

MEDIA RELEASE • COMMUNIQUE AUX MEDIAS • MEDIENMITTEILUNG**FDA approves Tasigna[®] for newly diagnosed chronic myeloid leukemia patients, data demonstrate major advance over Glivec[®]**

- *Pivotal data from ENESTnd published in today's New England Journal of Medicine*
- *In head-to-head trial, Tasigna reduced leukemia-causing protein faster than Glivec, resulting in lower rates of cancer progression even as early as 12 months¹*
- *Regulatory submissions under way worldwide, with applications currently filed in the EU, Switzerland and Japan*

Basel, June 17, 2010 — Following a priority review, the US Food and Drug Administration (FDA) has approved Tasigna[®] (nilotinib) for the treatment of adult patients with newly diagnosed Philadelphia chromosome-positive chronic myeloid leukemia (Ph+ CML) in chronic phase. With this approval, Tasigna becomes the first new therapeutic option for newly diagnosed patients since the introduction of Glivec[®] (imatinib)*, providing a major advance for patients with this blood cancer.

The US approval was based on results of the ENESTnd (Evaluating Nilotinib Efficacy and Safety in Clinical Trials of Newly Diagnosed Ph+ CML Patients) Phase III clinical trial, which were published today in *The New England Journal of Medicine* (NEJM).

"With the faster and deeper responses we are seeing with Tasigna, newly diagnosed CML patients will have a new and more effective treatment option," said Hervé Hoppenot, President, Novartis Oncology.

Tasigna is a potent and selective inhibitor of the Bcr-Abl protein that causes production of cancer cells in Ph+ CML^{2,3}. It is also active against a broad spectrum of Bcr-Abl mutations associated with resistance to Glivec⁴. The first clinical trials of Tasigna began only 21 months after its discovery, with the drug receiving its first regulatory approval as a second-line treatment in 2007.

In its pivotal head-to-head trial against Glivec, Tasigna surpassed Glivec in key measures of treatment efficacy, as has been previously reported. Tasigna eliminated Bcr-Abl faster than Glivec, resulting in lower rates of cancer progression even as early as 12 months¹. Deep reduction of Bcr-Abl, known as a major molecular response, is considered to be a critical therapeutic milestone associated with good long-term outcomes for patients with Ph+ CML⁵⁻⁷. Treatment with Tasigna led to higher rates of both major molecular response and complete cytogenetic response (elimination of the Philadelphia chromosome that is the hallmark of the cancer) compared with Glivec¹.

The randomized, open-label, multicenter ENESTnd trial compared the efficacy and safety of Tasigna versus Glivec in adult patients with newly diagnosed Ph+ CML in chronic phase¹. It is the largest global randomized comparison of two oral therapies ever conducted in newly diagnosed Ph+ CML patients in chronic phase.

*Known as Gleevec[®] (imatinib mesylate) tablets in the US, Canada and Israel.

Two patients on the nilotinib arm progressed to either accelerated phase or blast crisis while 17 patients on the imatinib arm progressed to either accelerated phase or blast crisis. In the study, Tasigna was well tolerated. Fewer patients discontinued due to adverse events from the Tasigna 300 mg twice daily arm of the study compared to the Glivec 400 mg once daily arm. No patients in the study had a prolongation of the QT interval >500 milliseconds¹. In addition, no sudden deaths occurred with either treatment⁴.

Regulatory submissions for Tasigna in the first-line indication are under way worldwide, with applications currently filed in the EU, Switzerland and Japan.

About Tasigna²

Tasigna has been approved in more than 80 countries for the treatment of chronic phase and accelerated phase Ph+ CML in adult patients resistant or intolerant to at least one prior therapy, including Glivec. The effectiveness of Tasigna for this indication is based on confirmed hematologic and unconfirmed cytogenetic response rates. There are no controlled trials demonstrating a clinical benefit, such as improvement in disease-related symptoms or increased survival.

Tasigna important safety information

Because taking Tasigna with food may increase the amount of drug in the blood, Tasigna should not be taken with food and patients should wait at least two hours after a meal before taking Tasigna. In addition, no food should be consumed for at least one hour after the dose is taken.

The most frequent Grade 3 or 4 adverse events for Tasigna were primarily hematological in nature and included neutropenia and thrombocytopenia. Elevations seen in bilirubin, liver function tests, lipase enzymes and blood sugar, were mostly transient and resolved over time. These cases were easily managed and rarely led to discontinuation of treatment. Pancreatitis was reported in less than 1% of cases. The most frequent non-hematologic drug-related adverse events were rash, pruritus, nausea, fatigue, headache, constipation and diarrhea. Most of these adverse events were mild to moderate in severity.

Tasigna should be used with caution in patients with uncontrolled or significant cardiac disease (e.g., recent heart attack, congestive heart failure, unstable angina or clinically significant bradycardia), as well as in patients who have or may develop prolongation of QTc. These include patients with abnormally low potassium or magnesium levels, patients with congenital long QT syndrome, patients taking anti-arrhythmic medicines or other drugs that may lead to QT prolongation. Low levels of potassium or magnesium must be corrected prior to Tasigna administration. Close monitoring for an effect on the QTc interval is advisable and a baseline echocardiogram is recommended prior to initiating therapy with Tasigna and as clinically indicated.

About Glivec⁸

Glivec is approved in more than 90 countries, including the US, EU and Japan, for the treatment of all phases of Ph+ CML. Glivec is also approved in the US, EU and other countries for the treatment of patients with Kit (CD117)-positive gastrointestinal tumors (GIST), which cannot be surgically removed and/or have already spread to other parts of the body (metastasized). In the US and EU, Glivec is now approved for the post-surgery treatment of adult patients following complete surgical removal of Kit (CD117)-positive gastrointestinal stromal tumors. In the EU, Glivec is also approved for the treatment of adult patients with newly diagnosed Ph+ acute lymphoblastic leukemia (Ph+ ALL) in combination with chemotherapy and as a single agent for patients with relapsed or refractory Ph+ ALL. Glivec is also approved for the treatment of adult patients with unresectable, recurrent and/or metastatic dermatofibrosarcoma protuberans (DFSP) who are not eligible for surgery. Glivec is also approved for the treatment of patients with

myelodysplastic/myeloproliferative diseases (MDS/MPD). Glivec is also approved for hypereosinophilic syndrome and/or chronic eosinophilic leukemia (HES/CEL).

The effectiveness of Glivec is based on overall hematological and cytogenetic response rates and progression-free survival in CML, on hematological and cytogenetic response rates in Ph+ ALL, MDS/MPD, on hematological response rates in systemic mastocytosis (SM), HES/CEL, on objective response rates and progression-free survival in unresectable and/or metastatic GIST, on recurrence free survival in adjuvant GIST and on objective response rates in DFSP. Increased survival in controlled trials has been demonstrated only in newly diagnosed chronic phase CML and GIST.

Not all indications are available in every country.

Glivec important safety information

The majority of patients treated with Glivec in clinical trials experienced adverse events at some time. Most events were of mild to moderate grade and treatment discontinuation was not necessary in the majority of cases.

The safety profile of Glivec was similar in all indications. The most common side effects included nausea, superficial edema, muscle cramps, skin rash, vomiting, diarrhea, abdominal pain, myalgia, arthralgia, hemorrhage, fatigue, headache, joint pain, cough, dizziness, dyspepsia and dyspnea, dermatitis, eczema and fluid retention, as well as neutropenia, thrombocytopenia and anemia. Glivec was generally well tolerated in all of the studies that were performed, either as monotherapy or in combination with chemotherapy, with the exception of a transient liver toxicity in the form of transaminase elevation and hyperbilirubinemia observed when Glivec was combined with high dose chemotherapy.

Rare/serious adverse reactions include: sepsis, pneumonia, depression, convulsions, cardiac failure, thrombosis/embolism, ileus, pancreatitis, hepatic failure, exfoliative dermatitis, angioedema, Stevens-Johnson syndrome, renal failure, fluid retention, edema (including brain, eye, pericardium, abdomen and lung), hemorrhage (including brain, eye, kidney and gastrointestinal tract), diverticulitis, gastrointestinal perforation, tumor hemorrhage/necrosis and hip osteonecrosis/avascular necrosis.

Patients with cardiac disease or risk factors for cardiac failure should be monitored carefully and any patient with signs or symptoms consistent with cardiac failure should be evaluated and treated. Cardiac screening should be considered in patients with HES/CEL and patients with MDS/MPD with high level of eosinophils (echocardiogram, serum troponin level).

Glivec is contraindicated in patients with known hypersensitivity to imatinib or any of its excipients. Women of childbearing potential should be advised to avoid becoming pregnant while taking Glivec.

Disclaimer

The foregoing release contains forward-looking statements that can be identified by terminology such "will," or similar expressions, or by express or implied discussions regarding potential new indications or labeling for Tasigna in additional markets, or regarding potential future revenues from Tasigna or Glivec. You should not place undue reliance on these statements. Such forward-looking statements reflect the current views of management regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause actual results with Tasigna or Glivec to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no guarantee that Tasigna will be approved for any additional indications or labeling in any additional markets. Nor can there be any guarantee that Tasigna or Glivec will achieve any particular levels of revenue in the future. In particular, management's expectations regarding Tasigna and Glivec could be

affected by, among other things, unexpected regulatory actions or delays or government regulation generally; unexpected clinical trial results, including unexpected new clinical data and unexpected additional analysis of existing clinical data; competition in general; government, industry and general public pricing pressures; the company's ability to obtain or maintain patent or other proprietary intellectual property protection; the impact that the foregoing factors could have on the values attributed to the Novartis Group's assets and liabilities as recorded in the Group's consolidated balance sheet, and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those anticipated, believed, estimated or expected. Novartis is providing the information in this press release as of this date and does not undertake any obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

About Novartis

Novartis provides healthcare solutions that address the evolving needs of patients and societies. Focused solely on healthcare, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, cost-saving generic pharmaceuticals, preventive vaccines, diagnostic tools and consumer health products. Novartis is the only company with leading positions in these areas. In 2009, the Group's continuing operations achieved net sales of USD 44.3 billion, while approximately USD 7.5 billion was invested in R&D activities throughout the Group. Headquartered in Basel, Switzerland, Novartis Group companies employ approximately 100,000 full-time-equivalent associates and operate in more than 140 countries around the world. For more information, please visit <http://www.novartis.com>.

References

- 1 Giuseppe Saglio, M.D., Dong-Wook Kim, M.D., Ph.D., Surapol Issaragrisil, M.D., F.R.C.P., F.A.C.P., F.R.C.P.A., F.R.C.Path., Philipp le Coutre, M.D., Gabriel Etienne, M.D., Clarisse Lobo, M.D., Ricardo Pasquini, M.D., Richard E. Clark, M.A., M.D., F.R.C.P., F.R.C.Path., Andreas Hochhaus, M.D., Timothy P. Hughes, M.D., M.B.B.S., Neil Gallagher, M.D., Ph.D., Albert Hoenekopp, M.D., Mei Dong, M.D., M.S., Ariful Haque, M.S., Richard A. Larson, M.D., and Hagop M. Kantarjian, M.D.4 on behalf of the ENESTnd investigators - ENESTnd: A Randomized Comparison of Nilotinib and Imatinib for Newly Diagnosed Chronic Myeloid Leukemia – The New England Journal of Medicine 2010 June 17;362(24): Pages 2251-2259.
- 2 Tasigna® (nilotinib) European Summary of Product Characteristics. Novartis AG. <http://www.tasigna.com/en/tasigna-product-information.jsp#>.
- 3 Novartis data on file.
- 4 Swords R, Mahalingam D, Padmanabhan S, et al. Nilotinib: optimal therapy for patients with chronic myeloid leukemia and resistance or intolerance to imatinib. Drug Des Devel Ther. 2009 Sep 21;3:89-101.
- 5 Hochhaus A, O'Brien SG, Guilhot F, et al. IRIS Investigators. Six-year follow-up of patients receiving imatinib for the first-line treatment of chronic myeloid leukemia. Leukemia. 2009 Jun;23(6):1054-61.
- 6 Müller MC, Hanfstein B, Erben P, et al. Molecular response to first line imatinib therapy is predictive for long term event free survival in patients with chronic phase chronic myelogenous leukemia – an interim analysis of the randomized German CML Study IV. Blood (ASH Annual Meeting Abstracts) 2008., 112: Abstract 333.
- 7 Baccarani M, Cortes J, Pane F, et al. Chronic myeloid leukemia: an update of concepts and management recommendations of European LeukemiaNet. J Clin Oncol. 2009 Dec 10;27(35):6041-51.
- 8 Glivec® (imatinib) prescribing information. Basel, Switzerland: Novartis International AG; March 2009.

#

Novartis Media Relations

Central media line : +41 61 324 2200

Eric Althoff

Novartis Global Media Relations
+41 61 324 7999 (direct)
+41 79 593 4202 (mobile)
eric.althoff@novartis.com

Kim Fox

Novartis Oncology
+1 862 778 7692 (direct)
kim.fox@novartis.com

e-mail: media.relations@novartis.com

Novartis Investor Relations

Central phone: +41 61 324 7944
Susanne Schaffert +41 61 324 3769
Pierre-Michel Bringer +41 61 324 1065
Thomas Hungerbuehler +41 61 324 8425
Isabella Zinck +41 61 324 7188

North America:

Richard Jarvis +1 212 830 2433
Jill Pozarek +1 212 830 2445
Edwin Valeriano +1 212 830 2456