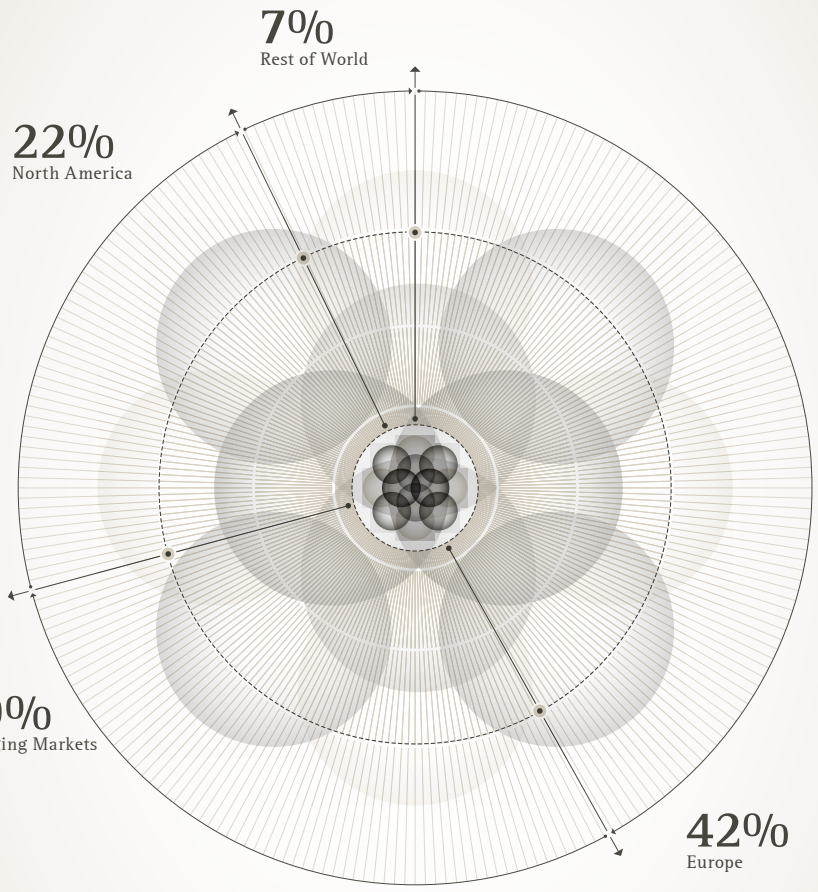


Merck Serono

Sales by region 2012

Merck Serono → 1/4

Strong franchises generate solid growth

Rebif®, Gonal-f® and Glucophage® sales grow significantly

In 2012, Merck Serono's total revenues rose to € 6,405 million (2011: € 5,920 million). Sales increased 7.8% to € 5,996 million (2011: € 5,564 million). This absolute increase of more than € 400 million was driven by organic sales growth of 4.9% and positive exchange rate effects of 2.8%, primarily owing to a stronger U.S. dollar. The solid performance was based predominantly on our multiple sclerosis (MS) treatment Rebif®, our fertility product Gonal-f®, and our diabetes drug Glucophage®. These key products delivered organic growth rates ranging from 8% to 15%. Royalty, license and commission income increased 15.2% to € 409 million (2011: € 356 million), mainly driven by higher income from the strong sales performance of Humira® in addition to a positive impact from foreign exchange rates.

Merck Serono | Key figures

€ million	2012	2011	Change in %
Total revenues	6,405.2	5,920.0	8.2
Sales	5,995.8	5,564.4	7.8
Operating result (EBIT)	508.3	342.2	48.5
Margin (% of sales)	8.5	6.1	–
EBITDA	1,440.6	1,526.9	–5.7
Margin (% of sales)	24.0	27.4	–
EBITDA pre one-time items	1,785.3	1,569.0	13.8
Margin (% of sales)	29.8	28.2	–

Production costs rose 16.0% to € 1,193 million (2011: € 1,028 million) reflecting higher sales volumes as well as higher start-up costs for the Large-Scale Biotech production plant (LSB) in Vevey (Switzerland) in addition to one-time expenses related to the FDA warning letter. Gross profit increased 6.5% to € 5,212 million (2011: € 4,892 million), translating into a lower gross margin (in % of sales) of 86.9% (2011: 87.9%), reflecting the ongoing pricing pressure and growing volumes of our General Medicine portfolio.

Focused resource allocation in marketing and selling as well as in R&D

Marketing and selling costs declined by 2.9% to € 1,371 million (2011: € 1,412 million) thanks to focused resource allocation. Royalty, license and commission expenses, however, rose 17.3% to € 562 million (2011: € 479 million) owing to the strong performance of Rebif® in the United States compounded by positive foreign exchange rate effects, which resulted in higher commission payments to our co-marketing partner Pfizer.

Net other operating expenses and income increased by more than 75% to € –675 million (2011: € –382 million) due to restructuring charges amounting to € 339 million. These charges were related to the efficiency program, in particular to the preparations for the closure of the Merck Serono site in Geneva. In addition, impairments of € 46 million were incurred on site closures and obsolete software. In 2011, other operating expenses were especially impacted by the impairment loss of € 165 million on the LSB plant.

→ *Merck Serono*

R&D expenses decreased slightly to € 1,187 million (2011: € 1,225 million) representing 19.8% of sales (2011: 22.0%). This decline reflects initial structural savings achieved in connection with the Geneva site closure.

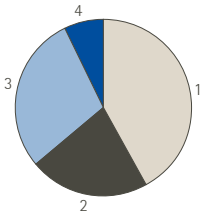
Amortization of intangible assets resulting mainly from the 2007 acquisition of Serono accounted for charges of € 659 million (2011: € 799 million). In 2011, impairments of € 149 million related to the discontinuation of three products in development were recognized in addition to amortization. Furthermore, in the second quarter of 2011, the estimated remaining useful life of Rebif® was shortened by two years, which led to higher amortization expenses of € 17 million in 2012 compared to the previous year.

EBITDA pre one-time items amounts to 29.8% of sales

The division's EBIT was € 508 million compared to € 342 million in 2011. Adjusting for one-time items and adding back depreciation and amortization, divisional EBITDA pre one-time items increased 13.8% to € 1,785 million (2011: 1,569 million) reflecting a margin (in % of sales) of 29.8% (2011: 28.2%). This increase already includes savings related to the efficiency program.

Merck Serono | Sales by region – 2012

€ million / % of divisional sales



1	Europe	2,502	42%
2	North America	1,335	22%
3	Emerging Markets	1,737	29%
4	Rest of World	422	7%

Organic growth in all regions except for Europe

In 2012, the proportion of sales generated outside Europe grew to 58% (2011: 54%), largely driven by the strong sales growth in North America. Contributing to the 16.8% organic increase in sales were Rebif®, benefiting from year-on-year price increases, as well as the products from the Fertility and Endocrinology franchises. Sales in the Emerging Markets region developed favorably and grew 6.8% organically, based on the continued strong performance of the General Medicine franchise as well as Fertility products. Challenging business conditions in Europe, the division's biggest geographic market, where pressures on health care budgets led to continuous price cuts across the industry, resulted in a 2.1% decline in organic sales. This was primarily due to lower sales of General Medicine products. Sales in the Rest of World region grew 12.0%, mainly thanks to the good performance of Glucophage® and Erbitux®.

Merck Serono | Sales growth components by region – 2012

€ million / change in %	Sales	Organic growth	Exchange rate effects	Acquisitions/ divestments	Reported sales growth
Europe	2,501.6	–2.1	0.4	–	–1.7
North America	1,334.8	16.8	8.8	–	25.6
Emerging Markets	1,737.1	6.8	2.2	–	9.0
Rest of World	422.3	12.0	4.7	–	16.6
World in total	**5,995.8**	**4.9**	**2.8**	**–**	**7.8**

→ *Merck Serono*

Rebif® sales increase to around € 1.9 billion

Merck Serono's largest single product, Rebif® (interferon beta-1a), for the treatment of relapsing forms of MS grew 7.5% organically to € 1,893 million (2011: € 1,691 million). The main contributors were growing sales in the United States, as a result of price increases made in January, May and November. North America remained the largest market for Rebif®, accounting for 52% of sales. In Europe, where Rebif® continues to be the most frequently prescribed MS treatment in major markets, sales declined slightly from the previous year's level. Stable volumes could not offset continued pricing pressure. Sales in the Emerging Markets and Rest of World regions, which account for less than 10% of global sales, remained roughly at the previous year's level.

Rebif® is marketed by Merck Serono worldwide. In 2002, Serono entered into a co-promotion agreement with Pfizer for Rebif® in the United States. The term of the agreement ends on December 31, 2013 unless extended. EMD Serono (a subsidiary of Merck KGaA) and Pfizer are in a dispute about the term of the agreement based on the parties' interpretations of the provisions governing extension. During 2011, a lower court in the United States agreed with Pfizer and ruled that the Pfizer agreement extends through 2015. Subsequently, EMD Serono appealed this decision. The ruling from the appellate court is still pending. If EMD Serono prevails on appeal, this case will proceed before the lower court.

Increasing sales in Emerging Markets drive Erbitux® growth

Erbitux®, a monoclonal antibody targeting the epidermal growth factor receptor (EGFR), is approved for the treatment of metastatic colorectal cancer (mCRC) and squamous cell carcinoma of the head and neck (SCCHN). Sales grew 1.9% organically in 2012, amounting to € 887 million (2011: € 855 million). The majority of sales continue to be generated by use in first-line mCRC. In Europe, accounting for 56% of global sales, sales declined 1.5% organically due to increasing competition in the second-line mCRC segment as well as public budget constraints. Across the Emerging Markets region, sales grew 7.4% organically as a result of increasing patient numbers, mainly in mCRC. In Japan, which belongs to the Rest of World region and generates 13% of total sales, intensifying competitive pressure in the mCRC indication led to an organic sales decline of 6.5%.

Merck licensed the right to market Erbitux® outside the United States and Canada from ImClone LLC, a wholly-owned subsidiary of Eli Lilly and Company, in 1998. In Japan, ImClone, Bristol-Myers Squibb Company and Merck jointly develop and commercialize Erbitux®.

Merck Serono | Major products by region, organic growth rates – 2012

		Total	Europe	North America	Emerging Markets	Rest of World
Rebif®	€ million	1,892.6	730.8	982.7	145.3	33.8
	org. growth in %	7.5	–2.1	18.1	–0.3	11.5
	% of sales	100	39	52	8	2
Erbitux®	€ million	887.4	500.1	–	235.6	151.7
	org. growth in %	1.9	–1.5	–	7.4	5.7
	% of sales	100	56	–	27	17

→ *Merck Serono*

All regions report higher volumes for Gonal-f®

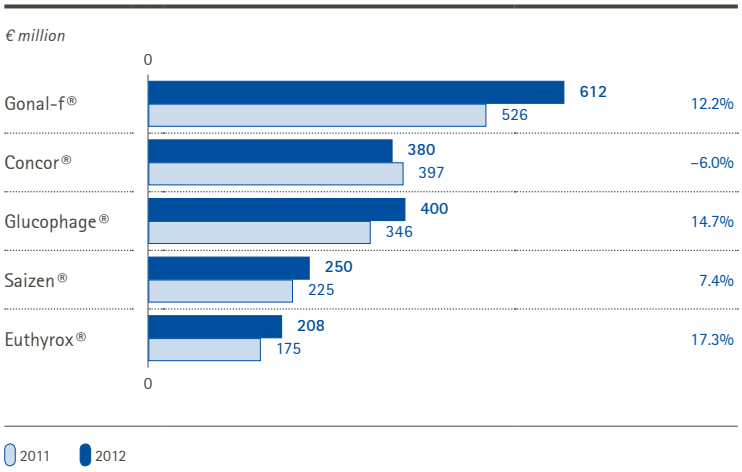
Sales of Merck Serono's medications to treat infertility amounted to € 817 million in 2012, corresponding to organic growth of 13.4%. The complete portfolio of gonadotropins consists of recombinant hormones for injection used at different stages from follicular development to early pregnancy. Gonal-f® (follitropin alfa) inducing ovarian follicular growth and maturation, continued to perform strongly in all regions, growing by a total of 12.2% organically to € 612 million. In the United States, sales were further boosted by year-on-year price increases. The division continued the worldwide rollout of the pre-filled pen injectors for Gonal-f® as well as Ovidrel® and Luveris® (family of pens) designed to facilitate easy daily administration during fertility treatment. Since 2009, Merck Serono has been sponsoring the Grant for Fertility Innovation dedicated to research projects focused on clinical research that can help to increase the take-home baby rate of patients undergoing fertility treatment. The program was expanded to € 4 million for 2012/2013.

Sales of the Endocrinology portfolio rise to around € 400 million

The Endocrinology portfolio, comprising a range of products to treat endocrine and metabolic disorders, reported sales of € 399 million, increasing 11.9% organically with contributions coming from all regions. Sales of Saizen® (somatropin for injection) indicated for the treatment of growth hormone deficiency, were up 7.4% organically, amounting to € 250 million. Supported by the Merck Serono injection devices, Saizen® maintained its average market share despite broad-based competition. Particular growth drivers included higher volumes in Emerging Markets and price increases in the United States. Kuvan® (sapropterin dihydrochloride) is indicated for the treatment of hyperphenylalaninemia or a deficiency of tetrahydrobiopterin. Sales continue to grow rapidly. The rollout in Asia and Latin America is ongoing. Egrifta® (tesamorelin for injection), which is used as a therapy for reducing excess abdominal fat in HIV patients with lipodystrophy, also contributed to growth. We market this product only in the United States.

The General Medicine business comprises drugs for treating diabetes, cardiovascular diseases and thyroid disorders, as well as other globally and regionally marketed products. In 2012, sales increased by € 69 million (3.8% organically) to € 1,886 million. Strong volume growth in the Emerging Markets region, which accounted for 56% of sales, was offset by pricing declines as well as lower volumes in Europe, especially in southern European markets and France.

Merck Serono | Key products, organic growth rates



→ *Merck Serono*

Glucophage® and other brands in the General Medicine portfolio grow especially in the Emerging Markets region

Globally, around 366 million people have diabetes, and the prevalence of this disease is rising. Glucophage® (metformin) remains the drug of choice for first-line treatment of type 2 diabetes. Thanks to the strong performance of this oral antidiabetic franchise, it became the third-largest absolute growth contributor to Merck Serono's 2012 top-line performance. Sales rose by 14.7% organically to € 400 million, supported by strong sales in the Emerging Markets region and Japan.

The branded Concor® products such as Concor® COR and Lodoz®, which contain the active ingredient bisoprolol, achieved sales of € 380 million. This translates into an organic decline of 6.0%, which was primarily the result of price cuts in addition to lower volumes in France and southern European markets. By contrast, sales of Concor® in Emerging Markets grew by around 10%.

Merck Serono is the world's largest supplier of drugs to treat thyroid disorders. Globally, more than 300 million people suffer from hypothyroidism. Sales of products to treat thyroid disorders, including Euthyrox®, posted double-digit sales growth, driven primarily by higher volumes in Emerging Markets.

On December 15, 2011, Merck received a Warning Letter from the United States Food and Drug Administration (FDA) related to inspections of production facilities in Tiburtina, Italy, and Aubonne and Vevey, Switzerland. These sites contribute to the production of Rebif® and other products for distribution in the United States. The letter primarily addressed several processes related to the manufacturing of Rebif®, which the FDA concluded were not in full compliance with good manufacturing practice standards. Merck is working closely with the FDA to address its observations. The agency completed its initial evaluation of the company's responses. In its reply, the FDA stated that "We agree that your proposed corrective actions, if implemented appropriately, should adequately address the violations at issue." Since that initial evaluation, all commitments to the corrective action plan submitted to the FDA have been completed on schedule and a final update was provided to the FDA in September, 2012. FDA re-inspections took place during the fourth quarter of 2012 and are expected to be completed in the first half of 2013 to confirm the complete implementation of the proposed corrective actions.

Research & Development strategy

During the year, the main operational focus was on implementing the new organizational structure of Merck Serono in R&D, which now comprises two major functions. The Global Research and Early Development function is responsible for projects in discovery and pre-clinical stages through to Proof of Confidence, when the available clinical data are judged sufficient to justify significant investment in large-scale clinical development. In this function teams are clustered around certain therapeutic areas as well as platform technologies. The Global Development and Medical function is responsible for the late-stage clinical development of products, managing their submissions to regulatory authorities and then overseeing the post-approval lifecycle management. The main disciplines included in this function are clinical development regulatory, safety, as well as medical and scientific affairs. It also includes the quality function which ensures compliance with state-of-the-art Good Practices (Laboratory, Clinical and Manufacturing).

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Merck Serono pipeline, as of January 2013

Therapeutic area	Compound	Indication	Status
Neurodegenerative diseases	ONO-4641 (oral S1P receptor modulator)	Multiple sclerosis	Phase II
	ATX-MS-1467 (immune tolerazing agent)	Multiple sclerosis	Phase I
	PI-2301 (second generation peptide copolymer)	Multiple sclerosis	Phase I
Oncology	Erbitux® (cetuximab, anti-EGFR mAb)	Head and neck cancer	Filed in China
	Cilengitide (integrin inhibitor)	Glioblastoma	Phase III
	Cilengitide (integrin inhibitor)	Non-small cell lung cancer	Phase II
	L-BLP25 (MUC1-antigen-specific cancer immunotherapy)	Non-small cell lung cancer	Phase III (in Asia)
	TH-302 (hypoxia targeted alkylating drug)	Soft tissue sarcoma	Phase III
	TH-302 (hypoxia targeted alkylating drug)	Pancreatic cancer	Phase III
	TH-302 (hypoxia targeted alkylating drug)	Hematological malignancies and combination trials in solid tumors	Phase I
	DI17E6 (Anti-integrin mAb)	Colorectal cancer	Phase II
	DI17E6 (Anti-integrin mAb)	Prostate cancer	Phase II
	Pimasertib (MEK inhibitor)	Pancreatic cancer	Phase II
	Pimasertib (MEK inhibitor)	Cutaneous melanoma	Phase II
	Pimasertib/PI3K inhibitor combination	Solid tumors	Phase I [1]
	C-Met kinase inhibitor	Solid tumors	Phase I
	Sym004 (anti-EGRF Ab mixture)	Head and neck cancer	Phase II
	Sym004 (anti-EGRF Ab mixture)	Solid tumors	Phase I
	MEK inhibitor 2	Solid tumors	Phase I
	NHS-IL 12 (cancer immunotherapy)	Solid tumors	Phase I [2]
Immunology	Atacicept (anti-Blys/anti-APRIL fusion protein)	Systemic lupus erythematosus	Phase II
	Sprifermin (fibroblast growth factor 18)	Cartilage injury repair	Phase II
	Sprifermin (fibroblast growth factor 18)	Osteoarthritis	Phase I
Endocrinology	Kuvan® (sapropterin dihydrochloride)	PKU in pediatric patients < 4 years	Phase III [3]

[1] PI3K/mTOR inhibitor (SAR245409) of Sanofi, conducted under the responsibility of Merck
[2] Sponsored by the National Cancer Institute (USA)
[3] Post approval request by the European Medicines Agency

More information on the ongoing clinical trials can be found at www.clinicaltrials.gov

S1P: Sphingosin-1-phosphate
IFN: Interferon
mAb: Monoclonal Antibody
MEK: Mitogen Activated Protein Kinase
PI3K: Phosphoinositide 3-Kinase
EGFR: Epidermal Growth Factor Receptor
PKU: Phenylketonuria

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The goals of the "Fit for 2018" efficiency program in R&D

Historically at Merck Serono, both the length and costs of all stages of clinical development were higher than industry average. In response to this, Merck Serono is striving to both speed up drug development and make it more cost efficient. In order to achieve this, the organization is in the process of simplifying its structure, reducing the number of decision-making bodies and outsourcing certain functions and tasks. A net decrease in R&D costs by € 120 million by 2014 is planned. Processes are underway to shift relative spending away from fixed costs towards mainly project-related expenditure in order to increase the value of the pipeline and its output.

Focus and simplifying our global footprint

In order to improve the interface with scientists, clinicians and regulators worldwide, the division is increasing its focus on North America and Asia by further developing the R&D hubs in Boston (United States), Beijing (China) and Tokyo (Japan). At our R&D headquarters in Darmstadt, Merck Serono will continue to build upon the legacy of strength in areas such as oncology and immunology. In North America, Merck Serono will build upon its current Boston footprint at EMD Serono in Rockland, Massachusetts as well as developing the new state-of-the-art research facility in Billerica, Massachusetts. The three global R&D hubs of the division will optimize the ability to deliver innovative science and medicines globally and importantly will enhance the ability to attract and grow biopharma talent for the future development of the Merck Serono division.

Research: creating an early-stage pipeline of clearly differentiated molecules

Research at Merck Serono is strongly committed to innovation. In the new structure, teams are given enhanced freedom to operate. The cost structure is being adapted in order to free up resources for projects. A Scientific Peer Review process has been put in place in the form boards of external advisors in order to discuss, challenge and thereby improve research projects and plans. To broaden its capabilities, Merck Serono will continue to expand its external networks beyond the many collaborations it already has in place.

Oncology, Multiple Sclerosis and Immunology are key areas of focus

Oncology remains the key pillar of Merck Serono's research strategy, focusing on differentiated molecules in selected clusters both in solid tumors and hematological malignancies. The division also aims to leverage novel-novel combinations and it will continue with its biomarker strategy in order to drive personalized health care solutions. Immuno-Oncology has the potential to strengthen the existing oncology pillar by adding innovative treatment approaches like therapeutic cancer vaccines and immunomodulation. A medical consortium made up of world-class centers offering access to state-of-the-art clinical development in this field has been established.

Multiple sclerosis (MS) remains an important focus area in which Merck Serono has extensive development expertise; however, other neurological disorders are also being investigated depending on the unmet medical need they represent and their strategic fit. Merck Serono will continue to use innovative ideas whether internally or externally generated, through collaborations like Fast Forward™ (founded by the National Multiple Sclerosis Society, USA) with smaller biotech companies, as well as the recently announced Grant for MS Innovation with academia.

→ *Merck Serono*

Given its in-house expertise in the field of immunology and perceived scientific opportunities Merck Serono plans to establish the study of immune-mediated diseases as a significant new pillar of its research strategy.

Entrepreneur Partnership Program (EPP) leads to four start-ups

In April 2012, Merck Serono launched the Entrepreneur Partnership Program (EPP) to support former employees in the creation of start-up companies focused on continuing activities and compounds that originated at Merck Serono. During 2012, more than eighty proposals were assessed. Four viable endeavors were approved, including small companies founded around pre-clinical work in Alzheimer's and Parkinson's disease. Selected investments will be managed by Merck Serono Ventures, which will be represented on each of the companies' board of directors.

Development: Build a Biopharma culture of performance, execution and leadership

The Global Development and Medical function aims to become globally competitive on productivity, value, cost and speed in conducting clinical development. Merck Serono aims to attract and retain key talents to build up world class capabilities. Simplified processes are being put in place in compliance with highest quality standards in order to improve efficiency. Consolidated worldwide regulatory, safety, quality and clinical operation functions are being implemented and a lean and flexible organization well connected with all relevant external stakeholders is being built. Merck Serono aims to increase the value of its development pipeline and become more efficient and effective at developing new products.

Merck Serono to develop biosimilars

Biosimilars, which according to IMS Health will represent a strongly growing market of US$ 11 billion to US$ 25 billion by 2020, aim to be similar to marketed biological drugs. In contrast to classic generic drugs, which are made from relatively easily duplicated chemical-based active ingredients, biosimilars are much more complex molecular structures and usually differing slightly from the original. As a result their development, manufacturing and approval processes are much more demanding and complex. Merck Serono aims to participate in this growing market, by taking advantage of its biopharmaceutical expertise in the area of development, regulatory and manufacturing. In 2012, Merck Serono and Dr. Reddy's Laboratories announced that the two companies will collaborate to jointly develop and globally market follow-on biologics, with a primary focus on monoclonal antibodies. The strategic rationale of this collaboration is to leverage Merck Serono's biopharma strengths with Dr. Reddy's strong expertise in biosimilars.

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Clinical pipeline update

The Merck Serono pipeline has a strong focus on oncology. Currently, 16 projects are in various phases of clinical development.

In late 2012, approval was obtained in Japan from the Ministry of Health, Labor and Welfare for the use of Erbitux® in adult patients with head and neck cancer. The division also announced the decision to voluntarily withdraw the marketing authorization application to the European Medicines Agency (EMA) of a label extension for Erbitux® in combination with standard first-line platinum-based chemotherapy in patients with advanced or metastatic non-small cell lung cancer (NSCLC) with high epidermal growth factor receptor (EGFR) expression. The decision to withdraw the application was based on feedback from the EMA, indicating that further clinical data would be required. Merck Serono reported a negative outcome of the EXPAND trial, which assessed Erbitux® as a first-line treatment for patients with advanced gastric cancer, and the PETACC-8 trial, assessing Erbitux® for the adjuvant treatment of stage III colon cancer. Merck will not pursue further development of Erbitux® in the lung, gastric or adjuvant colon indications. These results do not alter the current utility of Erbitux® in patients with KRAS wild-type mCRC and in patients with locally advanced or recurrent and/or metastatic SCCHN in those markets where Erbitux® is currently registered in these indications.

Late-stage pipeline strengthened through the in-licensing of TH-302 and Sym004

The division continued to strengthen its early- and mid-stage pipeline via strategic transactions. Two oncology projects were in-licensed during 2012. A global agreement to license and co-develop TH-302, an investigational small molecule hypoxia-targeted drug, was followed by an exclusive worldwide license agreement for Sym004, potentially complementing and building upon Merck's existing Erbitux® franchise.

At the time of in-licensing, TH-302, a molecule designed to be activated under severe tumor hypoxic conditions was already being investigated in a Phase III in patients with soft tissue sarcoma (STS). Following the positive outcome in a Phase IIb trial in patients with advanced pancreatic cancer (PaCa), presented at the Association for Cancer Research meeting in April 2012, the decision was made later in the year to proceed to Phase III. For both indications (STS and PaCa), an agreement was reached with the FDA regarding a Special Protocol Assessment (SPA). The STS indication has also been assigned orphan drug status in the United States as well as in the EU. In addition, the use of TH-302 in other solid tumors and hematological malignancies is being evaluated in several Phase I trials.

Sym004 is an investigational product comprised of two antibodies that are designed to block ligand binding, receptor activation and downstream signaling as well as to elicit removal of EGFR from the cancer cell surface by inducing their internalization and degradation. Sym004 is currently being evaluated in a Phase I/II trial in patients with advanced KRAS wild-type mCRC. In addition, a single-arm, open-label Phase II trial is underway in patients with SCCHN who have failed anti-EGFR-based therapy.

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Pimasertib moved to Phase II development

Pimasertib, Merck Serono's MEK inhibitor, is an investigational small molecule inhibitor of MEK1/2, which is part of the MAPK signaling pathway. This pathway is up-regulated in various types of cancer. Pimasertib moved to Phase II in PaCa as well as in N-Ras mutated cutaneous melanoma. Around 25% of melanoma patients have N-Ras mutated tumors and have currently limited effective treatment options.

L-BLP25 misses primary endpoint in the START study; additional analysis ongoing

L-BLP25 (formerly known as Stimuvax) is an investigational MUC1 antigen-specific cancer immunotherapy designed to stimulate the body's immune system to identify and target cells expressing MUC1. MUC1 is expressed in many cancers, such as NSCLC. L-BLP25 was being investigated in the Phase III START trial and is currently being investigated in the Phase III INSPIRE trial, both for the treatment of unresectable stage III NSCLC. In late 2012, the START trial reported a negative outcome missing the primary endpoint of extending overall survival. Notable treatment effects were observed, however, in certain subgroups. Based on further analysis still to be done, Merck Serono will decide on the future of the L-BLP25 development program in 2013. The ongoing clinical program of L-BLP25, including INSPIRE, will continue pending discussion with relevant regulatory agencies.

Phase III results for cilengitide expected in the first half of 2013

Concerning cilengitide, Merck Serono's investigational integrin inhibitor, the outcome of the pivotal, randomized Phase III CENTRIC trial is expected in the first half of 2013. The study follows a biomarker-guided approach focusing on newly diagnosed glioblastoma patients with methylated MGMT (methylguanine-DNA methyltransferase) gene promotor status since it is thought they might be more likely to benefit from combination treatment with temozolomide, radiotherapy and cilengitide. To ensure the availability of a qualified diagnostic, Merck Serono expanded its collaboration with MDxHealth, a diagnostic company, to support the development and regulatory activities for the MGMT test. During 2012, the development of cilengitide in SCCHN was stopped following negative Phase II results. The Phase II study combining cilengitide with Erbitux® and chemotherapy for the treatment of NSCLC continues. Since Erbitux® is not registered for NSCLC, the results of this study can serve only for further hypothesis generation.

In the field of MS, FDA approval of the Rebif® Rebidose injector for patients with relapsing forms of MS was received early 2013. The device was evaluated in a 12-week Phase IIIb multicenter, open-label, single-arm study for the self-administration of Rebif® with respect to ease of use, patient satisfaction and acceptability, and functional reliability.

Decision regarding further development of ONO-4641 to be made during 2013

Turning to ONO-4641, a sphingosine-1-phosphate receptor modulator, a positive outcome from the Phase II DreaMS study in patients with relapsing MS was presented at the American Academy of Neurology meeting in May 2012. Currently, further studies, both non-clinical and clinical, are being performed which will provide more information on efficacy, safety and the potential for differentiation of this agent to allow Merck Serono to make an informed decision about whether to advance this project to Phase III in 2013. An immune tolerizing agent (ATX-MS-1467) is close to delivering Phase I trial results.

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After careful evaluation of the available Phase I data, the division decided to end the development of long-acting interferons in the area of MS.

In the area of immunology, Merck Serono is currently analyzing data from the double-blind, placebo-controlled Phase II study (APRIL SLE) assessing the therapeutic value of atacicept in systemic lupus erythematosus (SLE). The trial initially investigated two doses of atacicept in patients who were stable following steroid taper, and measured the effect of the drug on new disease flares. The study recruited more than 450 patients. The complete clinical and biomarker data from this study are expected to be presented at a scientific conference in the first half of 2013.

Development of sprifermin (fibroblast growth factor 18), a recombinant protein, is ongoing in the treatment of knee cartilage injury in the context of a Phase II study. Two Phase I studies were completed in patients with osteoarthritis of the knee joint.