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**Professor Dr Reinhold Kiehl** Chemist; Biochemist; Human Biologist

## **CONTACT DETAILS**

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**PERSONAL** Divorced from Ilse Gertraud Schoyerer, 2 daughters

## **CAREER**

1977, Research Fellow Max Planck Institute, Heidelberg

1977-79, Postdoctoral Fellow Scripps Clinic, La Jolla

1979-85, Assistant Professor, Ruhr University, Bochum

1985-87, Associate Professor, Bielefeld University

1987-94, Head of Laboratory And Research, Clinic Neukirchen

1995-, Professor, Director, Freelance Workshop and Course Instructor

## **HIGHLIGHTS**

German scientist Reinhold Kiehl was born on 8 October 1947 in Worms. He attended Engineering School in Mannheim where he obtained his BEng in 1971. After earning his MS in Chemistry (1974) and DSc (1977) at the University of Heidelberg, Professor Kiehl became a Research Fellow at that Institute. Between 1977-79 he worked as a Postdoctoral Fellow at Scripps Clinic, La Jolla, USA. He returned to Germany in 1979 joining the Ruhr University as an Assistant Professor, and during this time completed his MEng at Fachhochschule, Mannheim. In 1985 Professor Kiehl was made an Associate Professor at Bielefeld University, and then in 1987 the

Clinic Neukirchen employed him as Head of Laboratory and Research. Since 1995, however, Professor Kiehl has been a professor, director and freelance workshop and course instructor. He has authored over 50 articles which have been published in professional scientific journals. Professor Kiehl is a member of the American Heart Association, the Max Planck Society, the Royal Society of Chemistry and the American Academy for the Advancement of Science. He also supports the British Society of Allergy and Clinical Immunology, the International Union of Pure and Applied Chemistry and the New York Academy of Science.

### **PERSONAL EXTRACT**

There are currently around 30 million people (37%) in Germany who suffer from allergies. If this sickness rate trend continues, the entire population of the world will be atopic in the year 2020.

We are therefore dealing with what is by far the leading Public Disease No 1. The treatment presently costs the German health system 7 to 10 billion Euro per year.

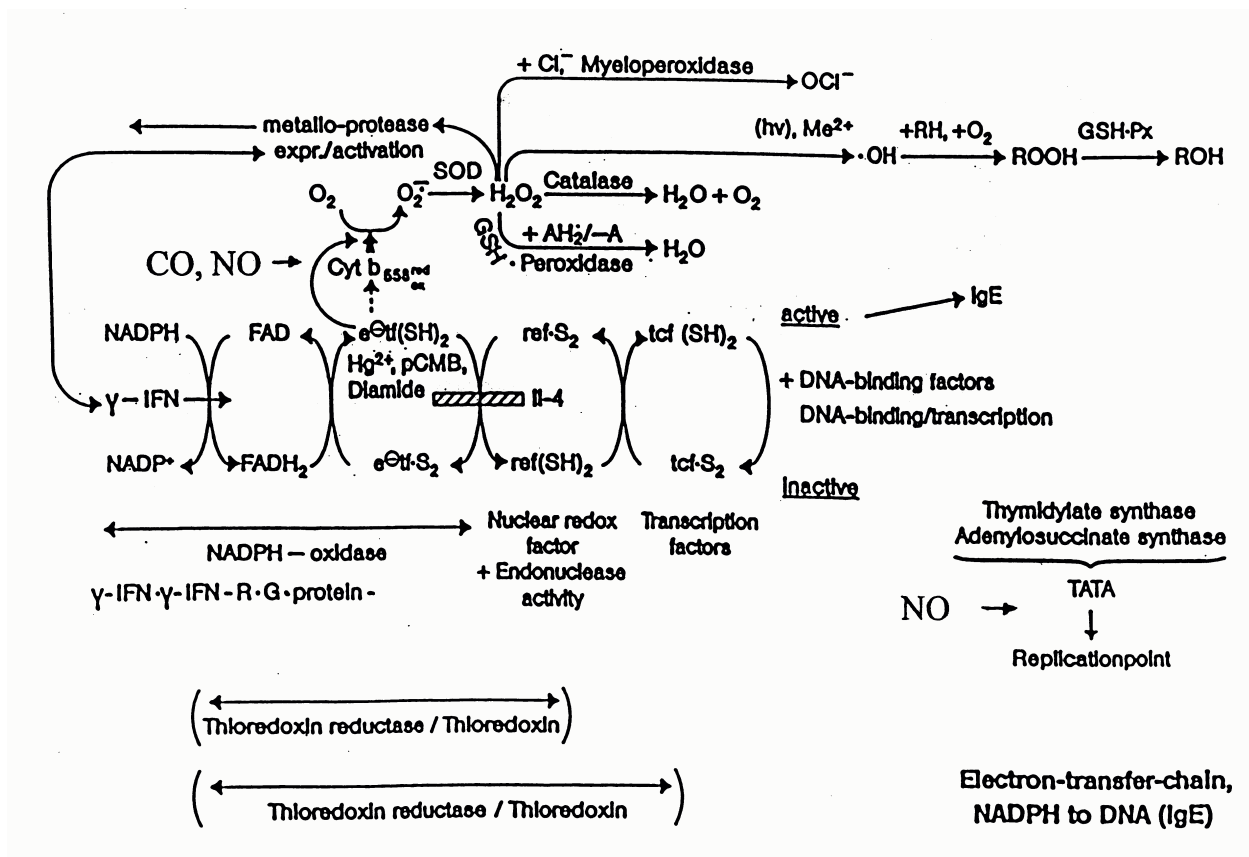
With our holistic concept for the early detection of metabolic disorders, we deliberately seek and find the causes of these diseases. Through in-vivo diagnostics in fresh blood outside the body, using new measuring procedures and micromethods, we are eliminating the triggering factors or their effects before the syndrome can manifest itself and are therefore avoiding ineffective treatment of symptoms.

Our approach and success is the result of many years of interdisciplinary interplay between patho-biochemistry, molecular medicine, molecular biology, genetic engineering, medical engineering, biophysics, proteomics and above all of special know how for living systems/unique skills in "in vivo" testing on one hand, as well as ecologists/toxicologists and patients/doctors on the other. Our common goal: To stop the worldwide catastrophic sickness trend for the benefit of patients = "responsibility for man".

The causes of the diseases lie in multi-directional interaction between genetic disposition, immunological nonregulation and environmental exposure, ie, western lifestyle. The main factors are:

- A rapidly increasing life expectancy (demography) and thus inevitable associated decline in the ...allergy rejecting, biological/immunological competence of the whole population. Increasing ...disease rates in children and young persons (among other things due to psychosocial- ...immunological reasons).

- increase in the allergy-triggering foreign substances in the environment - supported by increasing globalisation and with it the associated inflow/contact with foreign noxious substances, goods, food, materials, and vacations out of/with third countries.
- These result is a diagnostic - and even more therapeutic - unsatisfactory actual situation, which will expand hugely in the future, as it is only controlled symptomatically. There is no causal therapy. The available in-vitro diagnostics are primarily limited to measurement of allergen-specific IgE antibodies.

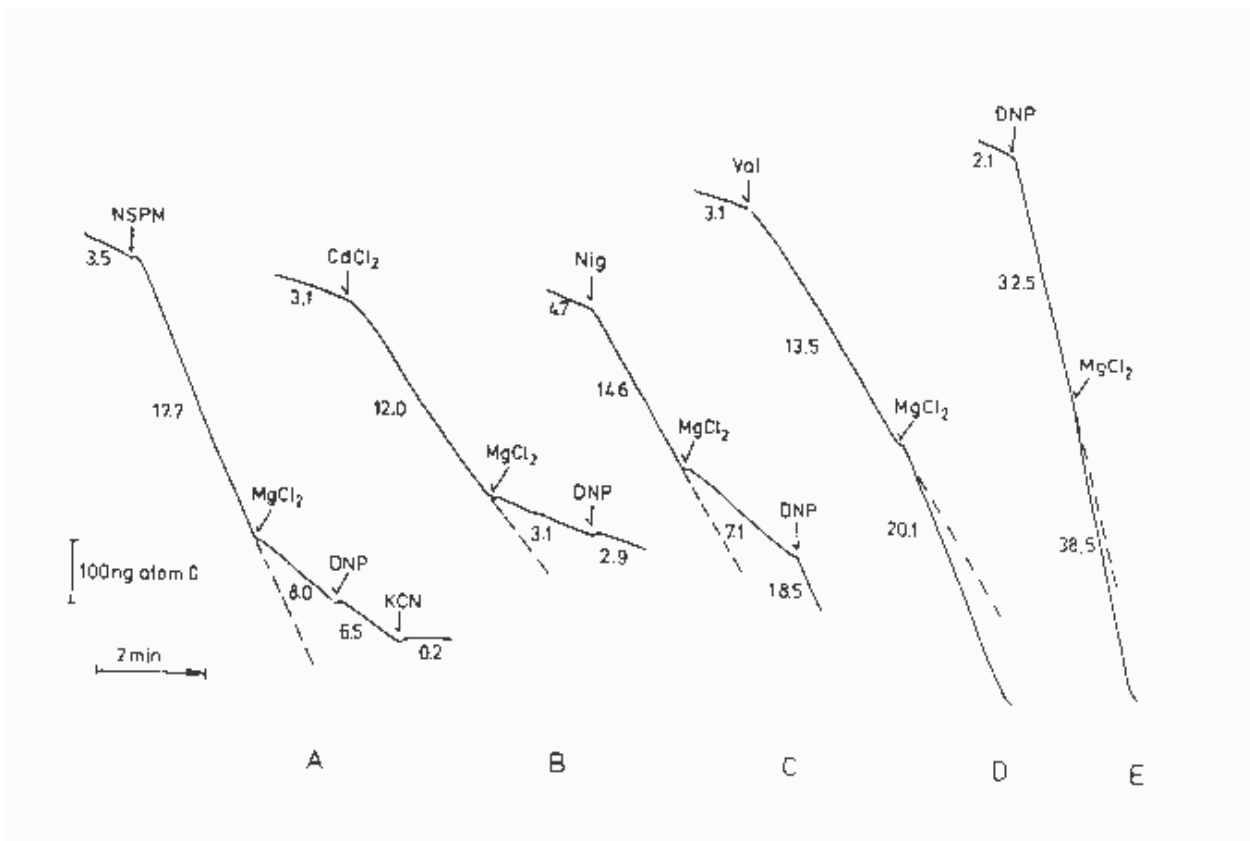


Considerable progress has been achieved in recent years in understanding the underlying non-regulations in these leading public diseases, allergy and asthma. With our "in-vivo-tests" on patients, we have been able to develop a 3stage model for the pathogenesis of these diseases. Allergic reactions for the reasons already described (foreign environment, travelling, relocation, changed environment), allergens (cats, horses, pollen, food, mites).

Specific IgE-synthesis (auto-immune reactions)

a) Triggering of unspecific IgE-synthesis by an altered biology, biological contaminations

- Antigenic and C-substance activities of related glycopeptides from fungi, parasites and vegetables, such as lipo-polysaccharides (LPS) and autogenic proteins from candida albicans or aspergillus fumigatus, toxins plus proteins (animals); inactive gIFN, cytokines (IL-4, IL-2, incl), misdirected platelets, eosinophiles, T-cells, B-cell (effector) response
- Carbohydrates (glucose, displacement of glutamine, inter alia), ATP (energy-metabolism)
- Psychological stress (noradrenaline: (ATP) cAMP-prostaglandin, leucotriene, interleukine).



b) The cause lies in the sensitisation of the human biological system by changed ecosystems,

industry, road traffic as well as the western lifestyle: lack of exercise (sport), too much hygiene, hygiene, air (urban-rural), nutrition (constituents)

- Formaldehyde, sulphite/SO<sub>2</sub>, isocyanates, anhydrides,
- Triethylene tetramine (paints, lacquers, textiles, insecticides,

- Heavy metal compounds/salts ( $Pb^{2+/4+}$ ,  $Cd^{2+}$ ,  $Hg^{2+}$  -organics) complex salts of platinum, nickel, charged (lipophilic) chemicals (detergents, soaps, care products, ...)
- Finely spread heavy metals (Pt, Pd, Rh, car-catalytic converters)
- Respirable particulate matter (PM10) of diesel-powered cars (dust)
- Cigarette smoke (nicotine,...)
- CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, O<sub>3</sub>, N<sub>3</sub> (NO<sub>2</sub> + O<sub>2</sub> + light, temp → NO + O<sub>3</sub>; CO<sub>2</sub> + O<sub>2</sub> → CO + O<sub>3</sub>)
- Pharmaceuticals (inter alia aspirin, penicillin), also without IgE-formation (anaphylaxis)
- Natural substances: biogenic amines, pheromones, animal hairs, feathers, and excrement (mites)

The combination of sensitisation (1st stage), triggering and allergic reaction leads to a physical stress situation which the body is no longer able to cope with and consequentially the manifestation of the disease syndrome neurodermatitis, asthma inflammatory reactions, thromboses, arteriosclerosis, diabetes, neuro-degenerative diseases, leukaemia.

A healthy lifestyle (exercise - sport, normal hygiene, good food, fresh air, positive thinking) can partly counteract sensitisation by mobilising the body's self-repair mechanisms (strengthening the immune system, inter alia). Knowledge of the logistics in the pathogenesis of these public diseases traced (mainly) using our "in-vivo test" and our new micro-methods, leads to the early detection and diagnosis of disease symptoms, which are remains undetected by conventional diagnosis and to the intervention and planning of preventive measures for the benefit of the patient and of our health system. The living "organ" blood is the main point of attack for our biotechnological, medical and genetic engineering methods. The chromosomes and genome play a not insignificant role, inter alia for the regenerative restoration of the general "healthy" condition of our patients = regenerative medicine.

## **PUBLICATION HIGHLIGHTS**

Original work:

R Kiehl, Wirkung von Thiol- und Sulfensäurereagentien wachsender Alkylkettenlänge auf die mitochondriale Energieübertragung", Doktorarbeit, Universität Heidelberg und Max-Planck-Institut für Med Forschung, Heidelberg, 1976

R Kiehl, Y Hatefi, "Interaction of [C14 ] dicyclohexylcarbodiimide with Complex V", Biochemistry 19, 1980

R Kiehl, "Is there a nucleotide Carrier present in OS-ATPases", FEBS Letters 109, 1980

R Kiehl, W G Hanstein, "Oxonol response and energy transduction in an ATP-Pi-exchange complex", Biochim Biophys Acta 766, 1984

R Kiehl, M Varsanyi, E Neumann, "Phosphorylation of phosphatidylinositol associated with the nicotinic acetylcholine receptor of Torpedo Californica , BiochemBiophys Res Comm 147, 1987

R Kiehl, G Ionescu, "A defective purine nucleotide synthesis pathway in psoriatic patients", Acta DermatoVenereologica 72, 1992

R Kiehl, "Einsichten in den Wirkmechanismus gefunden, Grundlagen der Fumarsäuretherapie", Psoriasis Magazin 4, 1992  
R Kiehl, G Ionescu, "Pathological changes in platelet histamine oxidases in atopic eczema". Mediators of Inflammation 2, 1993  
R Kiehl, "ATP synthesis and Transport in Mitochondria I-IV", Eur J Biochem. Professor R Huber, Martinsried  
R Kiehl, Review, "Glutathione: The essential factor for mitochondrial energy-linked functions", J Mol Biol/Professor R Huber, Martinsried  
R Kiehl, "Regulation der IgE-Synthese, Proliferation und Entwicklung von AIDS", BIOforum, GIT-Verlag 12, 1997  
R Kiehl, "Molecular regulation of IgE synthesis and proliferation: stress protein IgE as early warning signal for our body", IFCC-Proc of the 17 th Int Symposium on The Confluence of Critical Care Analysis and Near Patient Testing, Nice, 4-7 June 1998  
R Kiehl, "Multifactorial Diseases: Allergies, respiratory tract diseases, asthma, Biotechnology in Bavaria: profiles, portraits, perspectives-global partner", 2001

Books:

R Kiehl, "Molekulare Medizin" (Pathobiochemie, Biochemie), Habilitation, Universität München, Medizinische Fakultät, 1995

Abstracts/Lectures:

R Kiehl, "The effect of the lipophilic Thiol reagent NSPM on ox phosph and resp chain", 1, EBEC, 1980  
R Kiehl, O Akinpelu, E Hoffmann-Posorske, E Kordt, "Interaction of picrate and picrylacetate with the mitochondrial energy transfer and utilization system", 2, EBEC, 1982  
R Kiehl, W G Hanstein, "Conformational States of BHM-ATP synthetase as probed by the potential sensitive dye Oxonol VI, 3, EBEC, 1984  
R Kiehl, "Evidence for mitochondrial FOF1-ATPase being a K<sup>+</sup>-pump, GBCH Joint meeting with the BS (London), Düsseldorf, 12-15 September, Biol Chem Hoppe-Seyler, 1993  
R Kiehl, "Kopplungsfaktor Glutathion - Einführung in die Elektrophysiologie und Thermodynamik von Mitochondrien", 16 Vortragstagung der GDCH, Fachgruppe Biochemie, Kassel. 12-14 March, 1997  
R Kiehl, "CNS/Psyche-Blood/Immune system/Cells-Acupuncture/Drugs-Electrophysiology and Thermodynamics: The redox potential/electron transfer is responsible for stress protein or O<sub>2</sub> -synthesis/transport and proliferation", 23 Jahrestagung DGZ 1999, Rostock, 14-18 March, Eur J Cell Biol 78 (Suppl 49), 1999  
R Kiehl, "Coupling factor glutathione". 2nd Int Conference on Appl of Biocalorimetry, Halle/S, 28-31 March, 1999  
R Kiehl, "Electrophysiology and Thermodynamics of Mitochondria", 3d World Congress of Cell and Mol Biology, Jena, 8-13 Oct, 2000

Signature Reinhold Kiehl

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