Organisation and Funding

As an institute under German law (the Stiftung des öffentlichen Rechts), the IPB is protected and supervised by the German state of Saxony-Anhalt. The IPB is a foundation, represented by a foundation advisory board, a scientific advisory board, and the directors of the institute. The federal Ministry of Education and Research and the local state government (Saxony-Anhalt) fund the IPB in equal measures. The IPB's annual budget averages DM 22 million, DM 3.5 million of which comes from third parties.

Currently the IPB has 170 employees, of whom 65 are research scientists. Some of the research of the departments is done in collaboration with other German and international institutes as well as with industry. The institute is a member of the science society Gottfried Wilhelm Leibniz (WGL; www.wgl.de).

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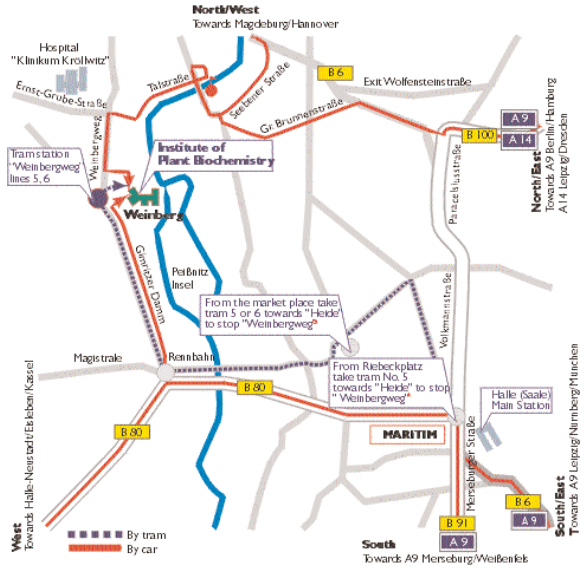
IPB Entrance

How to Find Us



°after 8.00 pm take tram No. 2 direction "Neustadt" to stop "Rennbahn", change to bus No. 34 direction "Heide-Nord" to stop "Weinberg"

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IPB

Leibniz Institute of Plant Biochemistry

A member of the Leibniz Society

Aim of the IPB

The Leibniz Institute of Plant Biochemistry (IPB) is situated in Halle, Germany. Researchers there investigate plant development and search for new natural compounds useful as lead structures for developing both pharmaceuticals and crop protectant substances. The research results aid the understanding of fundamental aspects of the regulation of plant metabolism and provide new approaches towards establishing more environmentally friendly agricultural techniques (for example, the use of natural biological regulation or the development of natural defence strategies against pathogens).

History of the IPB

The IPB started life as the East German Institute for Biochemistry of Plants, which was a member of the German Democratic Republic's Academy of Sciences. Kurt Mothes founded this institute in 1958, the first of its kind in Germany. Both he and his successor had strong backgrounds in the biological, pharmaceutical, and chemical sciences, which greatly influenced the research conducted by the institute.

In January 1992 the IPB was refounded to carry on the successful work of more than 30 years of research. Since then, the institute's buildings have been thoroughly modernised, and many new facilities have been added.

The IPB maintains a close connection with the nearby Martin Luther University Halle Wittenberg. Professorships and directorships at both institutions are jointly decided, and this close working relationship benefits both research and teaching.

Current Science

The present-day IPB has continued working on plant biochemistry and has a strong national and international reputation for its work on plant developmental processes. Its strength lies in the way its multidisciplinary scientists combine modern molecular biology techniques with classical biology, chemistry, and biochemistry. Currently, scientists working at the IPB perform both basic and applied research. The IPB provides an excellent working environment, with biochemistry, biotechnology, and isotope laboratories all fitted out with the latest equipment.

IPB Departments

Stress and Developmental Biology

Head of Department: Prof. Dierk Scheel

Scientists in this department investigate how plants perceive environmental biotic and abiotic factors such as fungi, bacteria, or heavy metals, how they process the information they receive, transporting signals within individual cells, and finally how they react to these signals. They use a broad spectrum of biochemical, cell and molecular biological, and genetic methods to investigate plant–pathogen interactions and heavy metal tolerance.

Bioorganic Chemistry

Head of Department: Prof. Ludger Wessjohann

Plants and fungi provide a rich source of highly diverse natural products and enzymes. This department focuses on the isolation, characterization, and modification of such compounds helping to understand their function in nature. Applications include the use of metabolites as lead structures for drugs or cosmetics, and the use of enzymes as screening targets or as catalysts for synthesis. This is backed by an extensive synthesis programme to increase compound availability and molecular diversity by combinatorial chemistry, method development, and de novo synthesis.

IPB Departments

Natural Product Biotechnology

Head of Department: Prof. Toni M. Kutchan

The central theme of research is the molecular genetics of alkaloid biosynthesis in medicinal plants. The broad spectrum of molecular genetic techniques in our alkaloid research complement well-established analytical/synthetic chemistry and enzymology in elucidating biosynthetic pathways. In addition, selected medicinal plants are being genetically modified to produce transgenic varieties with tailored alkaloid patterns for industrial and research use. Using plant cell cultures and whole plant systems, as well as reversed genetics, the role of jasmonates in plant development and stress response is also addressed.

Secondary Metabolism

Head of Department: Prof. Dieter Strack

Scientists of this department concentrate on the metabolism of secondary compounds, such as phenolics, pigments, and terpenoids. They work with an interdisciplinary approach, using chemical, biochemical, ecological, and physiological techniques. They investigate the induction and regulation of secondary metabolite synthesis and its associated enzymology.

In this department, emphasis is also given to the interaction between mycorrhizal fungi and plant roots and the investigation of the molecular basis of root recognition by these fungi and of the changes in plant metabolism induced by mycorrhizae.