Matthias Rath Research Institute in Cellular Medicine, California, USA

The Matthias Rath Research Team

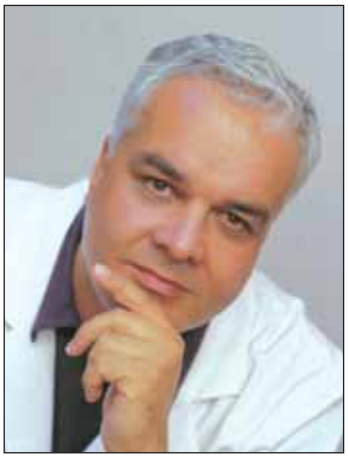
Aleksandra Niedzwiecki, Ph.D.
Director of Research

Dr. Vadim Ivanov and Dr. Shirang Netke analyzing samples

Svetlana Ivanova and Dr. Niedzwiecki testing nutrient compounds

Dr. Waheed Roomi working on nutrient synergy

Dr. Matthias Rath
RESEARCH



Matthias Rath, M.D.

The Matthias Rath Research Institute in Cellular Medicine

Founded by Matthias Rath, M.D., the Matthias Rath Research Institute in Cellular Medicine facilitates research based on his scientific discoveries. The Institute is staffed with experts handpicked by Dr. Rath from the fields of medicine, biochemistry, and nutrition. Their unique research utilizes the principle of nutrient synergy and investigates the role of nutrients in preventing and treating a host of chronic diseases. Led by Director of Research Aleksandra Niedzwiecki, Ph.D., these world-class scientists conduct innovative nutritional research in a 23,000 square foot state-of-the-art laboratory located in Silicon Valley, California.

Areas of Research

Cardiovascular Disease

Dr. Rath discovered the connection between heart disease and vitamin deficiency. His finding reveals that cardiovascular disease occurs for exactly the same reason that clinical scurvy does – a deficiency of vitamin C in the cells composing the artery wall. As a result of long-term vitamin deficiency, lesions develop in the artery wall. The arterial injury is subsequently repaired by cholesterol, lipoproteins, and other blood fats, leading to atherosclerotic deposits and cardiac infarction. Scientists at the Matthias Rath Research Institute in Cellular Medicine conduct experiments using nutrients to protect the cardiovascular system from damage and reverse existing conditions of cardiac pathology.

Cancer

In a paper authored in 1992, Dr. Rath postulated that vitamin C and lysine are natural inhibitors of collagen digestion, the process that facilitates cancer metastasis. All cancer cells spread in the body using specific enzymes called matrix metalloproteinases (MMPs). To stop cancer metastasis, the activity of MMPs must be inhibited. Dr. Rath's scientific team at the Matthias Rath Research Institute in Cellular Medicine has identified a specific synergistic combination of nutrients that can inhibit cancer spread and growth. *In vivo* experiments confirm the therapeutic potential of this nutrient combination, and it is currently being tested in a clinical setting.

Cellular Medicine

Dr. Rath developed the Cellular Medicine approach, a new branch of medicine based on the understanding that health and disease are determined at the level of the body's cells. This unique concept scientifically establishes nutrient deficiencies at the cellular level as the root cause of many chronic diseases. Cellular Medicine identifies the optimum daily intake of vitamins and other essential nutrients in balanced quantities as a basic preventive and therapeutic measure in many serious health conditions. Scientists at the Matthias Rath Research Institute conduct ongoing research into the prophylactic and therapeutic value of specific nutrients in the application of cardiovascular disease, cancer, infectious diseases and other conditions.

www.drrathresearch.org

Select Scientific Publications

Cardiovascular Disease

- Rath M, Pauling L. (1990) Immunological evidence for the accumulation of lipoproptein(a) in the atherosclerotic lesion of the hypoascorbemic guinea pig. *Proc Natl Acad Sci* 87: 9388-9390.
- Rath M, Pauling L. (1990) Hypothesis: Lipoprotein(a) is a surrogate for ascorbate. *Proc Natl Acad Sci* 87: 6204-6207.
- Rath M, Pauling L. (1991) Solution to the puzzle of human cardiovascular disease: Its primary cause is ascorbate deficiency leading to the deposition of lipoprotein(a) and fibrinogen/fibrin in the vascular wall. *J Ortho Med* 6: 125-134.
- Rath M, Pauling L. (1991) Apoprotein(a) is an adhesive protein. *J Ortho Med* 6: 139-143.
- Rath M, Pauling L. (1992) Unified theory of human cardiovascular disease leading the way to the abolition of this disease as a cause for human mortality. *J Ortho Med* 6: 139-143.
- Rath M. (1992) Reducing the risk for cardiovascular disease with nutritional supplements. *J Ortho Med* 7: 153-162.
- Rath M, Pauling L. (1992) Lipoprotein(a) reduction by ascorbate. *J Ortho Med* 7: 81-82.
- Rath M, Niedzwiecki A. (1996) Nutritional supplement program halts progression of early coronary atherosclerosis documented by Ultrafast Computed Tomography. *J Appl Nutr* 48: 68-78.
- Rath M, Niedzwiecki A. (2003) A randomized, double-blind placebo-controlled clinical study documents the benefits of a vitamin program as an adjunct therapy in patients with paroxysmal atrial arrhythmia. Published in the *Conference Proceedings* of the 3rd World Congress on Heart Disease; Washington, DC.
- Ivanov V, Ivanova S, Roomi MW, Netke SP, Niedzwiecki A, Rath M. (2003) Anti-atherogenic effects of a mixture of ascorbic acid, lysine, proline, arginine, cysteine and green tea phenolics in human aortic smooth muscle cell. Published in the *Conference Proceedings* of the 12th International Congress on Cardiovascular Pharmacotherapy; Barcelona, Spain.
- Ivanov V, Ivanova S, Roomi MW, Netke SP, Niedzwiecki A, Rath M. (2003) Enhancement of cardio-protective effects and attenuation of adverse effects of female sex hormones on cultured human vascular smooth muscle cells by a combination of ascorbic acid, lysine, proline, arginine, cysteine, and epigallacatechin gallate. Published in the *Conference Proceedings* of the European Congress of Endocrinology; Lyon, France.

Cancer

- Rath M, Pauling L. (1992) Plasmin-induced proteolysis and the role of apoprotein(a), lysine, and synthetic lysine analogs. *J Ortho Med* 7: 17-23.
- Roomi MW, Netke SP, Ivanov V, Niedzwiecki A, Rath M. (2001) Cytotoxic effect of lipophilic substitution at 2-, 6-, and 2,6-positions in ascorbic acid and expression of matrix metalloproteinases in Hep G2 cells, melanoma cells, and normal human dermal fibroblast. *J Am Coll Nutr* 20: 43.
- Roomi MW, Bogale A, Ivanov V, Netke SP, Niedzwiecki A, Rath M. (2002) Metastatic and cytotoxic effects of ascorbigen and iso-ascorbigen in human cancer cell lines. *J Am Coll Nutr* 21: 54.
- Roomi MW, Netke SP, Ivanov V, Niedzwiecki A, Rath M. (2002) Epican Forte – A specific formulation of nutrients containing lysine, proline, ascorbic acid and epigallocatechin gallate inhibits matrix metalloproteinase activity and invasion potential of human cancer cell lines. *European Cancer Journal 38*, Suppl. 7/Abs. 280.
- Roomi MW, Ivanov V, Netke SP, Niedzwiecki A, Rath M. (2003) A novel in vitro bioassay for screening matrix metalloproteinase activity in human cancer cell lines. *Proc Am Assoc Can Res* 44: 4559.
- Roomi MW, Ivanov V, Netke SP, Niedzwiecki A, Rath M. (2003) Serum markers of liver, heart, kidney, lipid profile and histopathology in female ODS rats treated with Epican Forte. *J Am Coll Nutr* 23: 18.
- Netke SP, Roomi MW, Ivanov V, Niedzwiecki A, Rath M. (2003) A specific combination of ascorbic acid, lysine, proline and epigallocatechin gallate inhibits proliferation and extracellular matrix invasion of various human cancer cell lines. *Research and Communications in Pharmacology and Toxicology.* In: *Emerging Drugs* Vol. II, 37-50.
- Roomi MW, Ivanov V, Netke SP, Niedzwiecki A, Rath M. (2002) Matrix metalloproteinase-2 inhibition and invasion potential in human chondrocytes by Epican Forte - A specific mixture of nutrients containing lysine, proline, ascorbic acid and epigallocatechin gallate. Published in the *Conference Proceedings* of the American Association of Cancer Research Special Conference in Cancer Research: Proteases, Extracellular Matrix, and Cancer; Hilton Head Island, South Carolina.
- Roomi MW, Ivanov V, Netke SP, Niedzwiecki A, Rath M.(2003) Antimetastatic activity of Epican Forte in human colon cancer cell line HCT 116. Published in the *Conference Proceedings* of the International Research Conference on Food, Nutrition and Cancer; Washington, D.C.
- Roomi MW, Ivanov V, Netke SP, Niedzwiecki A, Rath M. (2003) Inhibitory effect of Epican Forte, a specific formulation of nutrients containing lysine, proline, ascorbic acid, and epigallocatechin gallate, on matrix metalloproteinase activity and invasion of human fibrosarcomaHT-1080 cells. Published in the *Conference Proceedings* of the FASEB (Federation of American Societies for Experimental Biology) Conference; San Diego, CA.
- Roomi MW, Ivanov V, Netke SP, Niedzwiecki A, Rath M. (2003) Antitumorigenic Activity of Epican Forte in Human Breast Cancer Lines MDA MB-231 and MCF-7. Published in the *Conference Proceedings* of the 8th Annual Multidisciplinary Symposium on Breast Disease; Amelia Island, FL.

Dr. Matthias Rath
RESEARCH

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