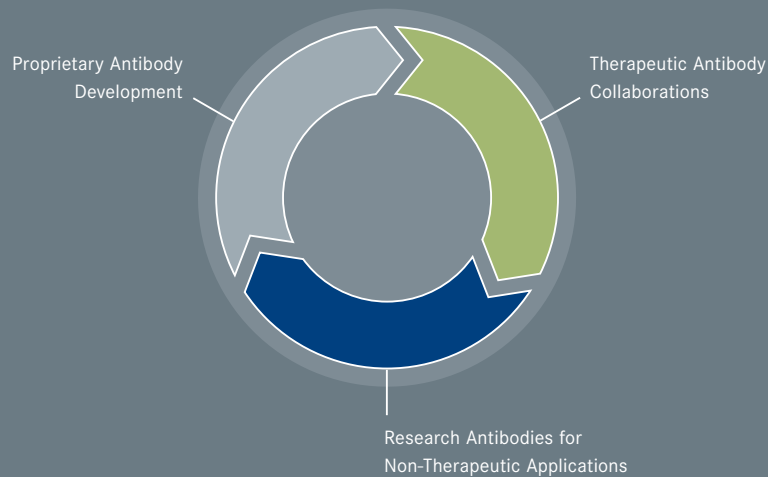


HuCAL[®] Technology in Use

MorphoSys' HuCAL[®] technology has been used to generate fully human antibodies in partnership with several pharmaceutical and biotechnology companies. Additionally, the technology is employed in the development of MorphoSys' own proprietary product portfolio. The central focus of both these efforts is the development of therapeutic antibodies. Increasingly, however, the technology is used for producing antibodies in non-therapeutic applications such as research. In this vein, MorphoSys recently created a new business unit, "Antibodies by Design". The purpose of this business unit is the exploitation of the HuCAL[®] technology in "non-therapeutic" markets, particularly research reagents.

Fields of Use for the HuCAL[®] Technology



Own Product Development

In order to generate maximum added value from its proprietary HuCAL® technology in the long term, MorphoSys uses its technologies to develop its own products. MorphoSys is currently working on four internal antibody programs. The two most advanced programs, MOR101 and MOR102, are currently in the preclinical development stage. Two other programs are still in the research phase. The MOR201 program, inlicensed from ProChon, was discontinued in 2003.

MorphoSys intends to start new antibody programs each year. These product candidates are planned to be outlicensed prior to the start of clinical studies to partners in the pharmaceutical industry.



Dr. Jutta Haunschild
Director
Preclinical Antibody Development

MOR101 and MOR102

MorphoSys' first proprietary drug development programs, MOR101 and MOR102, are fully human antibodies directed against a certain adhesion molecule known as ICAM-1 (intercellular adhesion molecule-1). As ICAM-1 controls the interaction between certain kinds of cells during inflammatory reactions, binding of an antibody to ICAM-1 inhibits these interactions and thereby reduces inflammation.

An antibody which binds to ICAM-1 was in the past developed by Boehringer Ingelheim under the name BIRR-1 (Enlimomab). BIRR-1 was developed in clinical trial indications such as rheumatoid arthritis, acute stroke, burn injury and transplant rejection. In rheumatoid arthritis and burn injury studies, BIRR-1 exhibited positive efficacy trends, with only minor side effects. The development of BIRR-1 was discontinued for all indications following phase III results in stroke patient studies that revealed severe adverse effects. There is considerable evidence that these side effects were related to the murine IgG2a isotype of the antibody. In contrast to BIRR-1, MorphoSys has developed HuCAL® antibodies or antibody fragments, neither of which induces such side effects.

The development of MOR101 is directed at the treatment of severe skin burns. Skin burn wounds are classified according to their severity and the area of injured skin. Second-degree (deep dermal) burns are characterized by partially irreversible destruction of affected tissue, and are not simply an injury, but a form of disease. These burns trigger severe inflammatory reactions and edemas in affected areas, and can cause progression to third-degree burns resulting in irreversible skin damage requiring skin transplants.

Despite major progress in the care of severely burned patients, there is no specific treatment available for preventing the deterioration of second-degree burns. Such burns never fully recover, causing considerable functional strain and severe reduction in an affected patient's quality of life. Moreover, through prevention of third-degree burns there is also a reduction in the need for skin transplants. In summary, improved wound healing and reduced numbers of skin transplants and follow-up surgeries could dramatically reduce hospitalization and related costs.

MorphoSys also intends to develop MOR102, which is a fully human IgG4 antibody capable of binding to ICAM-1, for the treatment of chronic inflammatory diseases such as rheumatoid arthritis, psoriasis and others. Rheumatoid arthritis is a chronic multisystemic disease whose effects on patients are highly variable. The potential of inflammation causing cartilage destruction, bone erosion and subsequent changes in joint integrity is a hallmark of the disease. Another possible application for MOR102 is psoriasis. Psoriasis is an inflammatory, non-contagious skin disorder. Common clinical symptoms are inflammation and swelling of the skin. These lesions are covered with silvery white scales and cause itching, redness and pain. Current treatment options possess limited effectiveness or have considerable side effects.

First Promising Preclinical Results for MOR101 and MOR102

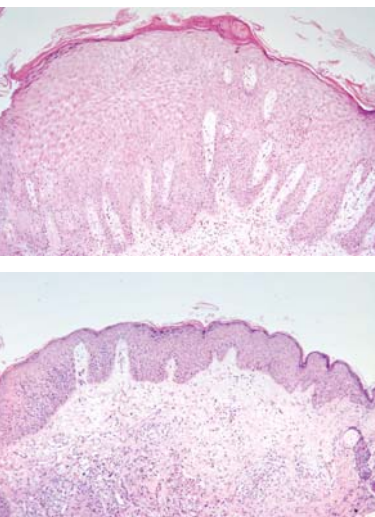
In October 2003, Dr. Thomas von Rden, Chief Scientific Officer, presented first promising animal data from preclinical studies of the anti-inflammatory antibody programs MOR101 and MOR102, at the Human Antibodies & Hybridomas Conference in Osaka, Japan.

In its antibody program MOR101, a chimeric Fab fragment derived from the murine BIRR-1 antibody was examined in an initial animal model conducted in collaboration with Prof. Dr. Dr. Pallua and Dr. Fuchs, Clinic for Plastic Surgery at the University of Aachen. The Fab fragment proved to be as potent as the immunoglobulin BIRR-1 antibody previously developed by Boehringer Ingelheim.

In an *in vivo* human psoriatic skin xenotransplant model conducted in collaboration with Prof. Dr. Boehncke, Department of Dermatology at the University of Frankfurt, proof of principle was demonstrated for MOR102, a HuCAL[®] IgG4 antibody. More specifically, the data showed that treatment with MOR102 reduced psoriatic epidermal thickness by 40% in mice carrying transplants of human psoriatic skin.

The fully human HuCAL[®] antibodies against ICAM-1 are expected to have excellent efficacy profiles in these inflammatory disorders while having none of the immunogenic side effects associated with the mouse antibody. Moreover, the antibodies are expected to suppress inflammation directly at the site of inflammation, as opposed to being systemically immune-suppressive. As such, systemic immune-suppressive side effects could be minimized.

As a result of these positive data, MorphoSys now plans to further preclinically develop its proprietary programs MOR101 and MOR102.



In an animal model with human psoriatic skin proof of principle was demonstrated for MOR102. Systemic administration of MOR102 reduced epidermal thickness by 40% (lower picture)

Top: Psoriatic skin, untreated
Bottom: Psoriatic Skin, treated with MOR102

Further Antibody Programs

MorphoSys currently has two additional antibody programs under way. Both programs are still in the research phase.

- MOR202 is a human HuCAL[®] GOLD antibody against an undisclosed target molecule in the indication of oncology
- Another antibody program is currently in progress. No further information on this has been presently disclosed.



Lonza Biologics PLC

In January 2003, MorphoSys entered into a collaboration agreement with Lonza Biologics, a U.K. company specializing in the manufacturing of therapeutic ingredients and intermediates. The agreement provides for the production and supply of clinical-grade antibody drugs derived from MorphoSys HuCAL[®] technology over the next five years. With this agreement, MorphoSys gains access to Lonza's process development and manufacturing capacity with respect to future antibody projects for both MorphoSys' proprietary and partnered therapeutic antibody projects. As a result, the value added of MorphoSys' preclinical products for out-licensing can be further enhanced.

Alliances and Partnered Product Development

MorphoSys presently has 13 active partnerships involving target validation and therapeutic antibody generation. These current collaborations are with (in alphabetical order):

Partner	Start Expansion	Development of therapeutic antibodies	Target research
Bayer AG	12/1999 06/2001	Several active programs	✓
Biogen Idec, Inc.	12/2000 12/2001	Options for therapeutic antibody development	✓
Boehringer Ingelheim GmbH	02/2003	One active program, one further option for therapeutic antibody development	–
Bristol-Myers Squibb	08/1998 07/2000	Options for therapeutic antibody development	✓
Centocor, Inc.	12/2000 03/2002	Several active programs	✓
GPC Biotech AG	04/1999	Two active programs	–
F. Hoffmann-La Roche AG	09/2000	One active program	–
ImmunoGen, Inc.	09/2000 06/2001	One active program	✓
Oridis Biomed GmbH	09/2001	–	✓
Pfizer, Inc.	12/2003	Options for therapeutic antibody development	–
ProChon Biotech Ltd.	05/2000 05/2002	One active program	–
Schering AG	12/2001	Five active programs	✓
XOMA Technology Ltd.	02/2002	Options for therapeutic antibody development	✓



Bayer AG

In December 1999, MorphoSys entered into a collaboration agreement with Bayer AG, encompassing a research collaboration and license agreement for the application of MorphoSys' proprietary technologies in a number of Bayer's research and development programs. The agreement specified four areas in which the two companies apply technologies:

- (1) to generate fully human therapeutic antibodies against targets provided by Bayer
- (2) to develop antibodies generated using the HuCAL[®] technology as *in vitro* diagnostics
- (3) to identify antibodies for use in monitoring the progress of clinical trials with selected drugs and
- (4) to identify and validate new targets emerging from Bayer's genomics program, which will be used by Bayer in screens for new drug candidates.

The agreement, initially scheduled to last for two years, was extended for an additional four years in June 2001. MorphoSys' HuCAL[®] technology has been installed at Bayer sites in Berkeley, California, as well as in Leverkusen, Germany.

The first milestone in the therapeutic part of the collaboration was achieved in February 2001. The milestone, the delivery of a tailored, high-affinity HuCAL[®] antibody for an undisclosed target, triggered a payment from Bayer. In addition, Bayer exercised exclusive options in February 2001 and in January 2003 for the development of specific HuCAL[®] antibodies. In addition to the efforts in the development of therapeutic antibodies, scientists from both companies have successfully applied the HuCAL[®] technology to a number of research programs for the validation of target molecules.

The Biogen Idec logo features the words "biogen ideo" in a lowercase, sans-serif font, enclosed within a stylized rectangular frame with a horizontal line above and below the text.

Biogen Idec, Inc.

In December 2000, the Company and Biogen Idec, Inc. signed a collaboration agreement, within the framework of which MorphoSys will use its proprietary HuCAL[®] EST technology for the generation of human antibodies for ESTs, in order to support the identification and evaluation of drug candidates in Biogen Idec's genome research. The antibodies are generated using MorphoSys' proprietary HuCAL[®] technology. In December 2001, Biogen Idec extended the collaboration, increasing the number of ESTs included in the project. Additionally, Biogen Idec gained access to MorphoSys' HuCAL[®] GOLD antibody library, which was installed at Biogen Idec in January 2002. Biogen Idec also has the option of developing certain HuCAL[®] and HuCAL[®] GOLD antibodies as therapeutics arising from the collaboration.



Boehringer Ingelheim GmbH

In February 2003, MorphoSys and Boehringer Ingelheim GmbH, entered into a therapeutic antibody collaboration and cross-license agreements. Under the terms of the agreements, MorphoSys received an exclusive, worldwide license to patents owned or controlled by Boehringer Ingelheim to develop, make and sell therapeutic and diagnostic antibodies targeting the ICAM-1 molecule. Boehringer Ingelheim will receive exclusive commercial licenses to therapeutic antibodies against two undisclosed targets, which MorphoSys will generate utilizing its HuCAL[®] GOLD antibody technology.

In November 2003, Boehringer Ingelheim exercised its first option for the development of a therapeutic antibody. As a result, MorphoSys will develop a therapeutic antibody for Boehringer Ingelheim against an undisclosed target molecule for the treatment of inflammatory diseases such as asthma and rheumatoid arthritis. Boehringer Ingelheim will assume responsibility for the preclinical and clinical development and subsequent marketing of any resultant products, on which MorphoSys could earn milestones and royalties.



Bristol-Myers Squibb

In August 1998, the Company and Bristol-Myers Squibb Company (formerly DuPont Pharmaceuticals Company) entered into a cooperation agreement under which Bristol-Myers Squibb acquired a non-exclusive license to MorphoSys' HuCAL[®] antibody library technology. Under the agreement, Bristol-Myers Squibb applied HuCAL[®] technology in its pharmaceutical discovery programs for target characterization and validation. In July 2000, the parties extended this research license and agreed to collaborate in developing a system for fully automated high-throughput antibody generation, called AutoCAL[™]. The amended agreement provided for Bristol-Myers Squibb's continued use of the HuCAL[®] libraries and for the installation of AutoCAL[™] at Bristol-Myers Squibb's facilities in Wilmington (Delaware, U.S.A.). Milestones were achieved in 2000 and 2001 with the successful generation of research antibodies against target molecules provided by Bristol-Myers Squibb using AutoCAL[™].

Centocor, Inc.

In December 2000, MorphoSys AG and Centocor, Inc., a 100% subsidiary of Johnson & Johnson, signed a five-year collaboration agreement. Within the collaboration, MorphoSys shall use its proprietary HuCAL[®] technology to generate antibody drugs and to identify target molecules for Centocor. Centocor also has an option to develop up to 30 different therapeutic antibodies with MorphoSys. The agreement also allows Centocor access to the HuCAL[®] antibody library in combination with MorphoSys' proprietary HuCAL[®] EST technology, in order to identify new disease-associated genes, which could become target molecules for future drug developments. MorphoSys also supplies the J&J subsidiaries, Janssen Research Foundation and R. W. Johnson Pharmaceutical Research Institute, with HuCAL[®] antibodies. In December 2001, HuCAL[®] GOLD was installed at Centocor.

In March 2002, Centocor exercised its option to extend the existing agreement, thus increasing the amount of research and development work to be performed by MorphoSys and exercising an option to use AutoCAL™ in its research programs. In August 2002, MorphoSys reached the first milestone of the collaboration, when it generated and systematically optimized various antibodies against a Centocor target molecule. In November 2002, the successful installation of AutoCAL™ at Centocor was announced. In line with the extended collaboration, MorphoSys received a milestone payment upon the successful conclusion of AutoCAL™ test runs. In July 2003, MorphoSys reached the third milestone in its collaboration with Centocor, when several antibodies against a Centocor target molecule were generated and fulfilled all agreed success criteria.



GPC Biotech AG

A collaboration agreement between MorphoSys and GPC Biotech AG was signed in April 1999. In the agreement, MorphoSys agreed to apply its HuCAL® technology to generate human antibodies against specific major histocompatibility complex (MHC) class II molecules (HLA-DR) provided by GPC Biotech. These molecules are crucial components of the immune system, which are able to distinguish between the body's own tissue (self) and foreign organisms, and are possibly implicated in autoimmune diseases. The goal of the program is to develop a new generation of highly specific therapeutics to treat a variety of key autoimmune diseases, including rheumatoid arthritis and multiple sclerosis (MS), graft-versus-host disease (GVH), transplant rejection, as well as certain MHC class II-positive lymphoid malignancies.

In February 2000, MorphoSys achieved the first milestone in the collaboration, which triggered the associated milestone payment from GPC Biotech to MorphoSys. MorphoSys had delivered a series of human antibodies, which GPC Biotech confirmed efficiently destroyed specific cancer cells.

MorphoSys achieved the next milestone in September 2000 by delivering high-affinity antibodies for treatment of transplant rejection and GVH. Two additional preclinical milestones were achieved in July 2001, both confirming the ability of MorphoSys' antibodies to perform successfully in animal models—a first *in vivo* proof of efficacy for MorphoSys' HuCAL® technology. The first was the achievement of a preclinical milestone in GPC Biotech's antibody program for the treatment of specific blood cancers, the MHC class II-positive B-cell lymphomas. The second related to the achievement of a preclinical milestone in GPC Biotech's immunology antibody program for the treatment of transplant rejection and GVH.

During 2003, GPC Biotech announced that they expect the antibody to enter clinical trials in the second half of 2004.



We Innovate Healthcare

F. Hoffmann-La Roche AG

MorphoSys and F. Hoffmann-La Roche AG have been collaborating since September 2000 on the development of antibodies for treatment of Alzheimer's disease. Within the framework of the collaboration, MorphoSys identified various antibodies from its HuCAL[®] library against the Alzheimer target molecule amyloid β -peptide ($A\beta$). Following two optimization phases, the fully human antibodies showed high-affinity binding to the target molecule.

MorphoSys presented successful animal data from its collaboration with Roche on Alzheimer's disease at the 33rd Annual Meeting of the Society for Neuroscience in New Orleans (Louisiana, U.S.A.). The HuCAL[®] antibodies generated by MorphoSys within the framework of the collaboration bound very specifically to human amyloid plaques (protein deposits). In the Alzheimer's animal model performed by Roche, the systemically administered antibodies displayed highly specific binding to the amyloid plaques in the brains of transgenic mice. Substantial accumulations of amyloid plaques in the brain are characteristic of Alzheimer's patients. The use of antibodies against such amyloid plaques could therefore be a possible method of treatment of Alzheimer's patients.

The antibodies bound with a very high specificity to amyloid plaques in human tissue sections from Alzheimer's patients. Moreover, the antibodies were able to dissolve aggregates of $A\beta$ -molecules in *in vitro* experiments. The optimized HuCAL[®] antibodies were further tested in an Alzheimer's animal model. Following systemic administration of the antibodies, the antibodies overcame the blood-brain barrier and bound specifically to the β -amyloid plaques in the brain.

In December 2000 and March 2001, the first milestones in the collaboration were achieved. MorphoSys provided a series of HuCAL[®] antibodies that bound selectively to human cerebral tissue affected by Alzheimer's disease. Both in *in vitro* studies and in the Alzheimer's animal model, the HuCAL[®] antibodies generated by MorphoSys demonstrated a high binding affinity for the target molecule. In future, MorphoSys will receive milestone payments and royalties for any end products deriving from the collaboration.

IMMUNOGEN, INC.

ImmunoGen, Inc.

In September 2000, the Company signed a collaboration agreement with ImmunoGen, Inc. The collaboration covers the development of therapeutic antibodies for use in cancer treatment. MorphoSys used its HuCAL[®] technology to generate human antibodies against an ImmunoGen cell-surface target molecule. In June 2001, the collaboration was extended by a license agreement giving ImmunoGen access for a period of four years to MorphoSys' HuCAL[®] technology for the development of antibodies for research purposes.

In April 2002, MorphoSys achieved the first milestone in the collaboration with ImmunoGen, when it supplied antibodies against the ImmunoGen cell-surface target molecule from the field of cancer treatment that fulfilled all of the criteria agreed with ImmunoGen.

ORIDIS Biomed **Oridis Biomed Forschungs- und Entwicklungs GmbH**

In September 2001, the Company signed a collaboration agreement with Oridis Biomed Forschungs- und Entwicklungs GmbH giving MorphoSys preferential access to one of Europe's largest human tissue banks over a term of three years. The tissue collection is located in the Institute of Pathology of the University of Graz in Austria and comprises approximately 2.8 million paraffined human tissue samples and approximately 29,000 deep-frozen human tissue samples. The tissue bank contains a large number of both diseased and healthy tissues, and allows Oridis Biomed and its collaboration partners to identify potential therapeutic target molecules.

The aim of the collaboration is to characterize and validate new target molecules. MorphoSys uses its HuCAL® technology to generate antibodies against target molecule candidates with which Oridis Biomed has performed high-throughput protein expression analysis on a series of human tissue samples. For this purpose, Oridis Biomed acquired a license for MorphoSys' HuCAL® technology and has access to certain MorphoSys antibodies. MorphoSys received the right to preliminary negotiations with regard to all antibody products resulting from the collaboration. In April 2002, HuCAL® GOLD was installed at Oridis Biomed.



Pfizer, Inc.

In December 2003, MorphoSys and Pfizer, Inc. initiated a therapeutic antibody collaboration. Under the terms of this five-year agreement, MorphoSys will use its HuCAL® GOLD library to develop therapeutic antibodies against various target molecules from the Pfizer portfolio. In the collaboration, Pfizer is responsible for the preclinical development, clinical development, and subsequent commercialization of any resulting products. In return, MorphoSys will receive an upfront payment for access to its technology and, for each antibody developed in the collaboration, research support and milestone payments. In addition, MorphoSys stands to receive royalty payments, on any antibody products coming out of the collaboration. The potential value to MorphoSys in committed funding and potential developmental milestone payments on future products is in excess of US\$ 50 million, not including royalties.



ProChon Biotech Ltd.

In May 2000, MorphoSys and ProChon Biotech Ltd. ("ProChon"), an Israeli biotechnology company, signed a collaboration agreement. The collaboration stipulates the use of MorphoSys' technology for the development of therapeutic antibodies against a ProChon target molecule. In November 2000, MorphoSys achieved the first milestone by generating a series of human HuCAL® antibodies that were proven to block the function of the ProChon target molecule.

In July 2001, ProChon selected a novel antibody, a result of the collaboration, from the MorphoSys HuCAL® antibody library. The antibody potentially represents a new class of drugs as ProChon has proven that this antibody specifically blocks the function of mutated hyperactive forms of a human growth factor receptor.

The collaboration agreement was initially extended in May 2002. With this extended agreement, the Company acquired exclusive rights to the development and commercialization of a group of HuCAL[®] antibodies resulting from the product development with ProChon, which are targeted against a human growth factor receptor, FGFR-3 (fibroblast growth factor receptor-3), in the field of oncology. This agreement was in connection with MorphoSys' proprietary MOR201 product development program. Subsequently, the Company and ProChon agreed in July 2003 to transfer back all rights to the FGFR-3 antibodies, including the MOR201 program, to ProChon. Under this extended collaboration agreement, ProChon is currently developing up to four antibodies using the HuCAL[®] GOLD antibody library.



Schering AG

In December 2001, MorphoSys AG and Schering AG signed a strategic collaboration for the development of antibody therapeutic agents and *in vivo* diagnostic agents. During the three-year term of the agreement, Schering gained exclusive access to MorphoSys technology in the field of *in vivo* diagnostic agents. The collaboration involves a minimum of five therapeutic antibody projects and/or *in vivo* diagnostic agents. Moreover, the Company and Schering have agreed to jointly research potential therapeutic and diagnostic target molecules resulting from Schering's genome program. Although the collaboration mainly applies to the indication of oncology, other indication areas such as the central nervous system, the immune system and the cardiovascular system may be included. In March 2002, the Company installed HuCAL[®] GOLD at Schering.

As part of this strategic agreement, in 2002 Schering received 357,880 shares which corresponded at the time to approximately 10% of MorphoSys AG's common stock. MorphoSys received approximately € 24 million in proceeds as a result of the capital increase.



XOMA Technology Ltd./XOMA Ireland Ltd.

In February 2002, MorphoSys and XOMA Technology Ltd./XOMA Ireland Ltd. ("XOMA") concluded mutual license agreements for their antibody technologies. Under the terms of these agreements, MorphoSys received a license for itself and for its collaboration partners for the past and future use of XOMA antibody expression technology for the development of antibody products in connection with the phage display-based HuCAL[®] antibody library (the "XOMA license"). In return, XOMA received a five-year license from MorphoSys to use the MorphoSys HuCAL[®] GOLD antibody library, which XOMA will use for its own target molecule identification and for its research programs. Moreover, an option is included for the development of therapeutic antibodies.

MorphoSys acquired the XOMA license by issuing 363,466 shares arising from a capital increase in 2003.