

## Dr. Joel Wallach, BS, DVM, ND



A biomedical research pioneer and founder of Youngevity® Essential Life Sciences, Dr. Joel D. Wallach, DVM, ND spent nearly 20 years in the field of Veterinary Medicine, observing and researching the effects of individual nutrients on animal health, before becoming a Naturopathic Physician in 1982. Today, Dr. Wallach is renowned for his groundbreaking research on the health benefits of selenium and other minerals. He currently dedicates his time to lecturing throughout the world on the therapeutic benefits of vitamins and minerals, and on lobbying the U.S. Food and Drug Administration on behalf of the dietary supplement industry.

### Early Work

Dr. Wallach has held key positions with leading zoos and universities in the United States and Africa, including Director of the Jacksonville Zoological Park in Jacksonville, Florida; Research Veterinarian for the South Africa National Parks Department (where he was a member of the famous "Operation Rhino" team); and Director of Research at the St. Louis Zoological Park in St. Louis, Missouri. At the request of Africa's National Parks and Wildlife Management Department, Dr. Wallach led an expedition to capture and mark elephants in the Wankie Game Preserve in Rhodesia as part of a migration study. He is one of the founders and a former editor of the Journal of Zoo Animal Medicine. A prolific author, he has published more than 70 scientific papers and six books including the famous textbook, Diseases of Exotic Animals, still used today by leading veterinary schools, and on the Smithsonian Institute's recommended reading list for Zoological Garden and Aquarium libraries.

### Groundbreaking Research on Trace Minerals

As a researcher at the Emory University Yerkes National Primate Center in Atlanta, Georgia in 1977, Dr. Wallach discovered the world's first known case of non-human cystic fibrosis in a selenium-deficient Rhesus monkey. At the time, cystic fibrosis was believed to be the result of a human genetic disorder. Dr. Wallach's monumental discovery set him on a 20-year path of research on the health benefits of selenium and other minerals. As a result of this work, he became known as The Mineral Doctor and the Father of Liquid Mineral Supplementation.



## The Founding of Youngevity



In 1997, Dr. Wallach and Dr. Ma Lan, MD, MS, founded American Longevity, the network marketing company known today as Youngevity. Within five years the company had an international network of distributors and preferred customers plus offices in Canada, Australia, New Zealand, Singapore, South Africa, and Japan. Today, Youngevity is a global nutritional and coffee direct marketing company dedicated to improving lifestyles through vibrant health and flourishing economics.

## First Amendment Advocate

Dr. Wallach currently dedicates his time to lecturing throughout the world on the therapeutic benefits of vitamins and minerals, and on lobbying the U.S. Food and Drug Administration on behalf of the dietary supplement industry. His tireless efforts and dedication to the public's First Amendment rights to complete information on the therapeutic benefits of nutrition prompted the FDA to establish Qualified Health Claims for Selenium ("may reduce the risk of certain cancers") and Omega-3 Essential Fatty Acids ("may reduce the risk of coronary heart disease"). Only a few Qualified Health Claims exist, placing Youngevity in a unique position among Dietary Supplement and Direct Marketing companies.

# CYSTIC FIBROSIS (CF) FACTS

Cystic Fibrosis is a lifelong disease that causes thick, sticky mucus to form in the lungs, pancreas, and other organs. In the lungs, this mucus blocks the airways, causing lung damage, making it hard to breathe, and leading to serious lung infections. In the pancreas, it clogs the pathways leading to the digestive system, interfering with proper digestion.<sup>1</sup> In ninety percent of CF cases, the airways are affected.<sup>2</sup>

Approximately 30,000 Americans have CF. It is estimated that 1,000 cases are diagnosed each year.<sup>3</sup>

CF occurs equally in male and female babies<sup>3</sup>

CF affects nearly every race, although it occurs most commonly in Caucasians of Northern European descent.<sup>4</sup>

Between 1999 and 2006, 3,708 people in the United States died from CF.<sup>5</sup>

Symptoms of CF may include:<sup>6,7,8</sup>

- Salty tasting skin
- Wheezing/shortness of breath
- Persistent cough and excessive mucus
- Frequent lung infections, such as pneumonia and bronchitis
- Frequent sinus infections
- Nasal polyps
- Under weight
- Foul-smelling, greasy stools
- Swollen belly accompanied by abdominal gas and discomfort
- Broadening of fingertips and toes

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Medallist

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## Joel D. Wallach D.V.M.: 2011 Klaus Schwarz Medallist

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Klaus Schwarz (1914–1978) was a leading trace element researcher and is best known for his discovery of the nutritional essentiality of selenium. To honor trace element researchers that have made major discoveries in this field, the Klaus Schwarz Commemorative Medal was created in 1978 by G.N. Schrauzer, the Founder and President of the International Association of Bioinorganic Scientists, Inc.

This year, the Klaus Schwarz Medal is awarded to Joel D. Wallach D.V.M., N.D., for his 1978 discovery of an animal model of cystic fibrosis (CF) in the offspring of a family of inadequately fed rhesus monkeys (see Fig. 1). The discovery of this first animal model of CF demonstrated that pancreatic lesions histologically identical to those observed in patients with CF can be produced by dietary means, i.e., nutritional imbalances such as selenium deficiency, and that some forms of CF are, in principle, nutritionally preventable.

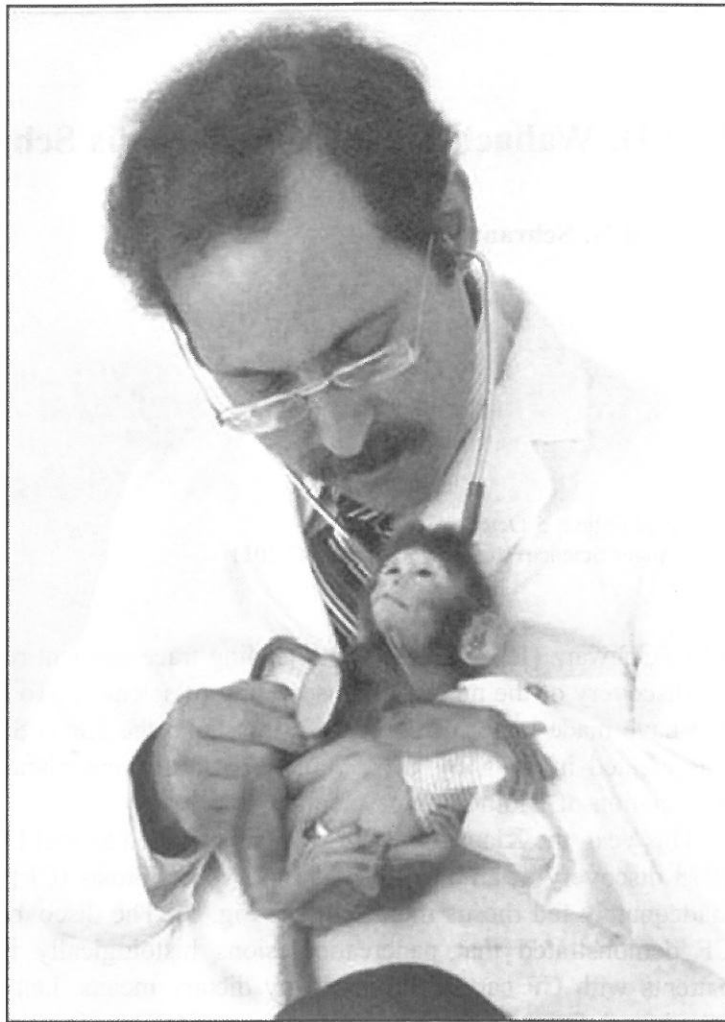
Joel D. Wallach was born in West St. Louis County on June 4, 1940. After finishing high school, he enrolled in the University of Missouri at Columbia, first to study Agriculture with a major in animal husbandry and a minor in field crops and soils. In 1962, he received a B.S. Degree in Agriculture from Missouri and continued on to study veterinary medicine at the same institution, which in 1964 awarded him the degree of Doctor of Veterinary Medicine. From 1966 to 1967, he held a postdoctoral fellowship in comparative medicine at the Center for the Biology of Natural Systems, Washington University, St. Louis. Thereafter, he worked at Iowa State University Diagnostic Laboratory, Ames, Iowa, and subsequently, for 2 years, at Natal Fish & Game Department, Natal, Republic of South Africa.

During the early 1960s, environmental pollution and other ecological factors were thought to cause the premature death of captive animals and possibly of humans. The National Institutes of Health awarded the St. Louis Zoological Gardens a large grant to identify these factors. The project required a well-rounded wildlife veterinarian and pathologist. Wallach was hired for this position, which provided him with the opportunity to autopsy a wide variety of captive wild animals dying of natural causes in zoos at

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**Fig. 1** J.D. Wallach, in 1979, examining a rhesus monkey with nutritionally induced cystic fibrosis



St. Louis, Chicago, Los Angeles, Jacksonville, and Memphis. Later, working as a veterinary pathologist at the Atlanta/GA-based Yerkes Regional Primate Research Center, Wallach conducted comparative autoptic studies on primates as well as on humans. His work was progressing well until 1978, when he discovered pancreatic lesions in the offspring of a family of inadequately fed rhesus monkeys. Since these lesions were identical histologically to those observed in patients with CF, this led him to propose that some forms of human CF were caused by nutritional imbalances and/or trace element deficiencies.

However, as CF was at that time generally considered to be a genetic disorder, his proposal seemed so inadmissible that he was summarily dismissed from his position at the Yerkes Research Center. As the story of his firing was widely covered by the media, this deprived Wallach of any chance of finding an appropriate position in his profession, forcing him to change his career.

In 1980, Wallach joined the Faculty of the National College of Naturopathic Medicine in Portland, Oregon, where he taught in the area of nutrition while pursuing an N.D. degree in 1982. After obtaining his N.D. degree and license, he went into private practice in Cannon Beach, Oregon, specializing in the nutritional treatment of CF patients. Continuing his CF research, he conducted a survey of 120 families with one or more CF children and found the patient profiles to be consistent with CF as an acquired environmental disease caused by

a prenatal deficiency of selenium, zinc, and riboflavin, and/or exacerbated by diets low in vitamin E and rich in polyunsaturated fatty acids. Based on these findings, Wallach proposed a diet for the prevention and treatment of CF. To demonstrate that CF-like pancreatic lesions develop in populations living in regions naturally low in selenium, he traveled to China in 1987 with his wife, Dr. Ma Lan, a Chinese physician, to conduct a study at Harbin Medical University. The Wallachs, in collaboration with researchers at Harbin Medical University, showed that hitherto unrecognized pancreatic lesions occurred in 35% of 1,700 documented cases of Keshan disease, the endemic cardiomyopathy occurring in low-selenium regions of China [1, 2]. Other researchers have since drawn attention to the aberrant oxygen radical activity and the low selenium and antioxidant status in CF patients [3–5]. It is now also agreed that selenium deficiency may develop in CF children because of digestive malabsorption or after prolonged total parenteral nutrition [6–9]. In addition, a case of cardiomyopathy in a CF patient caused by selenium deficiency has also been described [10]. The therapy of CF patients with selenium and antioxidant vitamins has also been tested in a clinical trial. One German group [11] concluded:

“In cystic fibrosis (CF) patients the antioxidative-oxidative balance is chronically disturbed. Free radicals were generated by bronchialpulmonal infection and additionally (there) exists a deficiency of antioxidative substances by enteral malabsorption especially (of) vitamin E and selenium. For CF patients, therefore, we recommend a sodium selenite substitution therapy, best in combination with vitamin E.”

From 1990 to 1993, Wallach worked as a naturopathic physician for Hospital Santa Monica in Tijuana/Mexico. In 1997, he founded his own vitamin–mineral supplement company, American Longevity, now named Youngevity.

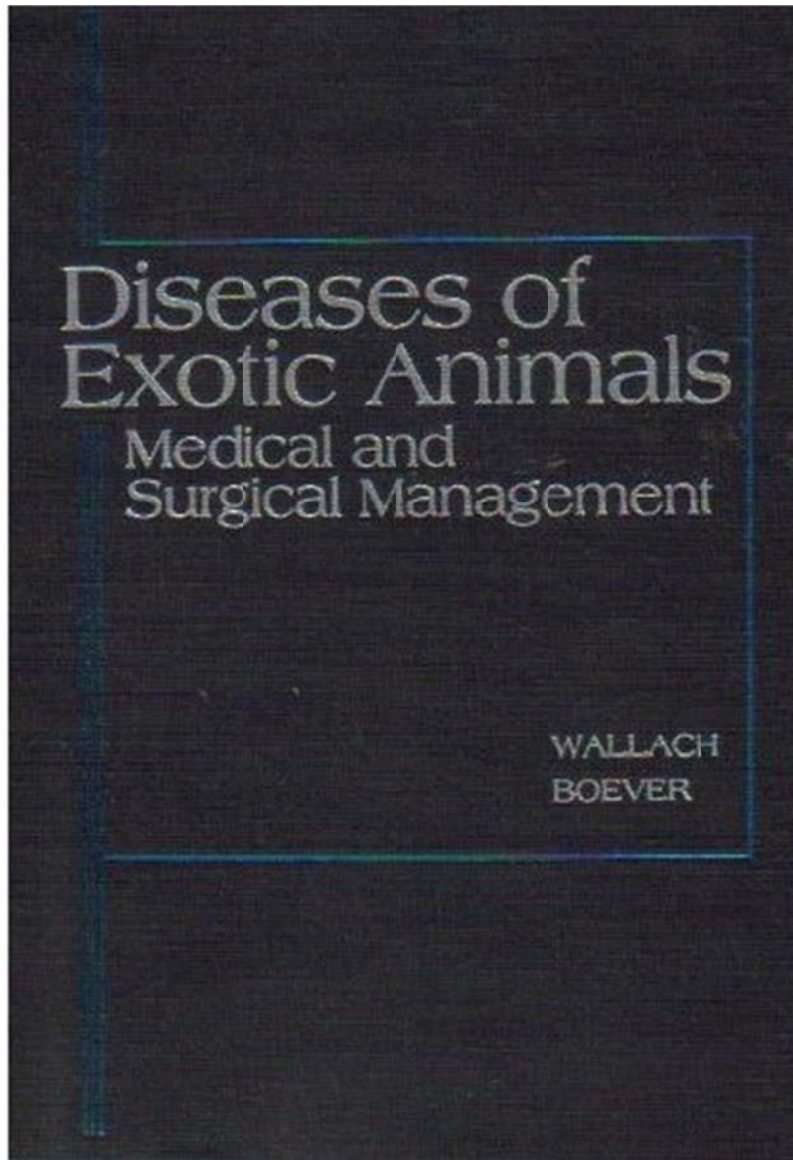
From a historical perspective, Wallach is to be regarded as one of the first practitioners, if not founders, of *epigenetics*, the new research discipline that investigates heritable alterations in gene expression caused by mechanisms other than changes in DNA sequence. With the award of the Klaus Schwarz Medal, Wallach is belatedly honored for a serendipitous discovery that will be of benefit to many.

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Diseases of Exotic Animals (ISBN-13: 978-0721691053), authored by Dr. Joel Wallach, BS, DVM, ND and originally published in 1983, is still used today in leading veterinary schools, and is on the Smithsonian Institute's recommended reading list for Zoological Garden and Aquarium Libraries.

## DR. JOEL WALLACH, BS, DVM, ND

### Published Works

Pioneering biomedical researcher Dr. Joel D. Wallach, DVM, ND has published 70 articles in peer-reviewed journals covering nutritional and pharmaceutical research. As well he is a major contributor to eight books, including the famous textbook, *Diseases of Exotic Animals*, still used today by leading veterinary schools, and on the Smithsonian Institute's recommended reading list for Zoological Garden and Aquarium libraries.

The following is a partial list of published articles and presentations authored in whole or in part by Dr. Wallach:

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