

HuCAL[®] Technology— the Core of MorphoSys

The HuCAL[®] antibody technology, the world's most advanced method of producing antibodies, lies at the core of MorphoSys's development activities. The Company's strategy is to use the advantages of HuCAL[®] to provide the pharmaceutical industry, research institutions, and universities with the opportunity to develop innovative antibody therapeutics and diagnostics. HuCAL[®] technology also has the potential to enhance and accelerate academic research. In the longer term, the Company strives to expand the possible applications of HuCAL[®] technology for life science researchers.

1. Progress within Partner Business

1.1 New Partners and Progress within Existing Partnerships

Pharmaceutical companies are constantly seeking innovative active substances, particularly for diseases with unmet medical need. Moreover, these companies have the financial resources for clinical development of drugs, and the ability to market such products with their global sales forces. For these reasons they are the preferred partners for MorphoSys. At the end of 2003, MorphoSys signed an agreement with Pfizer, the world's largest pharmaceutical group. Collaborative work within this agreement began in 2004. In May 2004, MorphoSys started a collaboration with another pharmaceutical group, Swiss-based Novartis AG, which is MorphoSys's largest collaboration thus far. The signing of this deal means that MorphoSys now has active partnerships with five of the ten largest pharmaceutical companies world-wide. Moreover, eight of the largest 20 pharmaceutical companies are working with MorphoSys's technologies. This market penetration illustrates not only the successes achieved thus far, but also, the scope for new potential partnerships with larger pharmaceutical firms.

May 19, 2004:
Strategic collaboration
with Novartis

Novartis has made a significant commitment to the development of therapeutic antibodies, and the collaboration showcases the central role of MorphoSys in these efforts. Scientists at MorphoSys are working directly with Novartis scientists in the U.S.A. and Europe. In addition, the HuCAL GOLD® technology is being installed at two sites for in-house use within the Novartis Group. The agreement also provides an option for Novartis to integrate the entire MorphoSys technology platform. This is the first time the Company has made such an option available to any partner. Should this option be exercised, Novartis would make a further multi-million dollar payment to MorphoSys.

July 14, 2004:
MorphoSys and Novoplant
sign veterinary medicine
collaboration

New applications for HuCAL® technology present MorphoSys with further possibilities for growth. An example of such new applications is demonstrated by the three-year collaboration with Novoplant GmbH, signed in July 2004. As part of this collaboration, HuCAL GOLD® technology is being used in the wholly new application of veterinary medicine. Under the agreement, Novoplant uses HuCAL® to identify antibodies against pathogens of the digestive tract that can infect poultry, pigs, and cattle. The aim is to produce these antibodies in crops such as peas and potatoes and as such, incorporate them directly into animal feedstock. These measures are aimed at protecting animals against diseases of the gastrointestinal tract, making breeding of livestock for food more cost-effective. Currently, antibiotics are used for this purpose, although the European Union plans to ban the use of antibiotics in agricultural animal breeding by 2006. These impending measures create the need for alternative solutions: HuCAL® antibodies produced in the collaboration with Novoplant could be one such solution.

In addition to finding new partners and applications for the technology, another very important corporate goal is to maximize the number of therapeutic antibody projects being worked on by existing partners. Through such expansion, the number of possible products based on the HuCAL® technology, and the benefits accruing from milestones and royalties, are thereby maximized. In the 2004 calendar year, the number of active therapeutic partner programs increased from 17 at the beginning to 24 at the end of the year. New collaborations, including those with Pfizer and Novartis, contributed to the increase in the total number of active projects. The start of new programs within existing alliances made a further contribution to this increase. More specifically, in August 2004, MorphoSys, together with its partner Boehringer Ingelheim, initiated a new program for the development of a therapeutic antibody against a cardiovascular target molecule. The start of a further antibody project within the Centocor collaboration was also announced in March 2004.

December 9, 2004:
MorphoSys-generated
antibody approved to
enter clinical trials

Finally, regulatory approval for the start of clinical trials in human patients with an antibody from the HuCAL® library late in 2004 marked a significant milestone in the corporate development of MorphoSys. In December 2004, GPC Biotech received regulatory clearance from the Swiss Agency for Therapeutic Products, Swissmedic, to commence a Phase 1 clinical trial with the anti-cancer antibody 1D09C3. The antibody, generated in the context of a partnered program with GPC Biotech AG, is the first HuCAL®-derived molecule to enter clinical trials.

The HuCAL[®]-derived antibody is expected to enter clinical trials in human patients at sites in three European countries. In Switzerland, the Phase 1 study will be conducted at the Oncology Institute of Southern Switzerland (IOSI), a world-renowned oncology center highly experienced in Phase 1 studies. The commencement of clinical trials triggers a milestone payment from GPC Biotech to MorphoSys. The human monoclonal HuCAL[®] antibody is expected to improve the current therapy of various forms of leukemia and has thus far generated promising results in animal models. In January 2004, GPC Biotech extended its exclusive license for certain HuCAL[®] antibodies, including 1D09C3, and made a license payment to MorphoSys.

1.2 Operational Successes and Extensions of Agreements

In addition to signing new agreements and the expansion of MorphoSys's antibody drug pipeline with existing partners, excellent performance was also evidenced in ongoing projects with existing partners. The collaboration between MorphoSys and Centocor, initiated in December 2000, is exemplary of the significant progress made in these types of partnerships. The two companies' collaboration is aimed at developing fully human therapeutic antibodies for a wide range of conditions. Centocor, a subsidiary of the pharmaceutical group Johnson & Johnson, is an industry leader in the field of antibody drugs. Centocor has already developed two therapeutic antibodies: Remicade[®], used for treatment of inflammatory diseases, and ReoPro[®], administered for cardiovascular diseases. Together, these generated more than US\$ 2 billion in revenue last year.

Strong progress in collaboration with Centocor during 2004

In March of this year, MorphoSys and Centocor initiated a new program for the development of a therapeutic antibody against a Centocor target molecule in the field of autoimmune disease. MorphoSys also reached a fourth development-dependent milestone within a further program in April when the Company applied its HuCAL GOLD[®] technology to generate several optimized fully human antibodies against a disease-related target molecule from Centocor. The antibodies delivered back to Centocor fulfilled nine predefined success criteria, for which a milestone payment was received.

Additionally, in August 2004, Centocor extended a commercial license for a further antibody program. In this program, MorphoSys developed certain HuCAL[®] antibodies for treatment of various inflammatory diseases.

This chain of positive events culminated in an early three-year extension of the ongoing collaboration between Centocor and MorphoSys in December. MorphoSys will continue to include the U.S. company among its partners until at least the end of 2007. On signing the agreement, the two partners committed themselves to initiating at least two new programs in 2005. Moreover, the terms of the agreement specify that Centocor will fund more scientists at MorphoSys doing research work on its behalf.

Another existing partner also extended its collaboration with MorphoSys at year-end—Schering AG. The agreement, originally signed in December 2001 and due to expire at year-end 2004, was extended by a further three years. Within the realm of this collaboration, therapeutic antibodies and *in vivo* diagnostic agents have been developed, primarily for use in the area of oncology—a therapeutic indication central to Schering’s core activities. Furthermore, as part of the contract expansion, Schering acquired exclusive licenses for some of the therapeutic antibodies generated by the two partners over the past three years, as well as a license to an antibody for the field of *in vivo* diagnostics. The number of researchers funded by Schering compared to the prior contract was also increased under the new contract.



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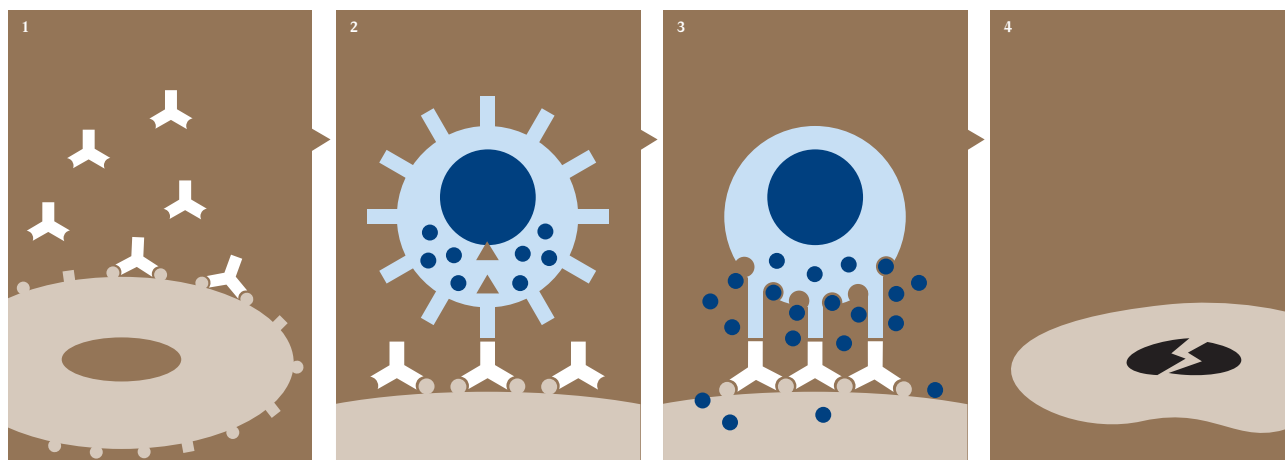
2. Promising Data for Cancer Antibody

MorphoSys has not only made significant progress within its partnerships, but also in the development of HuCAL[®] antibodies for its own proprietary programs. At a scientific conference in October, MorphoSys presented to an international audience the first promising data for the Company’s proprietary cancer antibody program, MOR202. The fully human antibodies from the HuCAL GOLD[®] library are directed at the target molecule CD38, which is over-expressed on the surface of certain cancer cells. The MOR202 program is currently in pre-clinical development for the treatment of multiple myeloma and certain other forms of leukemia. Multiple myeloma is characterized by an uncontrolled increase in degenerated plasma cells, mainly in the bone marrow. Plasma cells belong to the leucocyte group and are important components of the human body’s immune system. The causes of the condition are not yet completely understood, nonetheless, the number of cases continues to rise worldwide each year. Despite the forms of therapy currently available, there is still a large unmet medical need for improved treatments. Presently, approximately 30% of patients treated with the conventional therapy survive for more than five years after being diagnosed with the disease.

To investigate the effectiveness of the HuCAL[®] antibody, tumor cells containing the target molecule CD38 were implanted in a mouse model. The MorphoSys antibody was then tested in two different regimens. In the first study, treatment of the mice began 14 days after they had been injected with the cancer cells, but before a distinct tumor was evident. The MorphoSys antibody was administered every second day over the following three weeks. In a second study, treatment of the mice began once the tumor was clearly detectable. The HuCAL[®] antibody was administered at two different doses over a period of three to five weeks and tumor development was observed and compared with the untreated control group. In both studies, treatment with the MOR202 antibody significantly slowed tumor growth. In one group of treated animals, remarkably, it was no longer possible to detect a tumor at the end of the observation period.

On the basis of these very promising results, the MOR202 antibody program, in line with the MorphoSys corporate strategy, will be licensed out to an industrial partner before the start of clinical development.

As part of the company's MOR102 proprietary development program for treatment of psoriasis, a comparative study was initiated, in order to compare the effectiveness of the HuCAL[®] antibody versus the leading marketed therapeutics for psoriasis, Amevive[®] and Raptiva[®]. MorphoSys expects to be able to present the results of this direct comparative study at the end of the first quarter of 2005. Results of this study will determine the future of this project in finding a suitable partner for the development of MOR102 as a treatment for psoriasis.



The molecular marker CD38 is heavily over-expressed on the surface of certain cancer cells. HuCAL[®] antibodies directed against CD38 bind the surface of CD38-expressing cancer cells, marking the cells "diseased" (1). Killer cells from the body's immune system recognize the antibody-bound cells and bind the antibodies via structures on their surface (2). The resulting cross-linking of cancer and killer cells by the HuCAL[®] antibodies marks the cancer cells out for cell death. Messenger substances produced and secreted by the killer cell lead to the destruction of cancer cells (3/4).

3. Maintaining the Company's Technological Edge

September 8, 2004:
MorphoSys obtains license
on Crucell human cell line

Maintaining a leading technological position in human monoclonal antibody technology is an important element in the Company's strategy. As part of this strategy, MorphoSys is constantly testing and investigating cutting-edge innovations and trends in the field of human monoclonal antibody development. Where appropriate, such new features are integrated into the Company's technology platform. As an example, an area in which MorphoSys was active over the last year was the production of antibodies. With the acquisition of a license from the Dutch biotechnology company Crucell N.V. and its partner, the contract producer DSM Biologics,

MorphoSys gained access to Crucell's fully human cell line technology PER.C6[®]. The Company received a second fully human cell line for the production of antibodies, HKB 11, as part of a cross-licensing agreement with Bayer AG in January 2004. The aim of these collaborations is to use the two cell lines for the production of antibodies within the Company's proprietary projects and partnered programs. There are several advantages of using a human cell line, and these advantages include higher antibody production yields and relatively rapid production cycles. Moreover, use of a human cell line ensures that antibodies are glycosylated in a human pattern, as opposed to traditional animal glycosylation. HuCAL[®] antibodies, which in terms of their amino acid content are already fully human, would thus even more closely resemble their natural counterparts after the production process.



Stephen Scott Yoder
Counsel

4. Strengthening the Patent Protection of HuCAL[®] technology

In 2004, MorphoSys significantly improved its patent protection of the HuCAL[®] technology. A key patent among a number of newly granted patents issued to MorphoSys by the U.S. Patent and Trademark Office in June 2004 protects MorphoSys's proprietary CysDisplay[™] technology. CysDisplay[™] is a central and unique component of the HuCAL GOLD[®] antibody library introduced by MorphoSys in November 2001. In essence, CysDisplay[™] is an innovative technology that permits very efficient isolation of high affinity and highly specific antibodies from an antibody collection. CysDisplay[™] accelerates and simplifies the process, making HuCAL GOLD[®] particularly well suited for high-throughput automated antibody identification in combination with the MorphoSys proprietary AutoCAL[™] system.

During the year, there was also progress as it relates to the patent infringement case launched by Applied Molecular Evolution (subsequently acquired by Elli Lilly). In October 2004, the District Judge presiding over the case declared that he would not agree with the positive recommendation ("Report and Recommendation") of the Magistrate Judge at this point in time, due to lack of information on certain key legal facts. In January 2003, the Magistrate Judge had recommended allowing MorphoSys's claim for non-violation of the patents. For the present, the District Judge has applied for a so-called Markman hearing in order to define more precisely and better understand the claims of each party before making a decision. The suit was commenced by Applied Molecular Evolution in 2001, and the suit revolves around a single U.S. patent.