroa per bee
a
ab
b
a
Untreated
Mixture I
Mixture II
dsGFP


Total bees
Untreated
Mixture I
Mixture II
dsGFP




A)
B)
C)
D)
E)
F)
Treated with Mixture I
Treated with Mixture II
Untreated
Treated with dsRNA-GFP
SM
31
33
37
40
+RT
-RT


SM
0
1
2
3
6
C
500bp

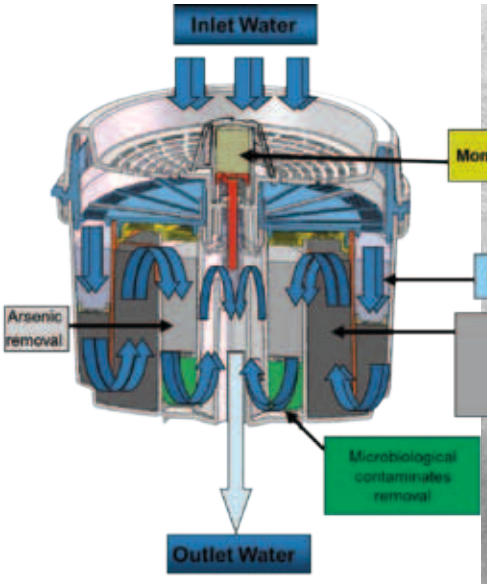

V-
H -
B -
V +
H +
B+
B +
C
432 bp

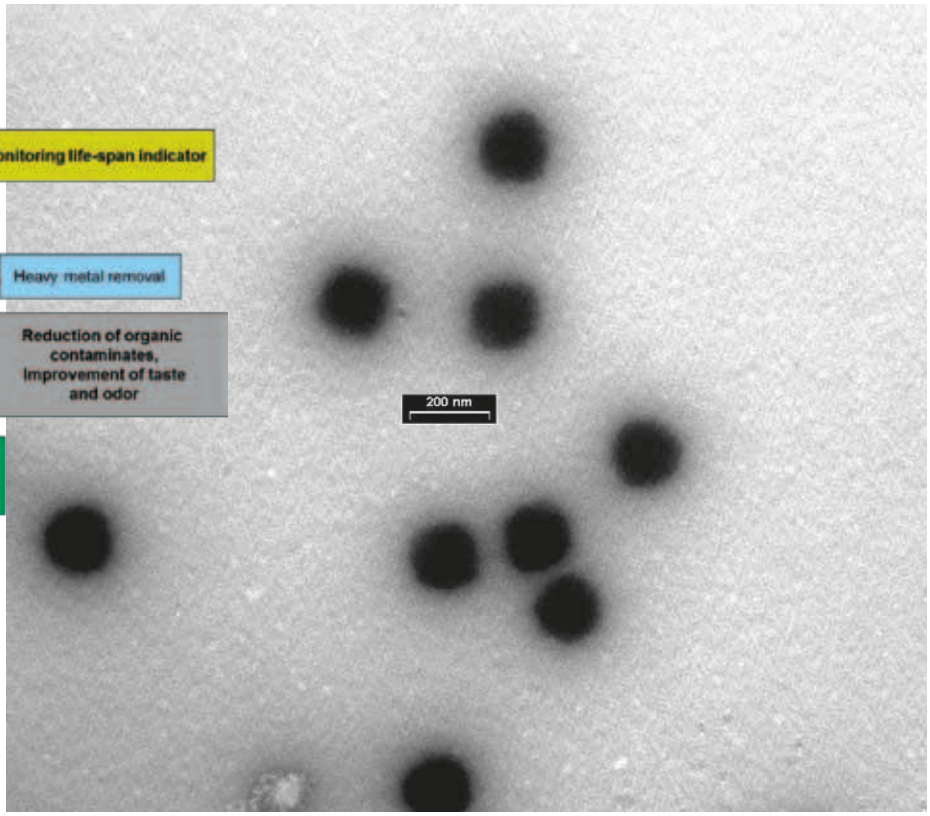
Inventor: ***Prof. Avi Domb***
Institute for Drug Research, School of Pharmacy, Faculty of Medicine
The Hebrew University of Jerusalem

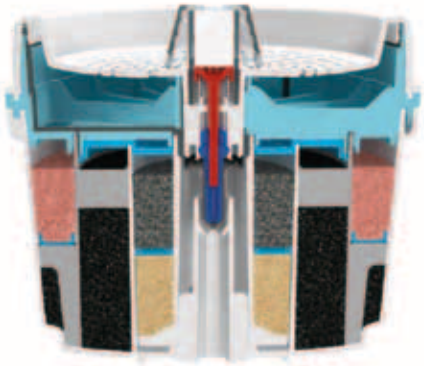
Abraham (Avi) Domb earned Bachelors degrees in Chemistry, Pharmaceutics and Law studies and his Ph.D. in organic chemistry at The Hebrew University. He did his postdoctoral training at Syntex Research Institute, CA, M.I.T. and Harvard University and served as Lab manager at Nova Pharm, Baltimore. In 1991, he was appointed to the faculty of Hebrew University's School of Pharmacy. He has served as full Professor since 2000. During 2007-2012, he headed the Division of Forensic Science at the Israel Police.

RESEARCHER

Maze Water Purification System







The goal of this project was to produce a water filter which can convert low quality drinking water into safe, healthy, tasty and aesthetic water. The objective was to develop a small economic filter that purifies water from toxicants while gravimetrically passing through the filter. The toxicants to be removed include heavy metal ions, inorganic and organic molecules and microbial agents; their levels are brought below those set by the health authorities in each country.

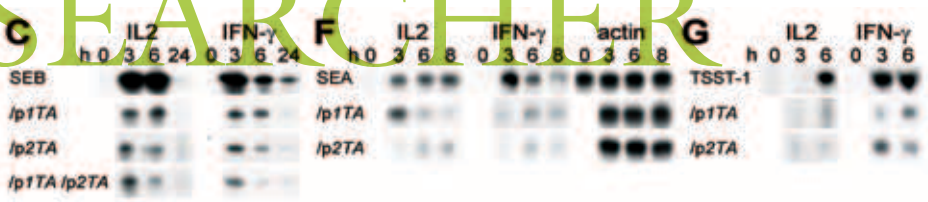
In collaboration with Haim Wilder, an electrical engineer, we developed a range of filter technologies which combine chemical and engineering innovations. The commercial filter resulted from this collaboration has a maze design so that water passes through several compartments, each component removing a certain toxicant from the passing water. Our contribution to the development of the Maze Strauss-Water purification systems has been in the synthesis, selection and testing of media for the effective removal of toxic metal ions, organic residues and microbial agents. We developed antimicrobial polymeric beads, sponges and nanoparticles with inherent antimicrobial activity that have been used to produce non-leachable self sterilizing plastics. In addition, we developed antimicrobial beads that deactivate microbial agents in water. In order to determine the effective use of the filter, a rod made from poly(ethylene glycol) was developed that gradually erodes as a function of the amount of water passing through the filter. A delivery system, attached to the bottom of the filter, facilitates water enrichment with minerals, vitamins or taste agents, while passing through the filter. The Maze filter is part of a water purification system commercially available by Strauss Water in China and other countries.

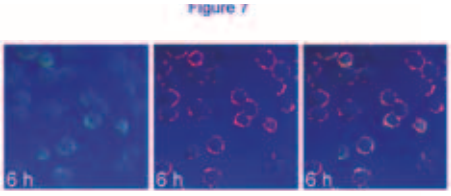
Inventor: ***Prof. Raymond Kaempfer***
Department of Biochemistry and Molecular Biology
Institute of Medical Research Israel-Canada, Hebrew University-Hadassah Medical School, Faculty of Medicine

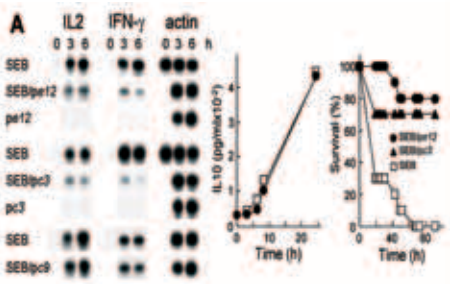
Professor Emeritus Raymond Kaempfer was born in The Netherlands, where he survived the Holocaust as a hidden child. He earned his Ph.D. at M.I.T. and was a professor of biology at Harvard University before moving to the Hebrew University, where he served as full professor from 1978. Author of well over 100 scientific publications, he is a principal investigator for US Army, DARPA and NIH projects, and has extensively studied the molecular basis of human disease, both in cancer and inflammatory pathology.

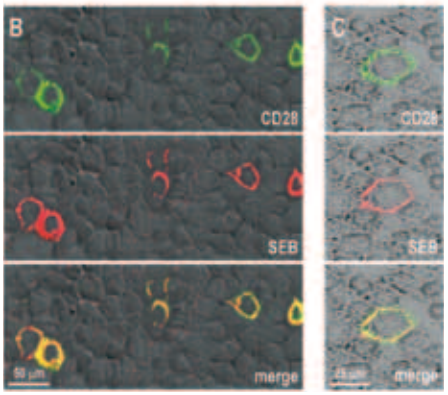
RESEARCHER

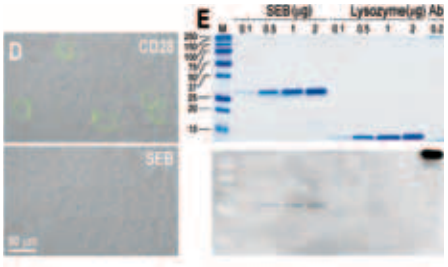
Reduction of Inflammatory Disease Symptoms with Short Peptides that Inhibit Signaling through CD28











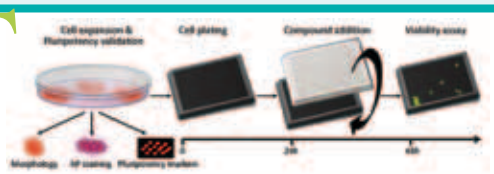
Prof. Raymond Kaempfer has developed groundbreaking technology in inflammatory disease medicine. Atox Bio is a therapeutics company that was established on the basis of this invention. Atox Bio focuses on treatment of diseases caused by an exaggerated immune response, using a proprietary, host-oriented therapeutic approach rather than the traditional one bug/one drug approach. This strategy, based on novel understanding of immune receptor function, is proving effective in a broad range of inflammatory conditions, including toxic shock and life-threatening bacterial infections. Ray designed a host-oriented therapeutic that is broadly effective not only against severe bacterial infections but even beyond, against other pathogens that cause disease through an immune storm, e.g., virulent influenza virus.

Atox Bio's synthetic peptides attenuate signaling through the human CD28 receptor, a key step in the induction of any inflammatory response by the immune system, preventing harmful excess while maintaining normal immune function. One of these immune modulatory peptides proved safe and well-tolerated in a Phase 1 clinical trial and was effective in a multi-center double-blind Phase 2a clinical trial with 40 patients in a severe, life-threatening disease, necrotizing soft tissue infection ('flesh-eating bacteria') for which no treatment is currently available. The results of this trial are promising, with Atox Bio's drug consistently providing clear clinical benefit across multiple end points. The FDA awarded his molecule Orphan Drug status and Fast-Track approval. Targeting a constant human receptor rather than the pathogen avoids the increasingly dangerous development of drug resistance and is broadly effective against diverse pathogens which need this receptor to do damage.

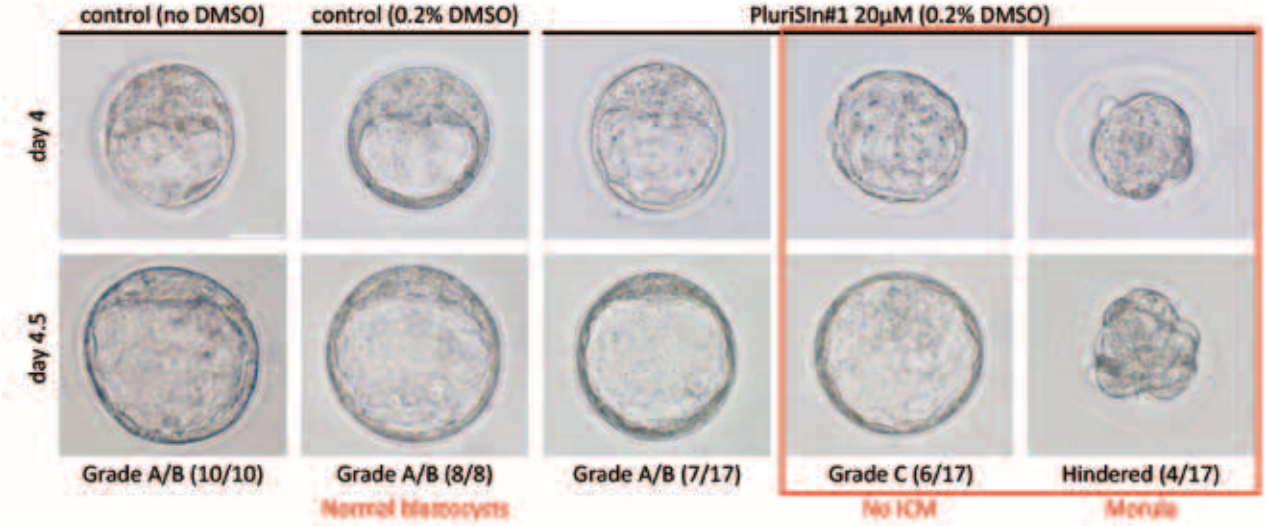
Inventor: ***Uri Ben-David***
Stem Cell Unit, Department of Genetics, Silberman Institute of Life Sciences
Supervisor: Prof. Nissim Benvenisty

Uri was born in Ramat-Gan, Israel. Following a five-year military service as an intelligence officer, he moved to Jerusalem and began his studies at the Hebrew University. Having earned his bachelor degree in Biology and Cognitive Sciences (summa cum laude), he is currently a doctoral student in Prof. Nissim Benvenisty's laboratory. His work focuses on genomic instability and tumorigenicity of stem cells. Uri has authored 13 publications in high-tier scientific journals, presented his work in national and international conferences, and received several academic awards, including the Clore Scholarship.

STUDENT



PluriSIns - Pluripotent Specific Inhibitors



Human pluripotent stem cells have two unique abilities that make them suitable for regenerative medicine: they can divide indefinitely in culture, and they can become any cell type of the human body in a process known as 'differentiation.' Therefore, pluripotent stem cells can be used for cell therapy; however, the differentiation process has its dangers, in that residual undifferentiated cells may be left behind and form tumors, known as 'teratomas,' upon their transplantation into patients. This risk of tumor formation following transplantation currently restricts using these cells in human patients.

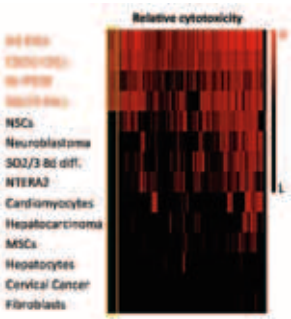
Hypothesizing that a chemical approach might be useful for abolishing undifferentiated cells from cultures of their differentiated progeny, we designed and performed a high-throughput screen of small molecules, to identify compounds that selectively eliminate undifferentiated pluripotent stem cells. Together with the pharmaceutical company Hoffman-La Roche, we screened over 52,000 small molecules and identified 15 compounds as pluripotent-specific inhibitors. We termed these compounds 'PluriSIns.' These compounds were cytotoxic to various types of human pluripotent stem cells, but spared the differentiated cells derived from these stem cells.

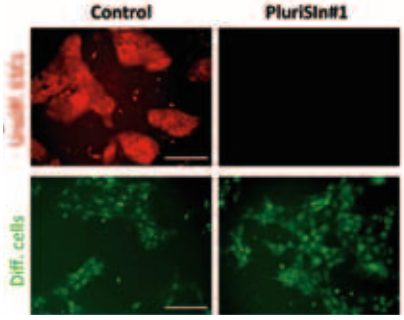
We further investigated the mechanism of action of the most potent molecules, and found that they killed pluripotent stem cells by inhibiting stearoyl-CoA desturase-1 (SCD1), a key enzyme in the biosynthesis of oleic acid. Oleic acid supplementation prevented the PluriSIn-induced cell death of the undifferentiated cells. Thus, we revealed a previously unknown metabolic vulnerability of human pluripotent stem cells. We found that this vulnerability is also shared by mouse pluripotent stem cells and developing embryos, suggesting that this phenomenon may be important for human development as well.

Most importantly, in mice injected with a mixture of undifferentiated stem cells and differentiated cells, teratoma formation was prevented by pre-exposure of the cells to the most potent PluriSIn.

We believe this is a promising strategy for mitigating the risk of teratoma formation due to transplantation of pluripotent stem cell-derived preparations.

Our discovery, published in the February issue of the prestigious journal *Cell Stem Cell*, has already yielded two patent applications covering the use of PluriSIns and SCD1 inhibitors to selectively eliminate human pluripotent stem cells. This novel chemical approach is more efficient and cost effective than previously suggested methods for teratoma prevention: it does not involve cell sorting, genetic manipulation or antibody-based targeting; it is cheap, robust and easy to use. We hope it will prove useful both in stem cell research and in stem cell-based therapies.



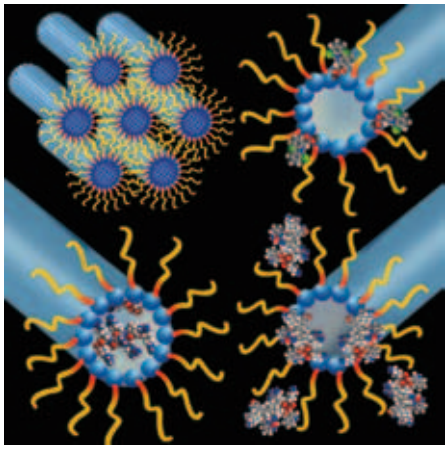


Inventor: ***Marganit Cohen-Avrahami***
Institute of Chemistry
Faculty of Science
Supervisors: Prof. Nissim Garti and Dr. Abraham Aserin

Marganit was born in Jerusalem, the eldest of nine children. In high school she became interested in the fascinating world of chemistry. During her M.Sc. research she worked on the development of microemulsions for drug release. Today she is at the final stage of her doctoral research on transdermal drug delivery. She is married to Nir, a musician, and they live in Jerusalem with their three children.

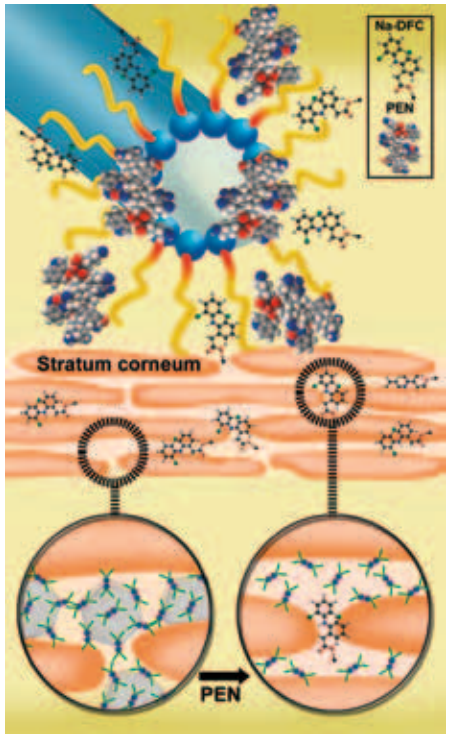
STUDENT

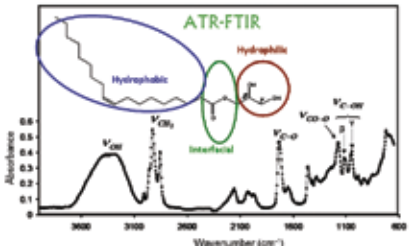
Transdermal Delivery Vehicles for NSAIDs: The Combination of Liquid Crystals with Cell-Penetrating Peptides

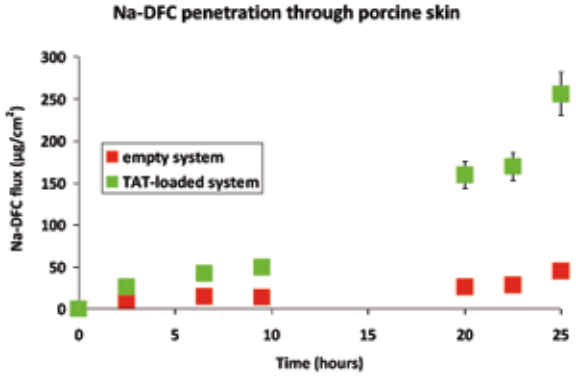


In recent years, efforts aimed at developing transdermal drug formulations. When considering NSAIDs (non-steroidal anti-inflammatory drugs), transdermal delivery is highly preferable. The transdermal route might avoid hepatic first-pass metabolism, decrease the consumed dose and reduce the severe side effects. "Cell penetrating peptides" (CPPs) are unique molecules which can perforate living cells' membranes and enhance the penetration of molecules. This research develops improved transdermal drug delivery systems, based on the incorporation of these special peptides into liquid crystal gels.

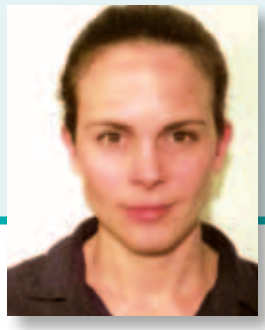
Glycerol monooleate (GMO) is a biodegradable safe compound, which forms different liquid-crystal gels in the presence of water: lamellar, hexagonal and cubic. These structures comprise appropriate viscous properties, which make them practical for medical-transdermal formulations. They are stable at room temperature and are suitable as carriers for a variety of drugs. Several CPPs were solubilized within the different mesophases along an NSAID. Different structural investigations were performed to examine the specific interactions between the guest molecules and their hosting gels. For evaluating the skin penetration effects of the peptides, Franz diffusion cells were used. Penetratin and polyarginine caused a remarkable diffusion increase. The considerable effect of TAT peptide was a permeation enhancement in order of magnitude. The liquid crystalline gels loaded with different CPPs have been proved to be promising transdermal delivery vehicles for NSAIDs, providing a wide range of possibilities.







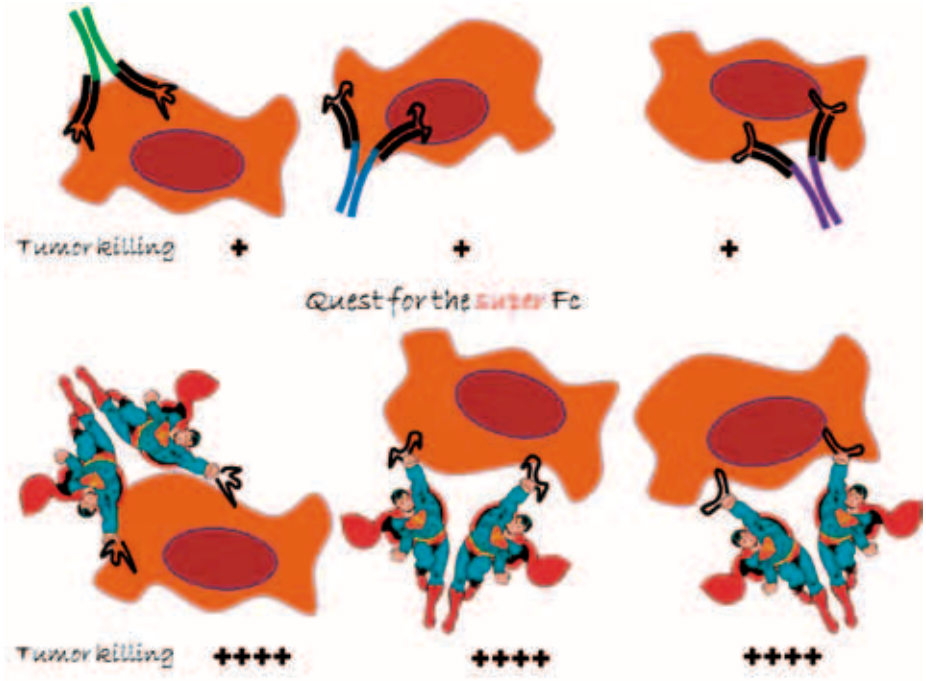
Inventor: ***Noa Kaynan***
Supervisor: Prof. Ofer Mandelboim
Lautenberg Center for General and Tumor Immunology, Institute for Medical Research Israel-Canada (IMRIC)
Faculty of Medicine



After completing her army service, serving as an instructor in the C4I Corps, Noa Staniestky (now Kaynan), started her academic carrier as a biology student at the Hebrew University. She continued her M.Sc. and then her Ph.D. studies in immunology, under the supervision of Prof. Ofer Mandelboim at the Hebrew University-Hadassah Medical School. Noa is a recipient of the Clore Fellowship. She is married to Barak, who holds a D.M.D. from the Hebrew University, and is mother to Yuval.

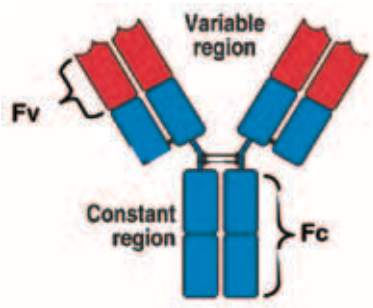
STUDENT

Generation of 'Super' Fc Antibody for Improving Medical Treatments



Antibodies are currently used in the clinic for the treatment of various diseases. Their major advantage is their strong binding capacity and high specificity which is achieved through their variable region, named F[illegible]tibody therapy is used today particula[illegible]r treating cancer patients where therapy is challenged by the need to differentiate tumor cells from healthy cells to prevent intolerable toxicity. The constant, Fc region of a given antibody also actively participates in controlling tumor growth through the activation of immune cells that carry receptors that interact with the antibodies' Fc fragments.

Surprisingly, we still don't understand the rules controlling the recognition of the Fc by the various immune cells. Our invention is based on the generation of various tools that will enable us to select the best ("super") Fc that would most efficiently activate immune cells. The invention, which is based on functional assays, can be used as platform for testing the activity of various therapeutic anti-cancer antibodies that are currently available and for selecting the best Fc for cancer immunotherapy.



KAYE EINSTEIN SCHOLARSHIPS

2012-2013

INBAR AVRAHAM
Faculty of Medicine, Ph.D. Candidate
Department of Microbiology and Molecular Genetics, IMRIC

HADAS MELNIK BEN-GERA
Robert H. Smith Faculty of Agriculture, Food and Environment, Ph.D. Candidate
Smith Institute of Plant Sciences and Genetics in Agriculture

URI RYB
Faculty of Science, Ph.D. Candidate
Department of Geology

DOV WEISBROT
Faculty of Social Sciences, Ph.D. Candidate
European Studies

YNON WGODA
Faculty of Humanities, Ph.D. Candidate
Department of Philosophy

KAYE SCHOLARSHIPS

2012-2013

ZAHI AJAMI
Computer Science and Mathematics, B.Sc.

LIRAN BEN-AMI
Faculty of Law, LL.B.

AVIAD BEN YEHUDA
Faculty of Law, LL.B.

ADAR HAMRANI
Faculty of Medicine, M.D.

ADVA KORIAT
Psychology and Cognitive Science, B.A.

GALI PESIN
Psychology and Education, B.A.

SHIRAN REVIVO
Faculty of Law and Jerusalem School of Business Administration, LL.B., B.A.

MORIYA SHABY
Occupational Therapy, B.O.T.

MAAYAN SHTIGLITZ
Nutrition, B.Sc.Agr.

SHANY SULTAN
Dental Medicine, D.M.D.

KAYE WINNERS

Prize-Winners Kaye Innovation Awards at the Hebrew University of Jerusalem

Kaye Winners 2012

Inventors: Prof. **RAPHAEL (RAFFI) GOREN**
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: The Search for a Novel Water-Soluble Cyclopropene Derivative Antagonist (CPAS) of Ethylene Action in Agricultural Crops

Inventors: Prof. **SAUL YEDGAR**
Institute for Medical Research Israel-Canada (IMRIC)
Faculty of Medicine
Invention: A Novel Class of Multi-Functional Anti-Inflammatory Drugs (MFAIDs) for the Treatment of Inflammatory/Allergic Diseases

Inventors: Prof. **HAYA LORBERBOUM-GALSKI**
Institute for Medical Research Israel-Canada (IMRIC)
Faculty of Medicine
Invention: Cell and Organelle-Directed Protein Replacement Therapy for Mitochondrial and other Metabolic Diseases

Inventors: **LITAL MAGID**
Institute for Drug Research
Faculty of Medicine
Invention: Novel Cannabinoid Receptor Type 2 Selective Agonists for the Treatment of Inflammatory Conditions and Acute Central Nervous System Injury

Inventors: **IDIT SAGIV-BARFI**
Alexander Silberman Institute of Life Sciences
Faculty of Science
Invention: Novel T Cells Proliferation Inhibitors

Inventors: **CHAMUTAL GUR**, M.D.
PhD student under the supervision of Prof. Ofer Mandelboim
Lautenberg Center for General and Tumor Immunology
Institute for Medical Research Israel-Canada (IMRIC)
Faculty of Medicine
Invention: Generation of Anti-NKp46 mAb for the Treatment of Type 1 Diabetes

Kaye Winners 2011

Inventors: Prof. **HAIM D. RABINOWITCH**
Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Genetic Innovations in Vegetable Crops: The Cornerstone of Israel's Prominence in Hi-BioTech Seed Industries

Inventor: Prof. **DAN GAZIT**
Skeletal Biotech Laboratory
Faculty of Dental Medicine
Invention: Novel Technologies for Adult Stem Cell Manipulation and Applications in Tissue Engineering and Regenerative Medicine

Inventors: Dr. **RAANAN FATTAL**
Benin School of Computer Science and Engineering, Faculty of Science
Invention: Second-Generation Wavelet-Based Image Enhancement

Inventors: Ms. **KATY MARGULIS-GOSHEN**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Formation of Organic Nanoparticles from Microemulsions: Enhancing Water Solubility for Improved Biological Performance in Pharmaceutics, Agriculture and Cosmetics

Inventors: Mr. **YFTAH TAL-GAN**
Institute of Chemistry, Faculty of Science
Invention: Development of New Peptide-Based Inhibitors of Protein Kinase B (PKB) as Potential Drugs for Cancer

Inventors: Ms. **ADA GRIN**
Institute for Drug Research
Faculty of Medicine
Invention: Tissue Regeneration Membrane

Kaye Winners 2010

Inventor: Prof. **NISSIM BENVENISTY**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Technologies to Enable Directed Differentiation of Human Embryonic Stem Cells

Inventor: Prof. **ODED SHOSEYOV**
The Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Molecular Farming of Human Recombinant Collagen in Transgenic Tobacco Plants

Inventor: Prof. **SHMUEL PELEG**
Benin School of Computer Science and Engineering, Faculty of Science
Invention: Video Synopsis: Summarizing and Indexing Surveillance Video

Inventor: Prof. **ALEXANDER VAINSTEIN**
The Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Towards Tailor-Made Crops and Compounds

Inventor: Ms. **MICHAL ISAACSON**
PhD student of Dr. Noam Shoval Department of Geography, Faculty of Social Sciences
Invention: A Novel System for Tracking and Analyzing Human Spatial Behavior by Monitoring People's Mobility for Tourism, Town Planning and Healthcare Applications.

Inventor: Mr. **AVIAD HAI**
PhD student of Prof. Micha Spira Department of Neurobiology Alexander Silberman Institute of Life Sciences
Faculty of Science
Invention: In-cell Recordings and Stimulation: A Fundamental Breakthrough Concept and Technology for Neuroprosthetics

Inventor: Mr. **EZEQUIEL WEXSELBLATT**
PhD Supervisor: Prof. Jehoshua Katzhendler Institute for Drug Research, School of Pharmacy, Faculty of Medicine
Mr. **ROEE VIDAVSKI**
PhD Supervisor: Prof. Gad Glaser Department of Developmental Biology and Cancer Research
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: Compounds for Treating Bacterial Infections

Inventor: Mr. **MICHAEL GROUCHKO**
PhD student of Prof. Shlomo Magdassi Casali Institute of Applied Chemistry, Institute of Chemistry
Faculty of Science
Invention: Air Stable Copper Nanoparticles: Conductive Inks for Printed Electronics

KAYE WINNERS

Kaye Winners 2009

Inventor: Prof. **ABRAHAM HOCHBERG**
Department of Biological Chemistry, Faculty of Science
Invention: From a Noncoding Oncofetal RNA to Cancer Therapy: Personalizing Medicine with H19

Inventor: Prof. **SHLOMO SASSON**
Department of Pharmacology & Experimental Therapeutics, School of Pharmacy
Invention: Novel D-Xylose Derivatives: A New Class of Antihyperglycemic Compounds

Inventor: Prof. **DAPHNE ATLAS**
Department of Biological Chemistry, Faculty of Science
Invention: Development of Small Molecules for the Treatment of Neurodegenerative Diseases

Inventor: Prof. **ARIEH GERTLER**
Institute of Biochemistry, Food Science and Nutrition,
Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Development of Leptin Antagonists and their Potential Use as Therapeutic Modalities

Inventor: Mr. **SHAY SELA**
PhD student of Prof. Eli Keshet, Institute for Medical Research, Israel-Canada, Faculty of Medicine
Invention: The Identification of a Novel Prognostic and Diagnostic Marker of Preeclampsia

Inventor: Mr. **DIMA LIBSTER**
PhD student of Prof. Nissim Garti and Prof. Gil Shoham,
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Lyotropic Hexagonal Liquid Crystals as Carriers of Therapeutic Peptides for Transdermal Administration: Solubilization and Structural Characterization

Inventor: Mr. **SHAUL LAPIDOT**
PhD student of Prof. Oded Shoseyov, Smith Institute for Plant Sciences and Genetics in Agriculture
Robert H. Smith Faculty of Agriculture, Food & Environment
Invention: Compositions Comprising Fibrous Polypeptides and Polysaccharides

Inventor: Ms. **NETA PESSAH**
PhD student of Prof. Meir Bialer and Prof. Boris Yagen, School of Pharmacy
Invention: α-Fluoro and α-Chloro 2,2,3,3 -Tetramethycyclopropylcarboxamide:
Two Novel Chemical Entities for the Treatment of Epilepsy and Other Disorders

Kaye Winners 2008

Inventor: Prof. **DANIEL COHN**
Casali Institute of Applied Chemistry, Institute of Chemistry, Faculty of Science
The Hebrew University of Jerusalem
Invention: Tailor-made Biodegradable Polymers for the Prevention of Post-surgical Adhesions

Inventors: Prof. **HERMONA SOREQ**
Department of Biological Chemistry, Silberman Institute of Life Sciences Faculty of Science
Invention: Engineered Human Cholinesterases and RNA-targeted Agents to Suppress Their Functioning

Inventor: Dr. **ARIE DAGAN** and Prof. **SHIMON GATT**
Department of Biochemistry, Faculty of Medicine
Invention: Development of Novel Anti-cancer Drugs

Inventor: Mr. **YANIV SEMEL**
PhD student under the supervision of Prof. Dani Zamir
The Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Phenom Networks: A Web-based System for the Analysis of Quantitative Phenotypes on Both Plants and Animals for Breeding and Research

Inventor: Mr. **NADAV KIMELMAN-BLEICH**
PhD and DMD student under the supervision of Prof. Dan Gazit
Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Scaffolds with Oxygen Carriers and Their Use in Tissue Engineering

Inventor: Mr. **DIMA SHEYNI**
PhD student of Prof. Dan Gazit, Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Ultrasound-based Non-viral Gene Delivery Induces Bone Formation in Vivo

Inventor: Mr. **MATAN RAPOPORT**
PhD student under the supervision of Prof. Haya Lorberboum-Galski
Department of Cellular Biochemistry and Human Genetics, Faculty of Medicine
Invention: Enzyme Replacement Therapy for Mitochondrial Disorders: Lipoamide Dehydrogenase Deficiency as a Proof-of-principle

Kaye Winners 2007

Inventor: Prof. **DANI ZAMIR**
Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Improving Plant Breeding Using Exotic Genetic Libraries

Inventors: Prof. **MEIR BIALER** and Prof. **BORIS YAGEN**
Departments of Pharmaceutics, and Medicinal Chemistry and Natural Products
School of Pharmacy, Faculty of Medicine
Invention: Design and Development of Valnoctamide: A New Drug with Stereoselective CNS Activities

Inventor: Prof. **LEO JOSKOWICZ**
School of Engineering and Computer Science, Faculty of Science
Invention: An Image-guided System with a Miniature Robot for Precise Positioning and Targeting in Keyhole Neurosurgery

Inventor: Mr. **YANIV LINDE**
Student of Prof. Chaim Gilon, Department of Organic Chemistry, Faculty of Science
Invention: A Novel Oral Anti-obesity Drug Candidate: Reduction of Food Consumption by Melanocortin-4 Peptide Agonist

Inventor: Mr. **EREZ PODOLY**
Student of Prof. Hermona Soreq, Department of Biological Chemistry, Faculty of Science
Invention: A Natural Brain Protein Protection from Alzheimer's Disease

Inventor: Mr. **MORAN FARHI**
Student of Prof. Alexander Vainstein and Dr. Hagai Abeliovich
Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Engineering Saccharomyces cerevisiae for the Production of Methylbenzoate and Resistance to Benzoic Acide for Uses in the Food Industry

Inventor: Mr. **YUVAL AVNIR**
Student of Prof. Yechezkel Barenholz, Department of Biochemistry, Faculty of Medicine
Invention: Liposomal Glucocorticoids for Treating Inflammatory States

KAYE WINNERS

Kaye Winners 2006

Inventor: Dr. **YONATAN ELKIND**
Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Breeding of Pepper Varieties Adapted for Protected Cultivation under Mild Winter Conditions

Inventor: Prof. **ELKA TOUITOU**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Ethosome Innovative Technology

Inventor: Prof. **MOSHE KOTLER**
Department of Pathology, Faculty of Medicine
Invention: A Prophylactic Vaccine Preventing a Mortal Viral Disease of Koi Fish and Carps

Inventors: Prof. **MEIR BIALER** and Prof. **BORIS YAGEN**
Departments of Pharmaceutics, and Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: Design and Development of a New Drug with Enantioselective CNS Activities – Propylisopropyl Acetamide (PID)

Inventor: Ms. **ELENA KHAZANOV**
Student of Prof. Yechezkel Barenholz, Department of Biochemistry, Faculty of Medicine
Invention: Tumorosuppressive Therapy by Liposome Containing both Doxorubicin and Ceramide

Inventor: Mr. **YEHOSHUA MAOR**
Student of Prof. Raphael Mechoulam, Department of Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: Novel Anti-hypertensive Agents based on Cannabis Constituent with Anti-inflammatory Properties-synergistic Beneficial Cardiovascular Effects

Inventor: Mr. **NIR QVIT**
Student of Prof. Chaim Gilon, Department of Organic Chemistry, Faculty of Science
Invention: SIB: Small Integrated Building Blocks

Inventor: Ms. **KHULOUD TAKROURI**
Student of Prof. Morris Srebnik
Department of Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: Synthesis and Anti-microbial Activity of a Novel Series of Alkyldimethylamine Cyanoboranes and their Derivatives

Kaye Winners 2005

Inventors: Prof. **SHLOMO MAGDASSI** and Dr. **YELENA VINETSKY**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Ceramic Ink Jets for Digital Printing on Glass

Inventor: Dr. **ZEHAVA UNI**
Department of Animal Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Enhancement of Development of Oviparous Species by In Ovo Feeding – Feeding Eggs with Natural Nutrient Supplements before They Hatch to Produce More Robust Chicks

Inventor: Prof. **SIMON BENITA**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Cationic Emulsions for Ophthalmic Drug Delivery

Inventor: Prof. **URI BANIN**
Department of Physical Chemistry and Center for Nanoscience and Nanotechnology, Faculty of Science
Invention: Semiconductor Nanocrystals for Optical, Electronic, Imaging and Biological Applications

Inventor: Mr. **TALEB MOKARI**
Student of Prof. Uri Banin
Department of Physical Chemistry and Center for Nanoscience and Nanotechnology, Faculty of Science
Invention: Semiconductor Nanocrystals with Conductive Zone

Inventor: Mr. **ADEL JABBOUR**
Student of Prof. Doron Steinberg and Prof. Morris Srebnik
Department of Medicinal Chemistry and Natural Products, School of Pharmacy and Institute of Dental Sciences, Faculty of Dental Medicine
Invention: Interfering in Bacterial Cross-talk: A Novel Means to Influence Pathogenicity of Biofilms

Inventor: Ms. **NATALYA KOGAN**
Student of Prof. Raphael Mechoulam, Department of Medicinal Chemistry and Natural Products School of Pharmacy, Faculty of Medicine
Invention: Cancer Drug – Use of Quinonoid Derivatives of Cannabinoids and Such Novel Compounds in the Treatment of Malignancies

Inventor: Mr. **RANI POLAK**
Student of Prof. Eran Goldin and Dr. Eitan Israeli, Faculty of Medicine
Invention: GourMed – Cooking school that will develop recipes and run a course for people with dietary limitations due to chronic diseases

Inventors: Staff of Prof. **MICHA WEISS**
Department of Computerized Information Systems, Computerized Student Course Registration Project Team
Invention: Computerized Student Course Registration Project Team"Smart Raffle"

Kaye Winners 2004

Inventor: Prof. **AMNON SHASHUA**
School of Engineering and Computer Science, Faculty of Science
Invention: Monocular Visual Processing for On-board Driving Assistance

Inventors: Prof. **ITAMAR WILLNER**, Dr. **EUGENII KATZ**,
Dr. **FERNANDO PATOLSKY** and Mr. **YOSSI WEIZMANN**
Institute of Chemistry, Faculty of Science
Invention: Optoelectronic Detection of Telomerase in Cancer Cells: Development of a Screening Test for Urinary Bladder in Urine Samples

Inventors: Prof. **MICHAEL FRIEDMAN** and Prof. **AMNON HOFFMAN**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Dr. **ERAN LAVY**
Koret School of Veterinary Medicine, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Novel Gastro-retentive Dosage Form (GRDF) – A Means for Sustained Administration of Drugs with Narrow Absorption Window at the Upper Gastrointestinal Tract

Inventors: Mr. **AVIRAM SPERNATH** and Ms. **IDIT YULI-AMAR**
Students of Prof. Nissim Garti, Casali Institute of Applied Chemistry, Faculty of Science
Invention: New Nanosized Vehicles for Triggering and Targeting of Phytochemicals

Inventor: Ms. **AVITAL TORRES-KERNER**
Student of Prof. Morris Srebnik, Department of Medicinal Chemistry and Natural Products, School of Pharmacy
Invention: New Natural Sunscreens: UVR Absorbing Compounds from Lichens and Cyanobateria

Inventor: Dr. **HIJAZI ABU ALI**
Student of Prof. Morris Srebnik, Department of Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: Novel Organoboronic Compounds – Synthesis and Biological Activity

Inventor: Mr. **TAREQ JUBETH**
Student of Prof. Abraham Rubinstein and Prof. Yechezkel Barenholz, Departments of Pharmaceutics and Biochemistry, Faculty of Medicine
Invention: Targeting the Intestinal Mucosa by Charged Liposomes

Inventor: Mr. **OMRI BEN-ZION**
Student of Prof. Amos Nussinovitch
Institute of Biochemistry and Nutrition, Food Science and Nutrition
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Novel Method and Apparatus for Testing the Rolling Tack of Pressure-sensitive Adhesive Methods

KAYE WINNERS

Kaye Winners 2003

Inventors: Prof. **NISSIM GARTI** and Dr. **ABRAHAM ASERIN**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Nano-sized Self-assembled Structured Liquids

Inventor: Dr. **ABDULLAH HAJ-YEHIA**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Design, Synthesis and Biological Activity of Novel Hybrid Drugs

Inventor: Dr. **JONATHAN MIRVIS**
Melton Centre for Jewish Education, School of Education
Invention: Florence Melton Adult Mini-School: A Social Franchise Model

Inventor: Ms. **DRORA BALAGA**
Smith Institute of Plant Sciences and Genetics in Agriculture,
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: "TOMATO" Computerized System, Breeding Hybrid Varieties

Inventor: ENG. **TOM KOEVARY**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: The Centre for Process Development: A Platform for Thousands of "Inventors to Order" for Industry

Inventor: Prof. **ZICHRIA ZAKAY-RONES**
Institute of Microbiology, Faculty of Medicine
Invention: Anti-cancer Therapy by Newcastle Disease Virus (NDV)

Inventor: Mr. **ARIE GRUZMAN**
Student of Prof. Shlomo Sasson, Department of Pharmacology and Experimental Therapeutics, School of Pharmacy,
Faculty of Medicine
Invention: Novel Anti-hyperglycemic Drugs

Inventor: Ms. **AVIVA JOSEPH**
Student of Prof. Eli Kedar and Prof. Yechezkel Barenholz, The Lautenberg Center for Immunology
and Department of Biochemistry, Faculty of Medicine
Invention: INFLUSOME-VAC, 3 Novel, Highly Efficient Influenza Vaccines

Inventor: Mr. **HADI ASLAN**
Student of Prof. Dan Gazit, Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Novel Methods for Stem Cells Based Therapy

Inventor: Mr. **SHAI SHALEV-SHWARTZ**
Student of Prof. Yoram Singer, School of Engineering and Computer Science, Faculty of Science
Invention: A Query Melody System

Inventor: Mr. **MICKEY KOSLOFF**
Student of Prof. Zvi Selinger, Silberman Institute of Life Sciences, Faculty of Science
Invention: Drug-assisted Catalysis, Novel Cancer Therapeutics

Inventor: Mr. **ABED AL-AZIZ QUNTAR**
Student of Prof. Morris Srebnik, Department of Medicinal Chemistry and Natural Products, School of Pharmacy,
Faculty of Medicine
Invention: The Synthesis of Novel Di-and Tri-Vinylphosphonates

Kaye Winners 2002

Inventor: Prof. **SHMUEL BEN-SASSON**
Department of Experimental Medicine and Cancer Research, Faculty of Medicine
Invention: Kin-Ace Technology – A Broad Platform Technology for Disease Control via the Interception of Intracellular Signaling

Inventors: Prof. **MICHAEL SELA** and Dr. **DORON STEINBERG**
Department of Oral Biology, Faculty of Dental Medicine
Prof. **MICHAEL FRIEDMAN**
School of Pharmacy, Faculty of Medicine
Prof. **W. AUBREY SOSKOLNE**
Department of Periodontics, Faculty of Dental Medicine
Invention: Periochip-sustained Release Treatment for Periodontal Diseases

Inventor: Prof. **GERSHON GOLOMB**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Nanoparticulate Drug Delivery Systems for Restenosis Therapy

Inventor: Prof. **SHMUEL PELEG**
School of Engineering and Computer Science, Faculty of Science
Invention: OMNISTEREO: Capturing and Viewing 3D Stereoscopic Panoramic Images

Inventor: Dr. **SHLOMO YITZCHAIK**
Department of Inorganic and Analytical Chemistry, Faculty of Science
Invention: Molecular Layer Epitaxy (MLE)

Inventor: Dr. **WILLIAM (BILL) BREUER**
Department of Biological Chemistry, Faculty of Science
Invention: A Test for the Detection of Toxic Forms of Iron in Human Plasma

Inventor: Dr. **ITSHAK GOLAN**
The Lautenberg Center for Immunology, Faculty of Medicine
Invention: Novel CD44 Variant: Potential Target in the Therapy of Rheumatoid Arthritis

Inventor: Mr. **EYTAN KLAUSNER**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Novel Gastroretentive Dosage Forms

Inventor: Ms. **NINA ISOHERRAREN**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: New Anti-epileptic Drug

Inventor: Mr. **ALEXEI SHIR**
Department of Biological Chemistry, Faculty of Science
Invention: Targeted dsRNA Brain Cancer Therapy

Inventor: Mr. **FERNANDO PATOLSKY**
Institute of Chemistry, Faculty of Science
Invention: Creating Multi-stress Resistance in Arabidopsis

Inventor: Mr. **ALEXANDER MAZEL**
Department of Plant Sciences, Faculty of Science
Invention: Creating Multi-stress Resistance in Arabidopsis Plants

Inventor: Ms. **LITAL ALFONTA**
Institute of Chemistry, Faculty of Science
Invention: An Electronic Sensor to Identify Drug Resistance in HIV Patients

Inventor: Mr. **YOSSI GAFNI**
Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Vascular Tissue Engineering

Inventor: Dr. **GADI PELLED**
Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Engineering of Complex Hybrid Tissues

KAYE WINNERS

Kaye Winners 2001

Inventor: Prof. **EDUARDO MITRANI**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Micro-organ Technology for Genetically Engineered Bio-pumps

Inventor: Prof. **SIMON BENITA**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Drug Delivery through Positively Charged Submicron Emulsions

Inventors: Mr. **DANNY VINITSKY** and Mr. **EITAN RAZ**
Department of Computerized Information Systems
Mr. **YEHAVI BOURVINE**
Computation Center
Invention: Short Message Service (SMS) Supplied by All Cellphone Operators Sending Short Text Messages to Students' Phones

Inventor: Dr. **ANDREW SHIPWAY**
Institute of Chemistry, Faculty of Science
Invention: Novel Technology for the Generation of Electronic Circuits Using a Novel Computer-assisted Printing Method

Inventor: Prof. **YONA CHEN**, Prof. **YITZHAK HADAR** and Mr. **AMIR TOAR**
Department of Soil and Water Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: "RollCom" – A Novel, Simple and Easy to Operate Composting Apparatus

Inventor: Prof. **ITAMAR GATI**
Department of Psychology, Faculty of Social Sciences, and School of Education
Invention: "Future Directions" Internet Site to Facilitate Career Decision Making

Inventor: Ms. **MIRIAM V. KOTT-GUTKOWSKI**
Silberman Institute of Life Sciences, Faculty of Science
Invention: MDRTL Ex-Vivo Kit Measure and Select Effective Multi-drug Resistance Blocker

Inventor: Ms. **SUSANNA TCHILIBON**
School of Pharmacy, Faculty of Medicine
Invention: HU-320 Anti-inflammatory Drug

Inventor: Mr. **YEHUDA GIL**
The Center for Multimedia-Assisted Instruction
Invention: The Mobile Smart Table-MST Combining Various Multimedia Accessories

Kaye Winners 2000

Inventor: Prof. **MARTA WEINSTOCK-ROSIN**
Department of Pharmacology, School of Pharmacy, Faculty of Medicine
Invention: Development of Exelon: A Drug for the Treatment of Alzheimer's Disease (AD)

Inventor: Prof. **MEIR BIALER**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Valproyl Glycinamide (TV 1901): A New Anti-epileptic (AED) and CNS Drug for the Treatment of Migrane, Neuropathic Pain and Mania

Inventors: Prof. **AVNER ADIN** and Dr. **NICOLAI VESCAN**
Assistants: Ms. **RIVKA KALBO** and Ms. **LUBA RUBINSTEIN**
Division of Environmental Sciences, School of Applied Science, Faculty of Science
Invention: "Electro-Flocculation" for Water Treatment and Reuse

Inventor: Dr. **BARUCH SCHWARZ**
School of Education
Invention: The "Kishurim Project"

Inventor: Mr. **ITAI PELES**
Computer Authority, Ein Kerem
Invention: IBTS-Internet Based Testing System to Replace Traditional Questionnaires and Written Tests

Inventor: Mr. **REUVAN AMAR**
Computer Authority, Mount Scopus
Invention: HUDAP-Hebrew University Data Analysis Package

Inventor: Mr. **MEIR GLICK**
Department of Medicinal Chemistry, School of Pharmacy, Faculty of Medicine
Invention: Novel Stochastic Algorithm for Use in Life Sciences, Physics, Telecommunications and Economics

Inventor: Mr. **GIL RONEN**
Department of Genetics, Silberman Institute of Life Sciences, Faculty of Science
Invention: Novel Plant Gene "B" and Methods to Genetically Manipulate Color Formulation in Plants

Inventor: Mr. **NIR SITVANI**
Department of Animal Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Antelope-like Stimulating Device to Reduce Stress of Wild Animals in Captivity

Kaye Winners 1999

Inventor: Dr. **ODED SHOSEYOV**
Department of Plant Pathology and Microbiology,
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: CBD Technology – Using the CBD Protein to Bind Various Molecules to Cellulose

Inventor: Prof. **ELISHA TEL-OR**
Department of Agricultural Botany and Otto Warburg Center for Biotechnology in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Azolla Biofilter for Waste Treatment

Inventor: Prof. **HERMONA SOREQ**
Department of Biological Chemistry, Faculty of Science
Invention: Antisense Technology – To Treat Various Neurodegenerative Syndromes

Inventors: Mr. **YARON BEN-ETZION**
Head of Manpower and Payroll
Ms. **CHAVA SPRUCH**
Head of Payroll System, Department for Computerized Information Systems
Invention: A Solution for BUG 2000

Inventor: Mr. **LEON MARGOLIN**
Department of Anatomy and Cell Biology, Faculty of Medicine
Invention: A Mask for the Treatment of Headaches

Inventor: Mr. **GADI TURGEMAN**
Bone Gene Therapy and Molecular Pathology Laboratory, Faculty of Dental Medicine
Invention: The Reciprocal Differentiation System, Controlling the Level of BMP2 Expression

KAYE WINNERS

Kaye Winners 1998

Inventor: Prof. **ITAMAR WILLNER**
Institute of Chemistry, Faculty of Science
Invention: Layered Electrically-Contacted Enzyme-Electrodes and Antigen/Antibody Assembles for Electrochemical and Piezoelectrical Biosensors and Immunosensor Devices

Inventors: Prof. **NISSIM GARTI**
Casali Institute of Applied Chemistry, Faculty of Science
Dr. **YURI FELDMAN**
Department of Applied Physics, Faculty of Science
Invention: Time Domain Dielectric Spectrometer (TDDS) for Investigation of Advanced Materials and Medical Systems

Inventors: Prof. **MICHAEL SCHIEBER**, Dr. **JACOB NISSENBAUM**, Dr. **LEONID MELKHOV** and Ms. **ASAF ZUCK**
School of Applied Science, Faculty of Science
Invention: Polycrystalline Hg 12 X-Ray Detector Plates for Digital Radiology

Inventors: Prof. **DAVID AVNIR**
Institute of Chemistry, Faculty of Science
Prof. **SERGEI BRAUN**
Silberman Institute of Life Sciences, Faculty of Science
Prof. **OVADIA LEV**
Division of Environmental Sciences, Faculty of Science
Prof. **MICHAEL OTTOLENGHI**
Institute of Chemistry, Faculty of Science
Invention: Reactive Organic Sol-gel Ceramic Materials

Inventor: Prof. **JOSEPH HIRSCHBERG**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Genetic Engineering of Astaxanthin Production in Transgenic Plants

Inventor: Mr. **AMIR ZUKER**
Kennedy-Leigh Centre for Horticultural Research, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Transgenic Carnation Plants with Novel Characteristics

Inventor: Mr. **GALEN MARQUIS**
Institute of Jewish Studies, Faculty of Humanities
Invention: Production of the Hebrew University of Jerusalem Bible Project

Inventor: Mr. **JEHUDA BASNIZKI**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Novel Seed-planted Hybrid Varieties of the Globe Artichoke

Inventor: Mr. **ALEXEY KAMYSHNY**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Form III Aspartame

Kaye Winners 1997

Inventors: Prof. **YECHEZKEL BARENHOLZ** and **DR. RIVKA COHEN**
Department og Biochemistry, Faculty of Medicine
Prof. **ALBERTO GABIZON** and Dr. **DORIT GOREN**
Hadassah University Hospital
Invention: DOXIL – Liposomal Doxorubicin for Cancer Treatment

Inventor: Prof. **DAPHNE ATLAS**
Department of Biological Chemistry, Faculty of Science
Invention: A New Anti-Parkinson's Drug

Inventors: Prof. **NAVA BEN-ZVI**
Center for Multimedia Assisted Instruction
Mr. **DAVID RASHTY**
Computation Center
Mr. **ELI KANAI**
Snunit Educational Information System, Faculty of Science
Invention: Snunit Educational Information System

Inventor: Mr. **YOAV SMITH**
Faculty of Medicine
Invention: The Dermal Imaging System

Inventor: Ms. **VARDA HERSHKO**
Institute of Biochemistry, Food Science and Nutrition, Faculty of Agriculture
Invention: Hydrocolloid Coatings for Food and Agricultural Products

Inventor: Mr. **SHMARYAHU EZRAHI**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Fire-resistant Hydraulic Fluids

Kaye Winners 1996

Inventor: Prof. **SHABTAY DIKSTEIN**
School of Pharmacy, Faculty of Medicine
Invention: Development of Topically-applied Drugs for the International Market

Inventor: Prof. **ABRAHAM SZTEJNBERG**
Department of Plant Pathology and Microbiology, Faculty of Agriculture
Invention: AQ10: A Novel Biofungicide for the Control of Plant Diseases

Inventor: Prof. **DAN DAVIDOV** and Dr. **MICHAEL GOLOSOVSKY**
Racah Institute of Physics, Faculty of Science
Invention: High-resolution Millimeter-wave Scanning Microscope

Inventor: Prof. **CHAIM GILON**
Institute of Chemistry, Faculty of Science
Invention: Backbone Cyclization and Cycloscan TM: Novel Technologies for the Fast Discovery of New Peptide Based Drugs

Inventor: Mr. **MICHAEL HOICHMAN**
Computer Programmer, Faculty of Medicine
Invention: The "Maestro" Program for Controlling Auditory Experiments

Inventor: Mr. **BARAK HERSHKOVITZ**
Faculty of Medicine
Invention: "Biochem Thinker": A New Computer Program to be used by Biochemistry Students as a Tutorial Tool

KAYE WINNERS

Kaye Winners 1995

Inventor: Prof. **ITAI BAB**
Bone Laboratory, Faculty of Dental Medicine
Invention: Osteogenic Growth Peptide (OGP)

Inventor: Prof. **NISSIM GARTI**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: New Emulsifiers

Inventor: Prof. **YECHEZKEL BARENHOLZ**
Department of Biochemistry, Faculty of Medicine
Invention: A Novel Approach to Obstein Efficient and Stable Remote Drug Loading of Liposomes for Clinical Use

Inventors: Dr. **EUGENII KATZ**, Ms. **AZALIA RIKLIN** and Ms. **RON BLONDER**
Institute of Chemistry, Faculty of Science
Invention: Development of Biosensor and Immunosensor Devices

Kaye Winners 1994

Inventors: Dr. **B. SCHWARZBURD** and Dr. **MARCELLO CHAFFER**
Department of Animal Sciences, Faculty of Agriculture
Invention: Membrane Vesicles of E. coli as a Potent Non-toxic Vaccine Against Colibacillosis in Poultry

Inventor: Mr. **DUDU RASHTY**
Computation Center, Faculty of Science
Invention: Hebrew University Information Retrieval System

Inventors: Prof. **HAIM RABINOWITCH** and Prof. **NACHUM KEDAR**
Department of Field and Vegetable Crops, Faculty of Agriculture
Invention: Development of Long Shelf-life Tomatoes

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