Novartis presents key advances in cancer research at ASCO and EHA from four new pivotal studies in lung, blood and skin cancers

May 22, 2014

- Pivotal data in ALK+ NSCLC for Zykadia™; recently approved by US FDA, marking fastest oncology approval under Breakthrough Therapy designation
- First presentation of pivotal data from Phase III trial of Jakavi® in polycythemia vera and LBH589 in multiple myeloma; blood cancers with unmet medical need
- New LDE225 pivotal data unveiled in patients with advanced basal cell carcinoma, the most common form of skin cancer with limited treatment options
- More than 150 abstracts highlighting Novartis therapies include latest analyses of Tasigna®, Afinitor® and Exjade®, as well as pipeline combinations

EAST HANOVER, N.J., May 22, 2014 /PRNewswire/ -- Novartis will showcase the results of research efforts to target disease pathways with more than 150 abstracts at two upcoming cancer-focused meetings, including updated data in ALK+ non-small cell lung cancer and the first-ever presentations of key data in polycythemia vera, multiple myeloma (blood) and locally advanced or metastatic basal cell carcinoma (skin).

Clinical data featured at the 50th Annual Meeting of the American Society of Clinical Oncology (ASCO; May 30-June 3, Chicago) and the 19th Congress of the European Hematology Association (EHA; June 12-15, Milan) will include Zykadia™ (ceritinib), Jakavi®* (ruxolitinib), Tasigna® (nilotinib), Afinitor® (everolimus) and Exjade® (deferasirox), as well as pipeline compounds LBH589 (panobinostat), LDE225 (sonidegib) and others[1,2].

"Our research strategy continues to focus on the underlying cause of disease to develop targeted compounds or combinations of therapies," said Alessandro Riva, MD, President, Novartis Oncology ad interim and Global Head, Oncology Development and Medical Affairs. "The approach has been shown to be successful in treating patients with lung, blood and breast cancers, and this latest research shows that we may have potential new treatments to continue addressing critical needs in cancer care."

*Jakavi is a registered trademark of Novartis AG in countries outside the United States. Jakafi is a registered trademark of Incyte Corporation. Novartis licensed ruxolitinib from Incyte Corporation for development and commercialization outside the United States.

Data highlights include:

Key pivotal data across four oncology compounds

- Ceritinib: Ceritinib in advanced anaplastic lymphoma kinase (ALK)-rearranged (ALK+) non-small cell lung cancer (NSCLC): Results of the ASCEND-1 trial (ASCO oral presentation, abstract #8003; June 2, 3:48 PM CDT)
- Ruxolitinib: Results of a prospective, randomized, open-label Phase III study of ruxolitinib in polycythemia vera patients resistant to or intolerant of hydroxyurea: the RESPONSE trial (ASCO oral presentation,

abstract #7026; June 3, 9:57 AM CDT; EHA oral presentation, abstract #LB-2436; June 14, 2:00 PM CEST)
- Panobinostat: PANORAMA 1: A randomized, double-blind, Phase III study of panobinostat or placebo plus bortezomib and dexamethasone in relapsed or relapsed and refractory multiple myeloma (ASCO oral presentation, abstract #8510; June 2, 8:00 AM CDT; EHA oral presentation, abstract #S641; June 14, 8:00 AM CEST)
- Sonidegib: Randomized, double-blind study of sonidegib (LDE225) in patients with locally advanced or metastatic basal cell carcinoma (ASCO oral presentation, abstract #9009a; June 1, 8:00 AM CDT)

Emerging data on key Novartis marketed treatments, early combination studies and innovative clinical trial designs

- Everolimus: Meta-analysis of stomatitis incidence in everolimus clinical studies and its relationship with efficacy (ASCO abstract #645; June 2, 8:00 AM CDT)
- Everolimus: Prevention of stomatitis in patients with hormone receptor-positive advanced breast cancer treated with everolimus plus exemestane: A Phase II study of a steroid-based mouthwash (ASCO trials in progress abstract #TPS661; June 2, 8:00 AM CDT)
- Everolimus: Identification and validation of predictive biomarkers for everolimus in metastatic renal cell carcinoma: Analysis of 442 patients on RECORD-3 (ASCO abstract #4531; May 30, 1:00 PM CDT)
- Nilotinib: Treatment-free remission following nilotinib in patients with chronic myeloid leukemia in chronic phase: ENESTfreedom, ENESTop, ENESTgoal, and ENESTpath (ASCO trials in progress abstract #TPS7124; June 2, 1:15 PM CDT)
- Nilotinib: ENESTnd 5-year update: Long-term outcomes of patients with chronic myeloid leukemia in chronic phase treated with frontline nilotinib vs imatinib (ASCO abstract #7073; June 2, 1:15 PM CDT; EHA oral presentation, abstract #S677; June 14, 8:15 AM CEST)
- Nilotinib: Effect of continued imatinib in patients with detectable BCR-ABL after greater than or equal to 2 years on study on deep molecular responses (MR): 36-month update from ENESTcmr (ASCO abstract #7025; May 31, 1:15 PM CDT; EHA oral presentation, abstract #S1361; June 15, 10:45 AM CEST)
- Ruxolitinib: Phase Ib, dose-finding study of ruxolitinib plus panobinostat in patients with myelofibrosis (ASCO abstract #7022; May 31, 1:15 PM CDT; EHA abstract #P410; June 13, 5:45-7:00 CEST)
- Deferasirox: Deferasirox–deferoxamine combination therapy reduces cardiac iron with rapid liver iron removal after 24 months in patients with severe transfusional iron overload (HYPERION) (EHA abstract #S661; June 14, 8:00 AM CEST)
- The signature program, a series of tissue-agnostic, mutation-specific signal finding trials (ASCO trials in progress abstract #TPS2646; June 1, 8:00 AM CDT)

New findings from combination studies across oncology pipeline and presentations on CAR T cell therapy

- INC280: Safety and efficacy of INC280 in combination with gefitinib in patients with EGFR-mutated, MET-positive NSCLC: A single-arm Phase Ib/II study (ASCO abstract #8017; June 3, 8:00 AM CDT)
- LEE011: Phase Ib/II study of LEE011, everolimus, and exemestane in postmenopausal women with ER+/HER2- metastatic breast cancer (ASCO abstract #535; June 1, 8:00 AM CDT)
- LEE011: Phase Ib study of LEE011 and BYL719 in combination with letrozole in estrogen receptor-positive, HER2-negative breast cancer (ASCO abstract #533; June 1, 8:00 AM CDT)
- CTL019: Genetically Engineered T Cells and Beyond: Immune Modulation Therapy in Chronic Lymphocytic Leukemia (ASCO; June 2, 1:55 PM CDT)
- CTL019: Future Directions in Immune Targeting (ASCO; June 2, 1:35 PM CDT)

Throughout ASCO and EHA, Novartis Oncology will host a dedicated webpage available at www.novartisoncology.com that will provide unique insights and perspectives into emerging areas of cancer

care and research.

About Zykadia

Zykadia (ceritinib) is indicated in the US for the treatment of patients with ALK+ metastatic NSCLC who have progressed on or are intolerant to crizotinib. This indication is approved under accelerated approval based on tumor response rate and duration of response. An improvement in survival or disease-related symptoms has not been established. Continued approval for this indication may be contingent upon verification and description of clinical benefit in confirmatory trials.

Zykadia is an FDA-approved prescription medicine that is currently available through a number of specialty pharmacies in the US. Outside of the US, Zykadia (LDK378) is an investigational agent and has not been approved by regulatory authorities.

Zykadia Important Safety Information

Zykadia may cause serious side effects, such as:

Zykadia causes stomach and intestinal problems in most people, including diarrhea, nausea, vomiting, and stomach-area pain. These problems can sometimes be severe. Patients should follow their doctor's instructions about taking medicines to help these symptoms, and should call their doctor for advice if symptoms are severe or do not go away.

Zykadia may cause liver injury. Patients should have blood tests at least every month while taking Zykadia, and should talk to their doctor right away if they experience any of the following symptoms: tiredness (fatigue), itchy skin, yellow skin and eyes, nausea or vomiting, decreased appetite, pain on the right side of the stomach, urine turns dark or brown, bleeding or bruising more easily than normal.

Zykadia may cause severe or life-threatening swelling (inflammation) of the lungs during treatment that can lead to death. Symptoms may be similar to those symptoms from lung cancer. Patients should tell their doctor right away about any new or worsening symptoms, including trouble breathing or shortness of breath, fever, cough, with or without mucous, or chest pain.

Zykadia may cause very slow, very fast, or abnormal heartbeats. Doctors should check their patient's heart during treatment with Zykadia. Patients should tell their doctor right away if they feel new chest pain or discomfort, dizziness or lightheadedness, faint, or have abnormal heartbeats, or if they start to take or have any changes in heart or blood pressure medicines.

People who have diabetes or glucose intolerance, or who take a corticosteroid medicine have an increased risk of high blood sugar with Zykadia. Patients should follow their doctor's instructions about blood sugar monitoring and call their doctor right away with any symptoms of high blood sugar, including increased thirst, increased hunger, headaches, trouble thinking or concentrating, urinating often, blurred vision, tiredness, or breath that smells like fruit.

Before patients take Zykadia, they should tell their doctor about all medical conditions, including liver problems; diabetes or high blood sugar; heart problems, including a condition called long QT syndrome; are pregnant, think they may be pregnant, or plan to become pregnant; are breastfeeding or plan to breastfeed.

Zykadia may harm unborn babies. Women who are able to become pregnant must use an effective method of birth control during treatment with Zykadia and for at least 2 weeks after stopping Zykadia. It is not known if Zykadia passes into breast milk. Patients and their doctor should decide whether to take Zykadia or breastfeed, but should not do both.

Patients should tell their doctor about medicines they take, including prescription medicines, over-the-counter medicines, vitamins and herbal supplements.

The most common side effects of Zykadia include diarrhea, nausea, vomiting, abdominal pain, tiredness (fatigue), decreased appetite and constipation.

Patients should tell their doctor of any side effect that bothers them or does not go away. These are not all of the possible side effects of Zykadia. For more information, patients should ask their doctor or pharmacist.

Patients should take Zykadia exactly as their health care provider tells them. Patients should not change their dose or stop taking Zykadia unless their health care provider advises them to. Zykadia should be taken once a day on an empty stomach. Patients should not eat for 2 hours before and 2 hours after taking Zykadia. If a dose of Zykadia is missed, they should take it as soon as they remember. If their next dose is due within the next 12 hours, they should skip the missed dose and take the next dose at their regular time. Patients should not drink grapefruit juice or eat grapefruit during treatment with Zykadia, as it may make the amount of Zykadia in their blood increase to a harmful level.

Please see full Prescribing Information for Zykadia.

About Jakavi (ruxolitinib)

Jakavi® (ruxolitinib) is an oral inhibitor of the JAK 1 and JAK 2 tyrosine kinases and was approved by the European Commission in August 2012 for the treatment of disease-related splenomegaly or symptoms in adult patients with primary myelofibrosis (also known as chronic idiopathic myelofibrosis), post-polycythemia vera myelofibrosis or post-essential thrombocythemia myelofibrosis. Jakavi is approved in more than 35 countries, including the member states of the European Union, Canada and some countries in Asia, Latin and South America. Additional worldwide regulatory filings are underway.

Novartis licensed ruxolitinib from Incyte Corporation for development and commercialization outside the United States. Both the European Commission and the US Food and Drug Administration (FDA) granted ruxolitinib orphan drug status for myelofibrosis. Jakavi is marketed in the United States by Incyte Corporation under the name Jakafi® for the treatment of patients with intermediate or high-risk myelofibrosis.

The recommended starting dose for Jakavi is 15 mg twice daily for patients with a platelet count between 100,000 cubic millimeters (mm^3) and 200,000 mm^3, and 20 mg twice daily for patients with a platelet count of >200,000 mm^3. Doses may be titrated based on safety and efficacy. There is limited information to recommend a starting dose for patients with platelet counts between 50,000/mm^3 and <100,000/mm^3. The maximum recommended starting dose in these patients is 5 mg twice daily and patients should be titrated cautiously.

Jakavi is a registered trademark of Novartis AG in countries outside the United States. Jakafi is a registered trademark of Incyte Corporation.

Jakavi Important Safety Information

Jakavi® can cause serious side effects, including a decrease in blood cell count and infections. Complete blood count monitoring is recommended. Dose reduction or interruption may be required in patients with severe hepatic or renal impairment or in patients developing hematologic adverse reactions such as thrombocytopenia, anemia and neutropenia. Dose reductions are also recommended when Jakavi is co-administered with strong CYP3A4 inhibitors or fluconazole. Use of Jakavi during pregnancy is not recommended and women should avoid becoming pregnant during Jakavi therapy. Women taking Jakavi

should not breast feed.

The most common adverse drug reactions, occurring at any level of severity (incidence >10%) are urinary tract infections, anemia, thrombocytopenia, neutropenia, hypercholesterolemia, dizziness, headache, alanine aminotransaminase increased, asparte aminotransferase increased, bruising, bleeding and increased blood pressure. Other common adverse drug reactions (incidence 1 to 10%) are herpes zoster, weight gain, flatulence and tuberculosis (1%). Progressive multifocal leukencephalopathy (PML) has been reported. Physicians should be alert for neuropsychiatric symptoms suggestive of PML.

Please see full Prescribing Information available at www.jakavi.com.

About LBH589, LDE225, INC280, LEE011, BYL719, CTL019

Because LBH589, LDE225, INC280, LEE011, BYL719 and CTL019 are investigational treatments, the safety and efficacy profiles have not yet been fully established. Access to these investigational compounds is available only through carefully controlled and monitored clinical trials. These trials are designed to better understand the potential benefits and risks of the compound. Because of the uncertainty of clinical trials, there is no guarantee that LBH589, LDE225, INC280, LEE011, BYL719 and/or CTL019 will ever be commercially available anywhere in the world.

TASIGNA® (nilotinib) Indication(s)

TASIGNA is a prescription medicine used to treat adults with newly diagnosed Philadelphia chromosome–positive chronic myeloid leukemia (Ph+ CML) in chronic phase. The efficacy of TASIGNA is based on major molecular response and cytogenetic response rates. The study is on-going and more data will be needed to determine long-term outcomes.

TASIGNA is also used to treat chronic phase or accelerated phase Ph+ CML in adults who are no longer benefiting from previous other treatments, including imatinib (GLEEVEC®), or have taken other treatments, including imatinib (GLEEVEC) but cannot tolerate them. The efficacy of TASIGNA is based on hematologic response and cytogenetic response rates.

IMPORTANT SAFETY INFORMATION FOR TASIGNA® (nilotinib) CAPSULES

WARNING: QT PROLONGATION AND SUDDEN DEATHS

- TASIGNA prolongs the QT interval. Prior to TASIGNA administration and periodically, monitor for hypokalemia or hypomagnesemia and correct deficiencies. Obtain ECGs to monitor the QTc at baseline, 7 days after initiation, and periodically thereafter, and following any dose adjustments
- Sudden deaths have been reported in patients receiving nilotinib. Do not administer TASIGNA to patients with hypokalemia, hypomagnesemia, or long QT syndrome
- Avoid use of concomitant drugs known to prolong the QT interval and strong CYP3A4 inhibitors
- Avoid food 2 hours before and 1 hour after taking dose

CONTRAINDICATIONS

Do not use in patients with hypokalemia, hypomagnesemia, or long QT syndrome.

WARNINGS AND PRECAUTIONS

Myelosuppression

Treatment with TASIGNA can cause Grade 3/4 thrombocytopenia, neutropenia, and anemia. Perform complete blood counts every 2 weeks for the first 2 months and then monthly thereafter, or as clinically indicated. Myelosuppression was generally reversible and usually managed by withholding TASIGNA temporarily or dose reduction.

QT Prolongation

TASIGNA prolongs the QT interval. ECGs should be performed at baseline, 7 days after initiation, periodically as clinically indicated, and following dose adjustments. Correct hypokalemia or hypomagnesemia prior to administration and monitor periodically.

Significant prolongation of the QT interval may occur when TASIGNA is inappropriately taken with food and/or strong CYP3A4 inhibitors and/or medicinal products with a known potential to prolong QT. Therefore, co-administration with food must be avoided and concomitant use with strong CYP3A4 inhibitors and/or medicinal products with a known potential to prolong QT should be avoided. The presence of hypokalemia and hypomagnesemia may further enhance this effect.

Sudden Deaths

Sudden deaths have been reported in patients with resistant or intolerant Ph+ CML receiving nilotinib. The relative early occurrence of some of these deaths relative to the initiation of nilotinib suggests the possibility that ventricular repolarization abnormalities may have contributed to their occurrence.

Cardiac and Vascular Events

Cardiovascular events, including arterial vascular occlusive events, were reported in a randomized, clinical trial in newly diagnosed CML patients and observed in the post-marketing reports of patients receiving nilotinib therapy. Cases of cardiovascular events included ischemic heart disease-related events, peripheral arterial occlusive disease, and ischemic cerebrovascular events.

If acute signs or symptoms of cardiovascular events occur, advise patients to seek immediate medical attention. The cardiovascular status of patients should be evaluated and cardiovascular risk factors should be monitored and actively managed during TASIGNA therapy according to standard guidelines.

Pancreatitis and Elevated Serum Lipase

TASIGNA can cause increases in serum lipase. Patients with a previous history of pancreatitis may be at greater risk of elevated serum lipase. If lipase elevations are accompanied by abdominal symptoms, interrupt dosing and consider appropriate diagnostics to exclude pancreatitis. Test serum lipase levels monthly or as clinically indicated.

Hepatotoxicity

TASIGNA may result in hepatotoxicity as measured by elevations in bilirubin, AST/ALT, and alkaline phosphatase. Monitor hepatic function tests monthly or as clinically indicated.

Electrolyte Abnormalities

The use of TASIGNA can cause hypophosphatemia, hypokalemia, hyperkalemia, hypocalcemia, and hyponatremia. Electrolyte abnormalities must be corrected prior to initiating TASIGNA and these electrolytes should be monitored periodically during therapy.

Drug Interactions

Avoid administration of TASIGNA with agents that may increase nilotinib exposure (eg, strong CYP3A4 inhibitors) or anti-arrhythmic drugs (including, but not limited to amiodarone, disopyramide, procainamide, quinidine and sotalol) and other drugs that may prolong QT interval (including, but not limited to chloroquine, clarithromycin, haloperidol, methadone, moxifloxacin and pimozide). Should treatment with any of these agents be required, interrupt therapy with TASIGNA. If interruption of treatment with TASIGNA is not possible, patients who require treatment with a drug that prolongs QT or strongly inhibits CYP3A4 should be closely monitored for prolongation of the QT interval.

The concomitant use of QT-prolonging drugs and strong inhibitors or inducers of CYP3A4 should be avoided as they may affect serum concentration of TASIGNA.

Drugs that affect gastric pH

Nilotinib has pH-dependent solubility, with decreased solubility and reduced bioavailability at higher pH. Since proton pump inhibitors affect pH of the upper GI tract for an extended period, separation of doses may not eliminate the interaction. The concomitant use of proton pump inhibitors with TASIGNA is not recommended.

When the concurrent use of a H2 blocker is necessary, it may be administered approximately 10 hours before and approximately 2 hours after the dose of TASIGNA. If necessary, an antacid may be administered approximately 2 hours before or approximately 2 hours after the dose of TASIGNA.

Food Effects

The bioavailability of nilotinib is increased with food, thus TASIGNA must not be taken with food. No food should be consumed for at least 2 hours before and for at least 1 hour after the dose is taken. Also avoid grapefruit products and other foods that are known to inhibit CYP3A4.

Hepatic Impairment

Nilotinib exposure is increased in patients with impaired hepatic function. Use a lower starting dose for patients with mild to severe hepatic impairment (at baseline) and monitor the QT interval frequently.

Tumor Lysis Syndrome

Tumor lysis syndrome cases have been reported in TASIGNA-treated patients with resistant or intolerant CML. Malignant disease progression, high WBC counts and/or dehydration were present in the majority of these cases. Due to potential for tumor lysis syndrome, maintain adequate hydration and correct uric acid levels prior to initiating therapy with TASIGNA.

Total Gastrectomy

Since the exposure of nilotinib is reduced in patients with total gastrectomy, perform more frequent monitoring of these patients. Consider dose increase or alternative therapy in patients with total gastrectomy.

Lactose

Since the capsules contain lactose, TASIGNA is not recommended for patients with rare hereditary problems of galactose intolerance, severe lactase deficiency with a severe degree of intolerance to lactose-containing products, or of glucose-galactose malabsorption.

Monitoring Laboratory Tests

Complete blood counts should be performed every 2 weeks for the first 2 months and then monthly thereafter.

Chemistry panels, including electrolytes, calcium, magnesium, lipid profile, and glucose should be checked prior to therapy and periodically. ECGs should be obtained at baseline, 7 days after initiation and periodically thereafter, as well as following dose adjustments. Laboratory monitoring for patients receiving TASIGNA may need to be performed more or less frequently at the physician's discretion.

Embryo-Fetal Toxicity

Advise patients that the use of TASIGNA during pregnancy may cause harm to the fetus and that TASIGNA should not be taken during pregnancy unless necessary. Sexually active female patients taking TASIGNA should use adequate contraception to avoid pregnancy.

ADVERSE REACTIONS

The most commonly reported non-hematologic adverse reactions (greater than or equal to 20% in patients with newly diagnosed Ph+ CML-CP, resistant or intolerant Ph+ CML-CP, or resistant or intolerant Ph+ CML-AP) were nausea, rash, headache, fatigue, pruritus, vomiting, diarrhea, cough, constipation, arthralgia, nasopharyngitis, pyrexia, and night sweats.

Hematologic adverse drug reactions (all grades) include myelosuppression: thrombocytopenia, neutropenia, and anemia.

DOSE ADJUSTMENTS OR MODIFICATIONS

TASIGNA may need to be temporarily withheld and/or dose reduced for QT prolongation, hematologic toxicities that are not related to underlying leukemia, clinically significant moderate or severe non-hematologic toxicities, laboratory abnormalities (lipase, bilirubin, or hepatic transaminase elevations) or concomitant use of strong CYP3A4 inhibitors.

Please see accompanying full Prescribing Information including Boxed WARNING.

About Gleevec

Gleevec® (imatinib mesylate) tablets are indicated for newly diagnosed adult patients with Philadelphia chromosome-positive chronic myeloid leukemia (Ph+ CML) in the chronic phase (CP). Gleevec is also indicated for the treatment of patients with Ph+ CML in blast crisis (BC), accelerated phase (AP), or in CP after failure of interferon-alpha therapy.

Gleevec Important Safety Information

Gleevec can cause fetal harm when administered to a pregnant woman. Women should not become pregnant, and should be advised of the potential risk to the unborn child.

Gleevec is often associated with edema (swelling) and serious fluid retention. Studies have shown that edema (swelling) tended to occur more often among patients who are 65 and older or those taking higher doses of Gleevec.

Cytopenias (reduction or lack of certain cell elements in blood circulation), such as anemia, have occurred. If the cytopenia is severe, your doctor may reduce your dose or temporarily stop your treatment with Gleevec.

Severe congestive heart failure and left ventricle dysfunction have been reported, particularly in patients with other health issues and risk factors. Patients with heart disease or risk factors or history of renal failure will be monitored and treated for the condition.

Severe liver problems (hepatotoxicity) may occur. Cases of fatal liver failure and severe liver injury requiring liver transplants have been reported with both short-term and long-term use of Gleevec.

Bleeding may occur. Severe gastrointestinal (GI) bleeding has been reported in patients with KIT+ GIST. GI tumor sites may be the cause of this bleeding; therefore, GI symptoms should be monitored at the start of treatment.

In patients with hypereosinophilic syndrome (a condition with increased eosinophils, which are a type of white blood cell) and heart involvement, cases of heart disease (cardiogenic shock/left ventricular dysfunction) have been associated with the initiation of Gleevec therapy.

Skin reactions, such as fluid-filled blisters, have been reported with the use of Gleevec.

Clinical cases of hypothyroidism (reduction in thyroid hormones) have been reported in patients taking levothyroxine replacement with Gleevec.

Long-term use may result in potential liver, kidney, and/or heart toxicities; immune system suppression may also result from long-term use.

GI perforation (small holes or tears in the walls of the stomach or intestine), in some cases fatal, has been reported.

Growth retardation has been reported in children taking Gleevec. The long-term effects of extended treatment with Gleevec on growth in children are unknown.

Cases of tumor lysis syndrome (TLS), which refers to a metabolic and electrolyte disturbance caused by the breakdown of tumor cells, have been reported and can be life-threatening in some cases. Correction of clinically significant dehydration and treatment of high uric acid levels are recommended prior to initiation of Gleevec.

Reports of motor vehicle accidents have been received in patients receiving Gleevec. Caution patients about driving a car or operating machinery.

Almost all patients treated with Gleevec experience side effects at some time. Some common side effects you may experience are fluid retention, muscle cramps or pain and bone pain, abdominal pain, loss of appetite, vomiting, diarrhea, decreased hemoglobin, abnormal bleeding, nausea, fatigue and rash.

Gleevec is sometimes associated with stomach or intestinal irritation. Gleevec should be taken with food and a large glass of water to minimize this problem. There have been rare reports, including deaths, of stomach or intestinal perforation (a small hole or tear).

If you are experiencing any of the mentioned side effects, please be sure to speak with your doctor immediately.

Do not take any other medications without talking to your doctor or pharmacist first, including Tylenol® (acetaminophen); herbal products (St. John's wort, Hypericum perforatum); Coumadin® (warfarin sodium); rifampin; erythromycin; metoprolol; ketoconazole; and Dilantin® (phenytoin). Taking these with Gleevec may affect how they work, or affect how Gleevec works.

You should also tell your doctor if you are taking or plan to take iron supplements. Patients should also avoid grapefruit juice and other foods that may affect how Gleevec works.

Please see full Prescribing Information.

About Afinitor® (everolimus)

Afinitor® (everolimus) is approved in the United States for the treatment of postmenopausal women with advanced hormone receptor-positive, HER2 negative breast cancer (advanced HR+/HER2 negative breast cancer) in combination with exemestane after failure of treatment with letrozole or anastrozole.

For more information visit www.AFINITOR.com or call 1-888-4-AFINITOR. US patients who may be eligible for financial assistance can learn about the Novartis Patient Assistance Now Oncology (PANO) reimbursement support program by contacting 1-800-282-7630 or visiting the Afinitor website.

In the United States, Afinitor tablets is approved for the treatment of adult patients with advanced renal cell carcinoma after failure of treatment with sunitinib or sorafenib and for the treatment of progressive neuroendocrine tumors of pancreatic origin in adult patients with unresectable, locally advanced or metastatic disease. The US Food and Drug Administration (FDA) determined that the safety and effectiveness of Afinitor in the treatment of patients with carcinoid tumors have not been established.

Afinitor is approved in the United States to treat adult patients with renal angiomyolipomas and tuberous sclerosis complex (TSC), who do not require immediate surgery. The effectiveness of Afinitor in treatment of renal angiomyolipoma is based on an analysis of durable objective responses in patients treated for a median of 8.3 months. Further follow-up of patients is required to determine long-term outcomes. Afinitor is also approved in the United States to treat adult and pediatric patients, three years of age or older, with SEGA associated with TSC, who require therapeutic intervention but are not candidates for surgical resection. The effectiveness of Afinitor is based on an analysis of change in SEGA volume. Clinical benefit such as improvement in disease-related symptoms or increase in overall survival has not been shown.

In the United States, Afinitor is available from Novartis in different dosage strengths and for different uses in non-oncology patient populations under the trade name Zortress®. Everolimus is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Not all indications are available in every country. Access to Afinitor outside of the approved indications has been carefully controlled and monitored in clinical trials designed to better understand the potential benefits and risks of the compound. As an investigational compound, the safety and efficacy profile of Afinitor has not yet been established outside the approved indications. Because of the uncertainty of clinical trials, there is no guarantee that Afinitor will become commercially available for additional indications anywhere else in the world.

Important Safety Information about Afinitor (everolimus) tablets

Patients should not take Afinitor or Afinitor Disperz if they are allergic to Afinitor or Afinitor Disperz or to any of its ingredients. Patients should tell their healthcare provider before taking Afinitor or Afinitor Disperz if they are allergic to sirolimus (Rapamune®) or temsirolimus (Torisel®).

Afinitor or Afinitor Disperz can cause serious side effects, including lung or breathing problems, infections, and kidney failure, which can even lead to death. If patients experience these side effects, they may need to stop taking Afinitor or Afinitor Disperz for a while or use a lower dose. Patients should follow their healthcare provider's instructions.

In some patients, lung or breathing problems may be severe and can even lead to death. Patients should tell their healthcare provider right away if they have any of these symptoms: new or worsening cough, shortness of breath, chest pain, difficulty breathing, or wheezing.

Afinitor or Afinitor Disperz may make patients more likely to develop an infection, such as pneumonia, or a bacterial, fungal, or viral infection. Viral infections may include reactivation of hepatitis B in people who have had hepatitis B in the past. In some people these infections may be severe and can even lead to death. Patients may need to be treated as soon as possible. Patients should tell their healthcare provider right away if they have a temperature of 100.5 degrees F or above, chills, or do not feel well. Symptoms of hepatitis B or infection may include the following: fever, chills, skin rash, joint pain and inflammation, tiredness, loss of appetite, nausea, pale stools or dark urine, yellowing of the skin, or pain in the upper right side of the stomach.

Afinitor or Afinitor Disperz may cause kidney failure. In some people this may be severe and can even lead to death. Patients should have tests to check their kidney function before and during their treatment with Afinitor or Afinitor Disperz.

Common side effects include mouth ulcers. Afinitor or Afinitor Disperz can cause mouth ulcers and sores. Other common side effects include infections, feeling weak or tired, nausea and vomiting, skin problems, headache, weight loss, loss of appetite, cough, diarrhea, fever, swelling of the hands, arms, legs, feet, face, or other parts of the body, joint pain, abnormal taste, stomach-area (abdomen) pain, nose bleeds, seizure, increased blood cholesterol and sugar levels, decreased blood phosphate levels, low red and white blood cells, and the absence of menstrual periods (menstruation).

Please see full Prescribing Information for Afinitor and Afinitor Disperz available at AFINITOR.com.

Rapamune® (sirolimus) and Torisel® (temsirolimus) are registered trademarks of Wyeth Pharmaceuticals Inc.

About Exjade

In the US, Exjade is now indicated for the treatment of chronic iron overload in patients 10 years of age and older with non-transfusion-dependent thalassemia (NTDT) syndromes and with a liver iron concentration (LIC) of at least 5 mg of iron per gram dry weight (mg Fe/g dw) and a serum ferritin measurement greater than 300 micrograms per liter. The basis of this indication is data showing achievement of an LIC less than 5 mg Fe/g dw after treatment with Exjade. An improvement in survival or disease-related symptoms has not been established.

Since 2005, Exjade has been approved in the US for the treatment of chronic iron overload due to blood transfusions in adult and pediatric patients (aged 2 years and over). Exjade is approved in over 100 countries including the US, Switzerland, Japan and the countries comprising the European Union. The approved indication may vary depending upon the individual country.

Exjade Important Safety Information

Exjade is contraindicated in patients with creatinine clearance <40 mL/min or serum creatinine >2 times the age-appropriate upper limit of normal; poor performance status and high-risk myelodysplastic syndromes or advanced malignancies: platelet counts <50 x 109/L; known hypersensitivity to deferasirox or any component of Exjade.

There have been postmarketing reports of acute renal failure, hepatic failure and cytopenias. Renal failure requiring temporary or permanent dialysis, renal tubulopathy and interstitial nephritis have been reported. Upper gastrointestinal ulceration and hemorrhage, sometimes fatal, have been reported. Caution should be used in elderly patients due to a higher frequency of adverse reactions. Exjade is not recommended in patients with a short life expectancy (e.g., high-risk myelodysplastic syndromes), especially when co-morbidities could increase the risk of adverse events.

Skin rashes, serious hypersensitivity reactions, decreased hearing and lens opacities have been reported. The

most common adverse reactions are nausea, vomiting, diarrhea, abdominal pain, rash, non-progressive increases in serum creatinine, increased transaminases, abdominal distension, constipation, dyspepsia, proteinuria and headache.

Please visit www.exjade.com. The full prescribing information including the Boxed Warning for Exjade is available at http://www.pharma.us.novartis.com/product/pi/pdf/exjade.pdf.

Disclaimer

The foregoing release contains forward-looking statements that can be identified by words such as "presents," "will," "upcoming," "pipeline," "strategy," "continues," "to focus," "to develop," "may," "potential," "to continue," "emerging," "in progress," "investigational," or similar terms, or by express or implied discussions regarding potential new indications or labeling for Zykadia, Jakavi, Tasigna, Gleevec, Afinitor or Exjade, potential marketing approvals for LBH589, LDE225, INC280, LEE011, BYL719, CTL019 or other investigational treatments in the Novartis Oncology pipeline or regarding potential future revenues from such products. You should not place undue reliance on these statements. Such forward-looking statements are based on the current beliefs and expectations of management regarding future events, and are subject to significant known and unknown risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those set forth in the forward-looking statements. There can be no guarantee that LBH589, LDE225, INC280, LEE011, BYL719, CTL019 or any other investigational treatment in the Novartis Oncology pipeline will be submitted or approved for sale in any market, or at any particular time. Neither can there be any guarantee that Zykadia, Jakavi, Tasigna, Gleevec, Afinitor or Exjade will be submitted or approved for any additional indications or labeling in any market, or at any particular time. Nor can there be any guarantee that such products and investigational treatments will be commercially successful in the future. In particular, management's expectations regarding such products and investigational treatments could be affected by, among other things, the uncertainties inherent in research and development, including unexpected clinical trial results and additional analysis of existing clinical data; unexpected regulatory actions or delays or government regulation generally; the company's ability to obtain or maintain proprietary intellectual property protection; general economic and industry conditions; global trends toward health care cost containment, including ongoing pricing pressures; unexpected manufacturing issues, and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. 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.

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Located in East Hanover, New Jersey, Novartis Pharmaceuticals Corporation is an affiliate of Novartis AG, which provides innovative healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, eye care, cost-saving generic pharmaceuticals, preventive vaccines, over-the-counter and animal health products. Novartis is the only global company with leading positions in these areas. In 2013, the Group achieved net sales of USD 57.9 billion, while R&D throughout the Group amounted to approximately USD 9.9 billion (USD 9.6 billion excluding impairment and amortization charges). Novartis Group companies employ approximately 135,000 full-time-equivalent associates and sell products in more than 150 countries

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