PHARMACEUTICALS | MERCK SERONO

Merck Serono is the largest division of Merck. It markets innovative prescription drugs of chemical and biotechnological origin, including monoclonal antibodies and other therapeutic proteins, and offers its leading brands in around 150 countries.
With annual R&D spending of more than € 1 billion, Merck Serono focuses on highly specialized therapeutic areas such as Neurodegenerative Diseases, Oncology, Fertility, Endocrinology as well as Autoimmune and Inflammatory Diseases.

KEY PRODUCTS BY THERAPEUTIC AREA

- Oncology: Erbitux® (solid tumors)
- Neurodegenerative Diseases: Rebif® (multiple sclerosis)
- Fertility: Gonal-f®, Pergoveris™, Luveris®, Ovitrelle®, Crinone®, Cetrotide® (infertility treatment)
- Endocrinology: Saizen® (growth hormone disorders), Serostim® (HIV-associated wasting), Kuvan® (metabolic disorder hyperphenylalaninemia)
- CardioMetabolic Care: Glucophage® family (type 2 diabetes), Concor® family (cardiovascular diseases), Euthyrox® (thyroid diseases)

KEY DEVELOPMENTS IN 2009

- Sales of Erbitux increase by 23% to € 697 million; Rebif® sales rise 15% to € 1,537 million
- NICE of the United Kingdom recommends Erbitux® as a first-line treatment for patients with metastatic colorectal cancer (KRAS wild-type tumors) and metastases only in the liver
- The Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency issues a negative opinion on Erbitux® for the treatment of patients with non-small-cell lung cancer (NSCLC)
- Market launch of Rebismart™, the first electronic injection device for the administration of Rebif®, a medicine for the treatment of multiple sclerosis (MS)
- Marketing authorization application for cladribine tablets, an oral treatment option for multiple sclerosis, successfully filed in the EU. In the United States, the FDA issued a refuse to file letter. We are working on a resubmission.
- Market launch of Kuvan® in the EU for the treatment of hyperphenylalaninemia

Erbitux®
The targeted cancer therapy is also marketed in China.

Rebismart®
The first electronic injection device for MS facilitates treatment.

Kuvan®
A rare metabolic disorder can now be better treated.

GROWTH THROUGH BIOTECH MEDICINES

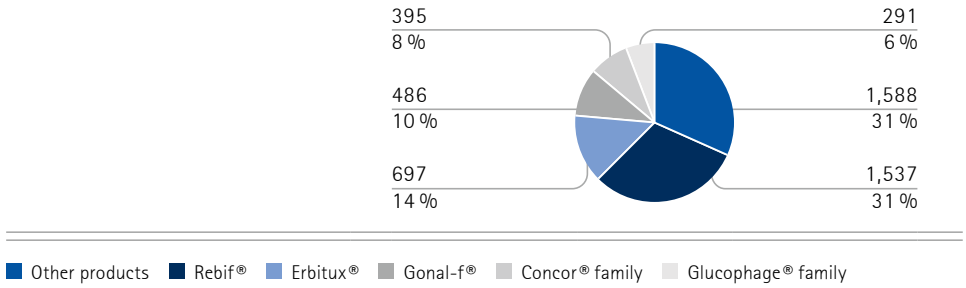
Total revenues of the Merck Serono division grew in line with the forecasted average for the pharmaceutical industry. This growth was mainly driven by our two top-selling medicines, the biopharmaceuticals Rebif® and Erbitux®.

www.merckserono.com

In 2009, the Merck Serono division increased total revenues by 6.6% to € 5,345 million. This growth was mainly attributable to the good performance of biopharmaceuticals such as Rebif® and Erbitux® as well as classic products such as the medicines of the Glucophage® family. We generated 60% of our sales, or € 2,980 million, with our five top-selling biopharmaceuticals. Rebif®, a treatment for relapsing-remitting multiple sclerosis, was once again the top-selling product. Global sales of this product increased in 2009 to € 1,537 million, representing growth of 15%. The targeted cancer therapy Erbitux® again saw double-digit growth in 2009, with sales increasing by 23% to € 697 million. Our recombinant hormone Gonal-f® was approved for the treatment of infertile women in the key Japanese market in July.

Top five medicines by sales in 2009

€ million



Royalty and commission income declined by 3.5% to € 351 million. Gross margin rose to € 4,485 million, 6.3% more than in 2008. Marketing and selling expenses increased by 7.5% owing to product launches and significantly higher commission expenses. Research and development spending rose by 10% to € 1,184 million owing to the high costs of many trials in the final stage of clinical development. The operating result was also affected by high one-time expenses. We increased provisions for litigation by € 163 million. Moreover, impairment losses of € 28 million relating mainly to intangible assets were recorded for the termination of research projects. As a result of altered estimates of the future amount of royalty income for certain partner products, we partly wrote down the corresponding rights by € 72 million. Owing to the growing and clearly emerging currency risk in Venezuela, we recorded currency losses of € 59 million in the operating result of the Merck Serono division. These were partly offset by exchange rate gains from currency hedging transactions. Overall, the operating result declined by 40% to € 355 million. Return on sales (ROS) decreased in 2009 to 6.6%. At € 867 million, underlying free cash flow was 55% higher than in 2008.

Merck Serono | Key figures

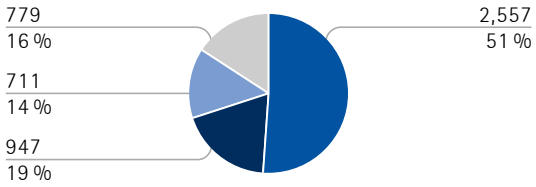
€ million	2009	2008	Δ in %
Total revenues	5,345	5,014	6.6
Gross margin	4,485	4,218	6.3
R&D	1,184	1,074	10
Operating result	355	594	–40
Exceptional items	–40	–354	–
Free cash flow	864	554	56
Underlying free cash flow	867	559	55
ROS in %	6.6	11.8	

Strong growth outside of Europe

In 2009, Europe was again the division's strongest region in terms of sales, which declined by 3.6% to € 2,557 million, mainly as a result of the market withdrawal of the psoriasis drug Raptiva®. With sales of € 533 million, France was our biggest market in Europe. Sales there fell by 15%, due in part to generic competition faced by our CardioMetabolic Care products. Despite a restrictive health care policy, sales in Germany grew by 2.7% to € 497 million. In Italy and Spain, sales declined by 3.1% and 2.4%, respectively, to € 287 million and € 288 million, putting them nearly on par with each other. With growth rates of 15% and 9.9%, respectively, Poland and Russia were two examples of smaller markets that experienced strong growth.

Merck Serono | Sales by region

€ million



Europe North America Latin America Asia, Africa, Australasia

In North America, we expanded our market position, with a 21% increase in sales to € 947 million, primarily attributable to the strong growth of Rebif®. Sales in Latin America rose by 21% to € 711 million. Our largest market in this region, Brazil, posted sales growth of 7.1% to € 210 million. Argentina and Colombia performed well, with sales growth of 21% and 36%, respectively, while sales in Mexico declined by 2.9% because of strong currency effects.

Focusing on the markets of Asia: We achieved good growth rates in Japan, China and India.

In Asia, Africa and Australasia, sales increased sharply by 24%, rising to € 779 million. Thanks to the success of Erbitux®, we more than quadrupled our sales in Japan to € 127 million. At € 56 million, India achieved growth of 7.1%, while China increased sales by 7.8% to € 123 million. We intend to strengthen our presence in this important market. Over the next four years, we plan to invest € 150 million in the establishment of a global center for research and development in Beijing.

Therapeutic areas

	Research	Development	Marketing
Oncology	■	■	■
Neurodegenerative Diseases	■	■	■
Autoimmune and Inflammatory Diseases	■	■	
Fertility	■	■	■
Endocrinology		■	■
CardioMetabolic Care and other products			■

ONCOLOGY

Our targeted oncology drug Erbitux® (cetuximab) is approved in combination with chemotherapy for all lines of therapy or as a monotherapy for pretreated patients in epidermal growth factor receptor (EGFR)-expressing, KRAS wild-type metastatic colorectal cancer (mCRC). In addition, the monoclonal antibody is used to treat recurrent and/or metastatic squamous cell carcinoma of the head and neck (SCCHN) in combination with platinum-based chemotherapy, as well as in combination with radiotherapy for locally advanced head and neck cancer. Erbitux® is currently approved for use in colorectal cancer in 78 countries and in head and neck cancer in 73 countries. We are exploring further indications in additional studies.
In 2009, sales of Erbitux® continued on a growth course, increasing by 23% to € 697 million. This reflects a considerable improvement over the last two quarters of 2008. Over the past two years, the testing of the KRAS status of mCRC tumors has been successfully established as a standard diagnostic tool and is now widely available. This development underscores our strong position in the field of personalized medicine.
In the United Kingdom, the National Institute for Health and Clinical Excellence (NICE) recommended in June the use of Erbitux® in combination with chemotherapy as a first-line treatment for patients with metastatic colorectal cancer who have met specific additional criteria – improving the possibility of potentially curative surgery. Erbitux® is the only targeted therapy endorsed by NICE for the first-line treatment of the disease. A recommendation of this kind is a prerequisite in the United Kingdom for funding of a medical treatment by the National Health Service.

Breakthrough in head and neck cancer

Market launch in the EU: Erbitux® available in a new indication.

Subsequent to receiving approval in November 2008, we launched Erbitux® in January 2009 in the EU for the first-line treatment of recurrent or metastatic squamous cell carcinoma of the head and neck in combination with platinum-based standard chemotherapy. Approval of this new indication was based on the results of the EXTREME study, which was the first trial in 30 years to demonstrate a significant overall survival benefit in the first-line setting. The 2009 guidelines of the European Society for Medical Oncology (ESMO), which recommend Erbitux® as the most suitable treatment in recurrent and/or metastatic and locally advanced head and neck cancer, represent a further milestone.

Negative opinion on Erbitux® in non-small-cell lung cancer
In November, the Committee for Medicinal Products for Human Use (CHMP) adopted a negative opinion for the use of Erbitux® in combination with platinum-based chemotherapy for the treatment of patients with epidermal growth factor receptor (EGFR)-expressing, advanced or metastatic non-small-cell lung cancer (NSCLC). This followed an initial negative opinion issued by this scientific committee of the European Medicines Agency EMA (previously: EMEA) in July. Merck requested reexamination of this opinion because the Phase III FLEX study had shown that in first-line treatment, Erbitux® significantly increased overall survival in patients with non-small-cell lung cancer across all histologies. We respect the decision of the CHMP; nevertheless, we remain committed to our clinical development program designed to tap the potential of Erbitux® in the treatment of various cancer types, including gastric cancers.

NEURODEGENERATIVE DISEASES

Sales in the Neurodegenerative Diseases therapeutic area are attributable almost exclusively to Rebif® (interferon beta-1a), a drug to treat relapsing-remitting forms of multiple sclerosis (MS). According to estimates, around 1.6 million people suffer from MS worldwide. Owing to its proven efficacy and favorable risk-benefit profile, Rebif® is a basic treatment for MS and is approved in more than 80 countries. In 2009, Rebif® recorded double-digit growth of 15%, with sales increasing to € 1,537 million. The recombinant protein was thus once again the top-selling product of the Merck Serono division and remained the leading MS treatment outside of the United States. With solid growth of 6.8%, Europe accounted for € 708 million, or nearly half of Rebif® sales. The new formulation, which offers improved injection tolerability, has meanwhile been introduced in all countries of the European Union and in Switzerland. Germany and the United Kingdom, two important markets, registered strong above-average growth of 7.9% and 13%, respectively. With sales of € 676 million, North America is our second-largest market for Rebif®. Sales grew sharply by 28% thanks to a strong increase in the United States. Discussions with the U.S. Food and Drug Administration concerning the approval of the new formulation of Rebif® continue. While sales in Latin America increased by 13%, mainly because of strong growth in Argentina, we recorded an increase of 5.8% in the region Asia, Africa, Australasia.

Electronic injection device Rebismart™ to improve patient compliance

Rebismart™ for the self-administration of Rebif® is easy and convenient to use.

In June, we launched Rebismart™, an electronic injection device for the self-administration of Rebif®. It is the first injection device of its kind for MS and has been specifically designed to improve ease of handling and usage. It is intended to increase compliance so that patients can fully benefit from their treatment. A Rebismart™ user trial showed broad patient acceptance. The majority of patients found the injection device "suitable" or "very suitable" for self-injection and rated the device function as "easy" or "very easy" to use. So far, Rebismart™ is available in Canada and seven EU countries.

AUTOIMMUNE AND INFLAMMATORY DISEASES

From October 2008 to February 2009, Merck Serono reported to the European Medicines Agency (EMA) three virologically confirmed fatal cases of progressive multifocal leukoencephalopathy (PML). They were observed as adverse events in patients treated with Raptiva®, our drug for the treatment of moderate-to-severe psoriasis. In February, the EMA recommended the suspension of the marketing authorization for Raptiva®. Subsequent to the EMA recommendation, we worked closely with the drug regulatory agencies not only in Europe, but also in all our other markets to terminate the supply of Raptiva® and withdraw the product from the market around the world.
As a result of the sales termination and product recalls, sales of Raptiva® dropped from € 93 million in 2008 to € 4.7 million. We recorded an exceptional item of € 40 million for all costs associated with the suspension of the marketing authorization. Merck Serono intends to continue to focus on Autoimmune and Inflammatory Diseases, a commitment that is underscored by the development projects in our pipeline in conditions as diverse as systemic lupus erythematosus and osteoarthritis.

FERTILITY

The Merck Serono division is a global leader with its portfolio of drugs to treat infertility. We are the only company that offers physicians and patients recombinant versions of the three main reproductive hormones that are important for the treatment of infertility. In 2009, sales by the Fertility therapeutic area increased by 9.0% to € 616 million, whereas the volume of all gonadotropins sold worldwide grew by only around 3%. Europe remained our most important market. In 2009, we generated half of our sales, which were slightly higher than in 2008, in this region. In our three other regions, sales developed well, particularly in Asia, Africa, Australasia, which posted an increase of 27%.

Stable growth of Gonal-f®

Gonal-f® is approved in 100 countries and is the world's leading female fertility drug.

Gonal-f® (follitropin alfa for injection) is a recombinant form of natural follicle-stimulating hormone. It is approved in 100 countries and is the world's leading female fertility drug. The improved version of the Gonal-f® pen, our injection device which we introduced in 2007, has meanwhile been approved in more than 70 countries. Sales of Gonal-f® grew by 5.8% to € 486 million, primarily as a result of strong growth in Asia, Africa, Australasia, North America, and Latin America. In Japan, sales increased by more than 50%. Previously, Gonal-f® had been approved in this market only to treat male infertility. In July, we additionally received approval for the treatment of infertile women with irregular or absent ovulation. In the United States, sales of Gonal-f® grew 8.9% in an otherwise stagnating market. In Europe, where we generated nearly one-half of Gonal-f® sales, we sustained a 5.1% decline in sales. Business in Spain was adversely affected by the economic crisis since private payers dominate the market, which is strongly influenced by economic fluctuations. Gonal-f® sales in Turkey also suffered considerably owing to a change in the reimbursement policy of health care payers. By contrast, sales in the United Kingdom rose significantly thanks to increased cost coverage by medical insurance companies and an adaptation of the market strategy.
Our recombinant combination treatment Pergoveris™ is used to stimulate follicular development in infertile women with severe follicle-stimulating hormone and luteinizing hormone

deficiency. Available in Europe since 2007, it is the first drug to allow the simultaneous administration of the two key hormones for ovarian stimulation in a single subcutaneous injection. Compared with 2008, sales more than doubled, increasing to € 29 million. Ovidrel®/Ovitrelle® is a recombinant version of the naturally occurring hormone hCG and is used for triggering follicle maturation and ovulation. Sales of this product increased by 9.5% to € 37 million, mainly as a result of good growth in Europe and North America.

Advanced training and education for fertility treatment specialists

www.GlobalFertilityAcademy.org

In July, Merck Serono launched the "Global Fertility Academy" to enhance clinical standards and maximize treatment success. This educational program was developed specifically for physicians specializing in infertility treatment and consists of a web-based learning platform and a practical training module. With the "Grant for Fertility Innovation", which we launched in June, we want to promote initiatives in translational research aimed at increased pregnancy rates in assisted reproductive techniques.

ENDOCRINOLOGY

The continued success of Saizen® was favorably impacted by the high acceptance of our electronic injection device Easypod®.

By offering specialized therapies and user-friendly injection devices, the Merck Serono division aims to improve the lives of patients with endocrine and metabolic disorders. Sales by the Endocrinology therapeutic area increased by 14% over the previous year to € 262 million thanks to double-digit growth in all regions.

Our largest product is Saizen®, a recombinant human growth hormone. It is approved in 78 countries for indications including the treatment of pediatric and adult growth hormone deficiency, Turner Syndrome, growth failure associated with chronic renal failure, as well as to treat children born small for gestational age (SGA). According to estimates, growth hormone deficiency affects 100,000 children globally and 50,000 adults in Europe. Sales of Saizen® totaled € 191 million, an increase of 11%. Europe was our top-selling market for the growth hormone. Latin America showed the strongest growth with sales rising by 30%. As in the previous year, the continued success of Saizen® was favorably impacted by the high acceptance of our electronic injection device Easypod®, which has meanwhile been approved in 39 countries. As the first automatic delivery device for growth hormone, it makes once-daily administration easier for patients and medical professionals and its simple operation supports compliance. Easypod® was launched in the United States in early 2009. In September, we received marketing authorization in Japan and launched the product there as well.

Our drug Serostim® is used in the United States to treat patients suffering from HIV-associated wasting, which is estimated to affect up to 8% of HIV-infected individuals. Sales of Serostim® rose 17% to € 65 million.

Successful market launch of Kuvan® in Europe

With Kuvan® for the treatment of hyperphenylalaninemia, caused by either phenylketonuria (PKU), a congenital metabolic disorder, or a lack of the important co-enzyme tetrahydrobiopterin, we offer the first drug for this orphan disease in Europe. According to estimates, around 50,000 people are affected in Europe; 20% to 50% of PKU patients could benefit from treatment with Kuvan®. Subsequent to receiving marketing approval at the end of 2008, we began launching Kuvan® in April 2009. It is already available in ten EU countries and generated sales of € 5.6 million, exceeding our expectations.

In order to collect additional information on the benefits and safety of long-term therapy with Kuvan®, Merck Serono set up the KAMPER patient registry in December. This observational study aims to follow more than 600 patients in 11 European countries over a period of 15 years.

To support PKU patients and their families, we collaborated with physicians and dieticians to develop a new website which offers detailed information on PKU and possibilities for treatment.

www.pku.com/en

CARDIOMETABOLIC CARE AND OTHER PRODUCTS

We are continually working to improve well-established products, for example by developing new dosage forms and strengths.

The CardioMetabolic Care therapeutic area comprises our drugs for treating diabetes, cardiovascular diseases and thyroid disorders. The interrelationships that exist between these chronic cardiovascular and metabolic diseases are the causes of many complex clinical pictures that call for integrated therapeutic approaches. We are continually working to improve well-established products, for example by developing new dosage forms and strengths. In this way, we want to help improve patient compliance, which is often crucial to treatment success.

At € 916 million, sales by the CardioMetabolic Care therapeutic area remained at the previous year's level owing to adverse currency effects. Organically, however, we posted a slight increase. A decline in sales of beta-blockers was offset by higher sales of diabetes and thyroid medicines.

Our other products, some of which are only sold in certain regions, generated sales of € 927 million.

Difficult environment for Concor® in Europe – strong sales internationally

Sales of branded Concor® products containing the active ingredient bisoprolol amounted to € 395 million, making this the top-selling franchise within CardioMetabolic Care. In comparison with 2008, sales decreased by 5.4%, primarily as a result of a 12% decline in Europe, our largest market, where bisoprolol remains the leading beta-blocker in products such as Lodoz® and Concor®COR. The introduction of generic versions of Lodoz® in late 2008 and Concor®COR in mid-2009 in France, our largest market within Europe, the transfer of several products to Daiichi Sankyo in Italy, as well as negative currency effects, especially in Poland and the United Kingdom, were responsible for lower sales in Europe. In Asia, Africa, Australasia and especially in Latin America, however, the Concor® family recorded an increase in sales.

Successful development of the Glucophage® franchise

According to estimates, around 220 million people have type 2 diabetes and the number is rising. The active ingredient metformin, which is contained in our product Glucophage®, is the drug of choice for first-line treatment of this condition and is recommended by international diabetes associations. More than six million patients around the world benefit from our oral metformin antidiabetic agents.

With Glucophage® Powder, which dissolves immediately, in Europe we introduced an alternative to tablets in May 2009.

The branded products from the Glucophage® family generated sales of € 291 million, despite generic competition and currency effects. The 8.5% increase in sales was due mainly to successes in Latin America and many Asian countries as well as the good development of more recent product line extensions. In particular, sales of Glucophage XR® – a once-daily formulation that we launched in a 1000 mg dosage strength in 2009 – increased sharply. With Glucophage® Powder, which we introduced in May 2009 in Europe, we now offer a dosage form that is immediately soluble and represents an alternative to tablets. It is especially convenient for patients who need to take numerous medications.

Stable business with thyroid products

Merck Serono is the world's second largest supplier of drugs to treat thyroid disorders as well as to prevent iodine deficiency diseases. In Europe, Latin America and China, we are the market leader. Thyroid disorders are one of the most prevalent diseases. More than 300 million people around the world suffer from hypothyroidism; not even 20% of them are treated. We want to educate patients about these disorders and promote optimum treatment. In May, we launched an awareness campaign together with the International Thyroid Federation. In China, we are working with the Chinese Ministry of Health in order to inform the public about thyroid disorders.

Sales of our products to treat thyroid disorders grew by 5.3% over the previous year to € 158 million. We achieved far more than half of sales in Europe. Sales of the thyroid hormone Euthyrox® increased by 6.5% to € 137 million. Approximately 14 million patients in about 90 countries around the world are treated with Euthyrox®.

RESEARCH & DEVELOPMENT

Research and development spending increased by 10% to € 1,184 million in 2009. This is equivalent to 22% of the total revenues of the Merck Serono division. Our research and development activities have three main areas of focus: Oncology, where we are seeking new therapeutic options for tumors such as colorectal cancer, lung cancer, head and neck cancer, breast cancer and gastric cancer; Neurodegenerative Diseases, where we are working on new therapies for multiple sclerosis and Parkinson's disease; Autoimmune and Inflammatory Diseases, where we are focusing on rheumatological indications. We also continue to conduct research and development work in the field of Fertility. As of December 31, 2009, the division had around 2,800 employees working in research and development.

Our research pipeline comprises ten projects in Phase III, eight in Phase II and five in Phase I. The large share of projects in the later and more costly stages of clinical development is the reason for the marked increase in our R&D spending.

We continue to position ourselves as a company with research and development expertise relevant to both small molecules as well as biopharmaceuticals. This strategy gives us the flexibility to select the most suitable approach for each medically relevant molecular target. Since our pipeline includes many promising candidates, we will continue to prioritize our projects in order to maximize opportunities and to manage risks. We also assign priority to partnerships with other companies. Our key hubs are our three R&D centers in Darmstadt, Geneva as well as Boston. In addition, we plan to establish an R&D center in Beijing in order to better address the Asian region and to facilitate local clinical trials. From 2010 to 2013, we will invest € 150 million and create 200 highly qualified positions there. The expansion work is proceeding as scheduled at our site in Boston, where we are investing a total of US$ 65 million. The new research center is expected to be completed by the end of 2010 and will accommodate around 200 scientists.

A strong network and alliance partner

Cooperating with partners and forming strategic alliances are essential elements of our strategy. We again set up promising new partnerships in 2009. In the United States, our subsidiary EMD Serono entered into an alliance with the University of Texas M. D. Anderson Cancer Center. The aim is to provide early insight into potential cancer treatments and to accelerate early clinical research.

In the field of Neurodegenerative Diseases, we formed an exclusive partnership with Fast Forward – a subsidiary of the American National Multiple Sclerosis Society. Within the scope of this partnership, we will evaluate and fund multiple sclerosis research projects. Merck will provide up to US$ 19 million in order to support early-stage clinical development projects with biotech companies and projects with individual researchers or academic institutions. In addition, Merck Serono set up a strategic collaboration with Brigham and Women's Hospital in Boston. The aim is to advance basic and clinical research in multiple sclerosis.

Merck Serono Ventures is the name of the strategic corporate venture capital fund that we launched in March. It will invest in biotech start-up companies that have the potential to provide innovative products in Merck Serono's core therapeutic areas. The focus is on Neurodegenerative Diseases, Oncology as well as Autoimmune and Inflammatory Diseases. The fund will invest up to € 40 million over the first five years.

Erbitux®: Expanding the prospects for personalized cancer treatment

Merck is active in biomarker research in order to personalize therapies and predict clinical outcomes.

Merck is a leader in personalizing cancer care and remains committed to offering patients therapies tailored to their cancer. We are not only developing new, targeted therapies, but are also making an important contribution to the increasingly important field of biomarker research. Findings in this area will help to further personalize therapies and predict the clinical response of patients to treatments – as is possible, for example, with our targeted oncology drug Erbitux® and the KRAS wild-type status of tumors in patients with metastatic colorectal cancer (mCRC). In this way, we want to enhance efficacy, patient benefit and health economic performance.

Status of our innovative compounds

Therapeutic area	Compound	Indications	Status
Oncology	Erbitux ® (cetuximab, monoclonal anti-EGFR antibody)[1]	Adjuvant colorectal cancer	Phase III
		Gastric cancer	Phase III
	Cilengitide (integrin inhibitor)	Glioblastoma (brain tumor)	Phase III
	Stimuvax ® (therapeutic cancer vaccine)[2]	Non-small-cell lung cancer (NSCLC)	Phase III
		Breast cancer	Phase III
	Erbitux ®[1]	Breast cancer	Phase II
	Tucotuzumab celmoleukin (immunocytokine)	Small-cell lung cancer (SCLC)	Phase II
	Cilengitide	Head and neck cancer (SCCHN)	Phase II
		Non-small-cell lung cancer (NSCLC)	Phase II
	Adecatumumab (monoclonal anti-EpCAM antibody)[3]	Colorectal cancer	Phase II
	Monoclonal anti-integrin antibody (DI17E6)	Colorectal cancer	Phase II
	TLR9 immunomodulator (IMO-2055)[4]	Head and neck cancer (SCCHN)	Phase II
	Aurorakinase inhibitor (AS703569)[5]	Solid tumors and hematological diseases	Phase I
	MEK inhibitor (AS703026)[6]	Solid tumors and hematological diseases	Phase I
	Sonepcizumab (monoclonal anti-S1P antibody)[7]	Solid tumors	Phase I
	c-Met kinase inhibitor (EMD1214063)[8]	Solid tumors	Phase I
Neurodegenerative Diseases	New formulation of Rebif ®	Relapsing-remitting forms of multiple sclerosis (MS); EMA: approved, FDA: filed	Approved/ Filed
		Clinically isolated syndrome	Phase III
	Cladribine tablets	Relapsing-remitting forms of MS; EMA: filed, FDA: resubmission in preparation	Filed
		Clinically isolated syndrome	Phase III
	Safinamide[9]	Early-stage Parkinson's disease	Phase III
		Mid- to late-stage Parkinson's disease	Phase III
Autoimmune & Inflammatory Diseases	Atacicept (anti-BLyS/anti-APRIL fusion protein)[10]	Systemic lupus erythematosus	Phase III
	Fibroblast growth factor 18[10]	Osteoarthritis	Phase I
Endocrinology	Tesamorelin[11]	Lipodystrophy in HIV patients (only U.S.)	Filed
	ARX 201 (long-acting growth hormone)[12]	Growth hormone deficiency	Phase II

[1] Developed in cooperation with ImClone: Erbitux ® is a trademark of ImClone Systems, a wholly owned subsidiary of Eli Lilly & Co.
[2] Exclusive worldwide licensing rights acquired from Oncothyreon Inc.
[3] Collaboration with Micromet AG
[4] Inlicensed from Idera Pharmaceuticals Inc.
[5] Collaboration with Rigel Pharmaceuticals Inc.
[6] All rights acquired from Santhera Pharmaceuticals AG
[7] Collaboration with LPath, Inc.
[8] Collaboration with M. D. Anderson Cancer Center
[9] Collaboration with Newron Pharmaceuticals S.p.A.
[10] Inlicensed from ZymoGenetics Inc.
[11] Collaboration with Theratechnologies
[12] Collaboration with Ambrx, Inc.

SCCHN: Squamous cell carcinoma of the head and neck
NSCLC: Non-small-cell lung cancer
SCLC: Small-cell lung cancer

In September, the latest results of the CRYSTAL study showed how successful this approach is. They demonstrate that the addition of Erbitux® to the standard first-line chemotherapy regimen FOLFIRI significantly improved overall survival in metastatic colorectal cancer patients with KRAS wild-type tumors. In patients with KRAS wild-type tumors who received Erbitux® in addition to FOLFIRI, median overall survival was extended by 3.5 months compared to patients receiving chemotherapy alone. This was the first time an overall survival benefit had been demonstrated with a targeted therapy in combination with FOLFIRI in this disease setting. The risk of disease progression was reduced by 30% while the likelihood of achieving a tumor response doubled overall to 57%.

Focusing on new indications for Erbitux®

Merck is supporting PETACC-8, an independent colorectal cancer trial that is being coordinated by the Fédération Francophone de Cancérologie Digestive (FFCD). This Phase III clinical trial is investigating the efficacy of Erbitux® plus standard chemotherapy in the adjuvant setting, meaning after complete surgical removal of the primary tumor, in patients with stage III colorectal cancer whose tumors were KRAS wild-type. The aim of the study is to determine whether the addition of Erbitux® to a standard chemotherapy regimen can lower the recurrence rate and prolong disease-free survival. The recruitment of 2,566 patients for the PETACC-8 study was completed in 2009.

In addition, Merck is investigating the efficacy of Erbitux® in gastric cancer in the pivotal Phase III EXPAND trial. This trial is investigating the benefit of Erbitux® in combination with standard chemotherapy in first-line treatment of patients with advanced and metastatic gastric cancer.

Cancer vaccine Stimuvax® being studied in breast and lung cancer

Our therapeutic cancer vaccine Stimuvax® is being studied in breast and lung cancer in Phase III clinical trials.

The therapeutic cancer vaccine Stimuvax® (liposomal vaccine BLP25) is currently being studied in two indications in three Phase III clinical trials. It is designed to induce an immune response to cancer cells that express MUC1 protein, an antigen that is over-expressed on the surface of tumor cells for example in advanced breast cancer and non-small-cell lung cancer (NSCLC) – the indications we are investigating.

We are currently conducting START, a Phase III trial to evaluate the efficacy and safety of treatment with Stimuvax® in patients with inoperable stage III non-small-cell lung cancer. The primary endpoint of the START trial, which began in 2007, is overall survival. The decision to initiate this trial was based on the results of a randomized Phase IIb study, in which Stimuvax® showed an increase in the survival time of a subset of patients with locoregional stage IIIb NSCLC from 13.3 months in the control group to 30.6 months in the treatment group. In December we initiated INSPIRE, a Phase III trial in NSCLC, in five Asian regions.

In addition, we started STRIDE, our first global Phase III clinical study of Stimuvax® in patients with advanced, inoperable breast cancer, in June 2009. The study will determine if Stimuvax® can extend progression-free survival in patients treated with hormonal therapy who have hormone receptor-positive, locally advanced, recurrent or metastatic breast cancer. Overall survival, quality of life, tumor response and safety will also be assessed in this study. STRIDE will enroll more than 900 patients with advanced breast cancer at an estimated 180 centers in over 30 countries – within North America, Europe, Asia and Australia.

Further oncology projects in the development pipeline

With the development of cilengitide, Merck is focusing on a new class of experimental cancer drugs. Cilengitide is the first integrin inihibitor to have entered Phase III clinical development (CENTRIC) in glioblastoma multiforme (GMB) – the most aggressive form of brain tumor. Integrin inhibitors are thought to work by targeting tumor cells and the vascular network required to nourish the tumor and promote cancer cell growth. Data from an independent and randomized Phase II study published in May show that in combination with chemoradiotherapy, cilengitide can extend survival in patients with newly diagnosed glioblastoma. Apart from the GMB indication, we are investigating the efficacy of cilengitide in lung cancer as well as in head and neck tumors in two separate Phase II clinical trials.
In addition, we began studying the efficacy of the monoclonal anti-integrin antibody DI17E6 in colorectal cancer in a Phase II clinical trial in 2009. In December the immunomodulator IMO-2055 for the treatment of head and neck cancer entered Phase II clinical development.

Rebif® being studied in a new indication

Multiple sclerosis (MS) and Parkinson's disease involve serious unmet medical needs. Within our Neurodegenerative Diseases therapeutic area, we are conducting research to discover new therapeutic options.
REFLEX is the name of the most important ongoing clinical trial focused on the further development of Rebif®, our successful MS treatment. The two-year pivotal Phase III study is evaluating the efficacy of the new formulation of Rebif® in more than 500 patients with clinically isolated syndrome. Study participants with this clinical picture have so far experienced a single MS-like symptom, such as optical or sensory disturbances, and are at risk of developing MS but have not yet been given a clinically definite diagnosis of MS. The trial is designed to evaluate whether treatment with Rebif® in the early stages of the disease can delay the progression to clinically definite MS.

In the IMPROVE trial, the positive effect of treatment with Rebif® was detected in just four weeks after treatment began.

The results of the completed 40-week Phase IIIb IMPROVE study confirm the therapeutic effect of the new formulation of Rebif® in patients with relapsing-remitting MS. After 16 weeks of treatment, the number of combined unique brain MRI lesions in patients treated with Rebif® was significantly lower compared to placebo. This positive effect could be detected as early as four weeks after treatment initiation and was sustained over the 40-week trial period. The results after 16 weeks also showed a significant reduction in the relapse rate versus placebo and an improvement in injection site reactions.

Cladribine tablets for the oral treatment of MS submitted for regulatory approval

With cladribine tablets, the Merck Serono division is developing a drug for the oral treatment of relapsing-remitting forms of MS. Treatment would become considerably more convenient for patients and compliance could improve since a single daily tablet would only need to be taken a few times a year for four to five days. We submitted marketing authorization applications for cladribine tablets with the EMA in Europe in July and with the FDA in the United States in September. The submissions are largely supported by results of the CLARITY study, a two-year randomized, double-blind, placebo-controlled Phase III trial of cladribine tablets as a monotherapy in 1,300 patients with relapsing-remitting MS. A significant relative reduction in annualized relapse rates was seen in patients treated with cladribine tablets compared to placebo. Data from a post-hoc analysis of the CLARITY study show that short-course treatment with cladribine tablets significantly increased the proportion of patients with absence of disease activity compared to placebo. At the end of November, the FDA issued a refuse to file letter.

Merck Serono will work closely with the FDA to successfully resubmit the application at the earliest possible point in time.
The two-year Phase III ORACLE-MS study is investigating cladribine tablets as a treatment for patients with an increased risk of developing MS. In the Phase II ONWARD study, we are evaluating the safety and tolerability of adding cladribine tablets to established treatment with interferon beta. Patient recruitment has been completed.
We discontinued the development of atacicept in multiple sclerosis after observing in one of three Phase II clinical trials increased MS disease activity in patients taking atacicept compared to placebo.

New study started with safinamide in late-stage Parkinson's disease

The first Phase III clinical trial with safinamide for the treatment of late-stage Parkinson's disease was successfully completed.

Together with our partner Newron, we are developing safinamide as an oral add-on therapy for patients with Parkinson's disease, which affects an estimated three million people in industrialized countries. We successfully completed the first Phase III clinical trial of safinamide administered as an adjunctive therapy to levodopa standard treatment in patients with advanced Parkinson's disease after a six-month treatment period. Motor functions and the ability to perform daily activities improved significantly in patients treated with safinamide compared to placebo. In May, we started SETTLE, our second Phase III clinical trial in this indication, which will involve more than 450 patients. We are evaluating safinamide as an add-on therapy to a dopamine agonist in early Parkinson's disease in a Phase III clinical trial.

Fertility research and development activities realigned

The objective of Merck Serono's research and development work in the therapeutic area of Fertility is to help infertile couples at every stage of the reproductive cycle – from follicular development to early pregnancy – to realize their dream of having a child. We want our innovative treatments and application devices to offer maximum convenience of use and increase the chances of pregnancy. Our well-established products for the treatment of infertility are already known for their safety and efficacy. Further improvements in the number of successful pregnancies are only possible by realigning our R&D activities in Fertility. By focusing on drugs, technologies and support services, we want to improve the success of in vitro fertilization treatments and thus increase the take-home baby rate.
In the course of this new strategy, we terminated the Phase II program for a long-acting recombinant follicle-stimulating hormone (hyperglycosylated FSH) for assisted reproduction therapy and to induce ovulation. The expected benefit for patients would have been too low. This would not have warranted the significant time and investment required for late-stage development and the subsequent submission of an application for marketing authorization.

Therapeutic target in systemic lupus erythematosus validated for atacicept

Our research and development work in Autoimmune and Inflammatory Diseases focuses on proteins that modulate key pathogenic mechanisms in these diseases. We are developing the recombinant protein atacicept for autoimmune diseases such as systemic lupus erythematosus (SLE). This innovative compound blocks the two immunomodulatory factors APRIL and BLyS. They are important for the survival and the proliferation of lymphocytes that trigger an abnormal immune reaction against the patient's own normal tissues.

SLE is a chronic, autoimmune disease that mainly affects women and is an area of great unmet medical need. We are currently enrolling patients into a Phase II/III clinical trial with atacicept in SLE. In the second half of 2009, a competitor published positive data from two Phase III trials in SLE involving a BLyS-targeted compound administered intravenously. These results are encouraging for us since atacicept targets not only BLyS but also APRIL, and is administered by subcutaneous injection, which is more convenient for patients than an infusion.

In 2008, we discontinued a Phase II/III study in lupus nephritis (LN), a particularly severe form of kidney failure, owing to infections that were probably the result of significant disease activity coupled with the concomitant use of several immunosuppressive medications. Having evaluated the trial data, we are now adjusting the clinical development plan for atacicept in lupus nephritis.

We analyzed the results of our Phase II trials with atacicept in rheumatoid arthritis (RA). Although we noted strong biological effects and indications of clinical benefit, the efficacy data did not correspond to our criteria for a move to Phase III.

Fibroblast growth factor 18 could be the first disease-modifying treatment for osteoarthritis.

Thanks to its novel mechanism of action, fibroblast growth factor 18 (FGF 18) could be the first disease-modifying treatment for osteoarthritis and the repair of cartilage damaged following injury. In the laboratory it has been shown to stimulate the regeneration of articular cartilage defects. FGF 18 may thus support the healing of degenerative joint disease instead of simply treating its symptoms. Patient enrollment was completed early for two Phase I clinical trials that are currently underway.

Development projects on growth disorders and metabolic diseases

Our development projects in the therapeutic area of Endocrinology derive from research work on growth disorders and metabolic diseases – two areas where the Merck Serono division can build on its long-standing experience. Tesamorelin is a growth hormone-releasing factor analog to which our U.S. subsidiary EMD Serono acquired the U.S. commercialization rights. This compound has therapeutic potential in a variety of indications. Following the successful conclusion of Phase III clinical trials, our development partner Theratechnologies submitted an application in the second quarter to the U.S. Food and Drug Administration for use in reducing excess abdominal fat in HIV patients with lipodystrophy. It is estimated that 30% to 50% of HIV patients suffer from this condition, for which there is currently no approved treatment available.

PHARMACEUTICALS | CONSUMER HEALTH CARE

Our Consumer Health Care division offers high-quality over-the-counter products for preventive health care and self-treatment of minor ailments. Its product range includes global, scientifically based branded products that customers trust. The Consumer Health Care division is represented in many countries of Europe, Latin America, Asia and Africa.

KEY PRODUCTS

- Mobility: Products to strengthen the joints and relieve pain, including the brands Seven Seas®, Seven Seas® JointCare, Flexagil® and Kytta®
- Everyday health protection: Probiotic multivitamin products Bion® and Multibionta®; vitamins and minerals sold under brand names such Cebion® and Diabion®
- Women's and children's health: Femibion®, products with folic acid and Metafolin® for pregnant and nursing women; Kidabion® (Haliborange®), a vitamin product for children
- Cough and cold: Cold remedy Nasivin® (Iliadin®); flu remedy Sedalmerck®

KEY DEVELOPMENTS IN 2009

- Growth course continues, with most countries clearly outperforming the market
- Strong recovery takes hold in the last two quarters following a weak start to 2009
- Power brands reinforced as the right strategy for the crisis
- Integration of the Belgian company Bio-Fyt
- Cooperation with the Chinese Medical Doctors Association (CMDA) to improve nutritional counseling in hospitals
- Cooperation strengthened with Bracco, a supplier of OTC pharmaceutical products in Italy
- Entry into the Canadian market with Multibionta®

Bion®
The probiotic vitamin is the second-leading OTC brand in France.

Kytta®
The plant-based range proves its strength in the German market.

Femibion®
The brand specifically designed for women boosts business in the United Kingdom.

CONTINUING ON A GROWTH COURSE

The Consumer Health Care division continued on a growth course in 2009. We consolidated our market position, underpinned by the success of our strategic brands and numerous new product launches.

www.merck.de/consumerhealthcare

Focus on four health themes

Consumer Health Care specializes in over-the-counter pharmaceutical products, focusing on four health themes: Mobility, Everyday Health Protection, Women's and Children's Health, and Cough and Cold. The main distribution channels for our products are pharmacies, as well as retail chains, drug stores and mail order in some countries and certain markets. We are building on the strength of our well-known brands and the long-standing trust consumers place in them with respect to their quality and efficacy.

Consumer Health Care | Key figures

€ million	2009	2008	Δ in %
Total revenues	467	442	5.7
Gross margin	319	294	8.7
R&D	19	17	16
Operating result	48	61	–21
Exceptional items	–	–	–
Free cash flow	49	5.6	–
Underlying free cash flow	49	38	28
ROS in %	10.3	13.9	

Strong brands and regional expansion

Total revenues grew organically by 8.6%.

Total revenues of the Consumer Health Care division rose by 5.7% to € 467 million in 2009. We thus met our objective of continuing on our growth course. Organic growth was 8.6%. Sales by wholesalers to end customers even saw double-digit growth due to increased destocking, as for instance mandated by law. Following a difficult first half, attributable also to destocking, business recovered markedly in the last two quarters, with sales significantly exceeding market growth in many countries. The cornerstones of our strategy are strong brands and regional expansion. With a few exceptions, our key markets developed well. However, in some markets, negative currency effects diminished organic growth and the successes achieved. This was primarily noticeable in the United Kingdom as well as in Poland and Mexico.

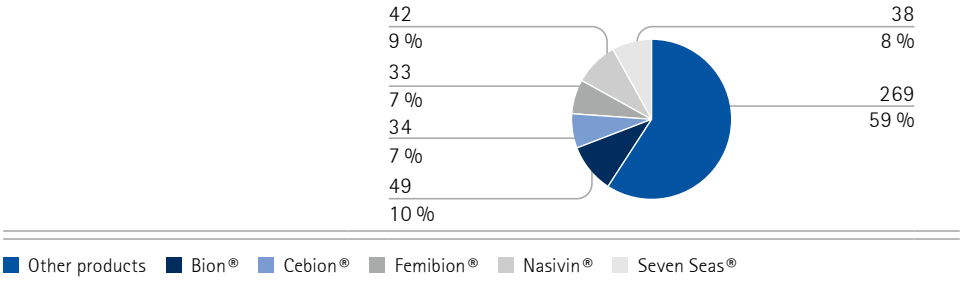
The operating result of the Consumer Health Care division declined by 21% to € 48 million; ROS was 10.3% versus 13.9% in 2008. In comparison with the previous year, it should be noted that exceptional items had a strong impact in 2008, primarily the sale of the biManán® brand in Spain for € 11 million. Additionally, the operating result was adversely affected by exchange rate losses, mainly with respect to Venezuela. Research and development spending rose by 16% to € 19 million. Underlying free cash flow increased by 28% to € 49 million in 2009.

Development of strategic brands

Global sales of most of our strategic brands developed well in 2009. Sales of Kytta® grew 33% to € 19 million, Bion®3 sales increased by 10% to € 49 million, and sales of Femibion® rose 29% to € 33 million. Owing to unfavorable exchange rate movements, sales by Seven Seas fell 9.5% to € 38 million. Nasivin® registered a decline of 9% to € 42 million, which was attributable to the weakness of the Russian market, among other things.

Top five brands by sales in 2009

€ million



Europe remains the most important region

In 2009, Europe remained our most important region with sales of € 319 million, an increase of 4.1% over 2008. The majority of these sales, or € 308 million, were achieved in EU countries.

Number one in the French OTC market

France remains the top-selling country for Consumer Health Care.

France remained our top-selling country, posting sales of € 99 million, or 5.4% more than in 2008. Our subsidiary Merck Médication Familiale moved to first place in the market for prescription-free medicines not reimbursed by sickness funds. At the same time, the company maintained second place in the market for nutritional supplements. The metafolin product Femibion® performed well. With Bion Restore®, a further probiotic multivitamin product was launched under the Bion® brand. This product helps people restore their health, such as after a cold or the flu. It contains probiotics, zinc, histidine and vitamin C. Bion® is now the second-leading brand in the French OTC market with sales of more than € 30 million.

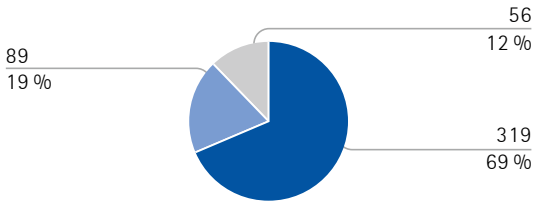
Currency effects in the United Kingdom

Femibion® with five new products in the United Kingdom.

In the United Kingdom, our second most important market, we faced strong competition from store brands of major retail and drug store chains. The weakness of the British pound again led to negative currency effects in 2009. Sales declined here by 16% to € 54 million. Adjusted for currency effects and sales of the Petcare business, which we divested in 2008, the decline amounted only to 2.9%. We want to regain market share in the United Kingdom, for example by launching Femibion®. The range comprises five products for women united under one umbrella brand: Femibion® Healthy Pregnancy for pregnant women, Femibion® Energetic Mum for young mothers, Femibion® Radiance for a healthy appearance and attractive skin, Femibion® Balance, which helps to maintain healthy nutrition balance throughout the monthly cycle, as well as Femibion® Healthy Bones, which helps protect the bones from losing minerals and strength during menopause.

Consumer Health Care | Sales by region

€ million



Europe Latin America Asia, Africa, Australasia

Kytta – a flagship product in Germany

Germany is our third largest market. Sales increased by 22% to € 56 million in 2009. The Kytta® products performed superbly. Above all, the plant-based Kytta® ointment for the relief of pain caused by contusions, strains and sprains delivered excellent results again and captured second place in this market segment. This was supported by an advertising campaign that included a television commercial that won numerous awards. With Femibion® we are the market leader in Germany. Particularly strong sales growth was achieved via online pharmacies, a distribution channel that appeals especially to the target group of young mothers.

Integration of Bio-Fyt in Belgium strengthens our position

In Belgium, the integration of Bio-Fyt, which we acquired at the end of 2008, was completed. The company focuses on products for mobility, women's health and everyday health protection. Bio-Fyt was officially renamed Merck Consumer Health Care Belgium in September. The integration proceeded rapidly. Logistics systems were aligned and activities were fully merged. The Consumer Health Care division now has a strong presence in the four key health themes, has a larger sales force, and is one of the leading players in the Belgian OTC market. Consequently, sales in Belgium increased by 53% to € 27 million.

In Spain, the business was restructured following the sale of the biManán® brand of diet products. For example, Femibion® was launched, supported by a major marketing campaign. Femibion® is the official sponsor of "Plenufar", a program that was initiated by the Spanish Federation of Pharmacists. This program promotes optimal nutrition for pregnant and nursing women and has a reach of 5,000 pharmacies.

Partnering with Bracco in Italy

Establishing our global strategic brands in Italy is the aim of an enhanced partnership with the Italian pharmaceutical company Bracco, which ranks among the top ten in the OTC market of Italy. Bracco has been a reliable partner to Merck for decades and enjoys a superb reputation among pharmacists, physicians and consumers. Cooperation is initially planned until 2014. Flexagil® was the first CH brand to be launched by Bracco. Two products from this range to treat joint problems were launched in April. Flexagil® Re-Generate2 helps to keep joints flexible and supple. Flexagil® Stop Friction supports mobility in people with osteoarthritis and other joint problems.
Within Europe, our businesses showed good growth in Austria, Portugal and Slovakia, among other countries.

A triple market launch in Mexico

In Latin America, we increased sales by 16% to € 89 million. Sales rose by 3.1% to € 6.9 million in Brazil. In Mexico, where sales totaled € 32 million, we launched three new products. These include Flexagil® Re-Generate3, a treatment for joint problems, and Sedalmerck® MAX, an analgesic containing the maximum concentration of paracetamol and caffeine permitted in an over-the-counter product sold in Mexico. We added a special cream to the Diabion® range of multivitamin products, which are specially formulated for people with diabetes, who often suffer from dry skin and other dermatological problems. Customers in Mexico have welcomed this new development. We entered the Canadian market with our first product, the probiotic multivitamin Multibionta®, also known as Bion®3 in other countries.

Cooperating with hospitals in China

Nutritional counseling is to sensitize the population.

In China, an important growth market, we established an independent legal entity within one year and achieved sales of € 6.1 million in 2009. The division is capturing market share slowly but steadily, as for example with the launch of Diabion® for people with diabetes. At the same time, we are living up to our social responsibility. A good example of this is the cooperation agreement with the Chinese Medical Doctors Association (CMDA) to improve nutritional counseling in hospitals in China. Sales in Indonesia, the division's most important market in Asia, remained stable at € 11 million. In South Africa, our most important market in Africa, sales increased sharply by 28% to € 7.1 million.

Further improving the innovation rate

In order to satisfy consumer needs even better and meet trends even faster in the future, the division realigned its research and development organization. The aim is to achieve even better quality and strengthen our strategic brands. Although our innovation rate, meaning the share of the total portfolio accounted for by new products, is among the highest in an international comparison, the objective is to achieve further improvements.