



Array BioPharma Announces Publication of BRAFTOVI® (encorafenib) + MEKTOVI® (binimetinib) Phase 3 Overall Survival Data in The Lancet Oncology

September 13, 2018

- BRAFTOVI + MEKTOVI demonstrated a median overall survival of 33.6 months in patients with advanced BRAF-mutant melanoma in Phase 3 COLUMBUS trial -

BOULDER, Colo., Sept. 13, 2018 /PRNewswire/ -- Array BioPharma Inc. (NASDAQ: ARRY) today announced the publication of detailed overall survival (OS) results from the COLUMBUS trial in [The Lancet Oncology](#). The pivotal Phase 3 trial evaluated the efficacy and safety of the combination of BRAFTOVI®+ MEKTOVI® compared to vemurafenib monotherapy in patients with unresectable or metastatic melanoma with a *BRAF*^{V600E} or *BRAF*^{V600K} mutation. BRAFTOVI + MEKTOVI reduced the risk of death compared to treatment with vemurafenib [hazard ratio (HR) of 0.61, (95% CI 0.47-0.79, p <0.0001)] in the planned analysis of OS. Median OS was 33.6 months for patients treated with the combination, compared to 16.9 months for patients treated with vemurafenib as a monotherapy. The analysis of OS and updated efficacy and safety data extend findings of previously [announced](#) results.

Based on data from the previously reported primary analysis of the COLUMBUS trial, the U.S. Food and Drug Administration (FDA) approved BRAFTOVI capsules in combination with MEKTOVI tablets on June 27, 2018 for the treatment of patients with unresectable or metastatic melanoma with a *BRAF*^{V600E} or *BRAF*^{V600K} mutation, as detected by an FDA-approved test. BRAFTOVI is not indicated for the treatment of patients with wild-type *BRAF* melanoma. Further, on July 16, 2018, Array submitted supplementary New Drug Applications to seek inclusion of OS data from the COLUMBUS trial in the BRAFTOVI and MEKTOVI labels.

Mature median progression-free survival (mPFS) for BRAFTOVI + MEKTOVI was 14.9 months (95% CI 11.0–20.2) compared to vemurafenib with 7.3 months (5.6–7.9), [HR 0.51, (95% CI 0.39–0.67; two-sided p<0.0001)].

"The publication of updated findings from the COLUMBUS trial in *The Lancet Oncology* underscores the value that BRAFTOVI + MEKTOVI bring to patients with *BRAF*-mutant melanoma," said Keith T. Flaherty, M.D., Director of the Termeer Center for Targeted Therapy, Massachusetts General Hospital Cancer Center and Professor of Medicine, Harvard Medical School. "Based on the observed efficacy and tolerability, this targeted combination is an important new treatment option for patients with this life-threatening form of melanoma."

Use of post-trial immunotherapy was limited and consistent with other published pivotal trials of BRAF + MEK inhibitors in advanced *BRAF*-mutant melanoma. The manuscript also noted that the performance of vemurafenib, the control arm, was consistent across efficacy endpoints with its performance in other trials of BRAF + MEK inhibitor combinations where it also served as a control. Finally, the authors conclude the data represent a new benchmark for BRAF + MEK inhibitors in metastatic or unresectable *BRAF*-mutant melanoma.

With 18 months of additional follow-up relative to the initial publication of COLUMBUS results, the safety profile of the combination remained generally consistent with the prior report. Observed grade 3 or 4 adverse events in more than 5% of patients with BRAFTOVI + MEKTOVI were increased gamma-glutamyltransferase (9%), increased blood creatine phosphokinase (7%) and hypertension (6%). Additional safety information can be found in the manuscript and in the Important Safety Information below.

For more information about treatment of BRAFTOVI in combination with MEKTOVI, visit www.braftovimektovi.com.

The full prescribing information for BRAFTOVI can be found here:

http://www.arraybiopharma.com/documents/Braftovi_Prescribing_information.pdf

The full prescribing information for MEKTOVI can be found here:

http://www.arraybiopharma.com/documents/Mektovi_Prescribing_information.pdf

About BRAF-mutant Metastatic Melanoma

Melanoma develops when unrepaired DNA damage to skin cells triggers mutations that may lead them to multiply and form malignant tumors. Metastatic melanoma is the most serious and life-threatening type of skin cancer and is associated with low survival rates. [1, 2] There are a variety of gene mutations that can lead to metastatic melanoma. The most common genetic mutation in metastatic melanoma is *BRAF*. There are about 200,000 new cases of melanoma diagnosed worldwide each year, approximately half of which have *BRAF* mutations, a key target in the treatment of metastatic melanoma. [1, 3, 4, 5]

About BRAFTOVI + MEKTOVI

BRAFTOVI is an oral small molecule BRAF kinase inhibitor and MEKTOVI is an oral small molecule MEK inhibitor which target key enzymes in the MAPK signaling pathway (RAS-RAF-MEK-ERK). Inappropriate activation of proteins in this pathway has been shown to occur in many cancers including melanoma, colorectal cancer, non-small cell lung cancer and others. In the U.S., BRAFTOVI + MEKTOVI are approved for the treatment of unresectable or metastatic melanoma with a *BRAF*^{V600E} or *BRAF*^{V600K} mutation, as detected by an FDA-approved test. BRAFTOVI is not indicated for treatment of patients with wild-type *BRAF* melanoma.

Array has exclusive rights to BRAFTOVI and MEKTOVI in the U.S. and Canada. Array has granted Ono Pharmaceutical Co, Ltd. exclusive rights to commercialize both products in Japan and South Korea, Medison exclusive rights to commercialize both products in Israel and Pierre Fabre exclusive rights to commercialize both products in all other countries, including Europe, Asia (excluding Japan and South Korea) and Latin America.

BRAFTOVI and MEKTOVI are not approved outside of the U.S. The European Medicines Agency (EMA), the Swiss Medicines Agency (Swissmedic) and the Australian Therapeutic Goods Administration (TGA), are currently reviewing the Marketing Authorization Applications submitted by Pierre Fabre, and Japan's Pharmaceuticals and Medical Devices Agency (PMDA) is currently reviewing the Manufacturing and Marketing Approval Applications for submitted by Ono Pharmaceutical Co, Ltd.

About COLUMBUS

The COLUMBUS trial (NCT01909453) is a two-part, international, randomized, open label Phase 3 trial evaluating the efficacy and safety of BRAFTOVI (encorafenib) in combination with MEKTOVI (binimetinib) compared to vemurafenib and encorafenib monotherapy in 921 patients with locally advanced, unresectable or metastatic melanoma with *BRAF*^{V600} mutation. The primary endpoint of the trial was mPFS; all secondary efficacy analyses, including the prospectively planned analysis of overall survival, are descriptive in nature. Over 200 sites across North America, Europe, South America, Asia and Australia participated in the trial.

BRAFTOVI + MEKTOVI Indications and Usage

BRAFTOVI® (encorafenib) and MEKTOVI® (binimetinib) are kinase inhibitors indicated for use in combination for the treatment of patients with unresectable or metastatic melanoma with a *BRAF*^{V600E} or *BRAF*^{V600K} mutation, as detected by an FDA-approved test.

Limitations of Use: BRAFTOVI is not indicated for the treatment of patients with wild-type *BRAF* melanoma.

BRAFTOVI + MEKTOVI Important Safety Information

The information below applies to the safety of the combination of BRAFTOVI and MEKTOVI unless otherwise noted.

Warnings and Precautions

New Primary Malignancies: New primary malignancies, cutaneous and non-cutaneous malignancies can occur. In the COLUMBUS trial, cutaneous squamous cell carcinoma, including keratoacanthoma, occurred in 2.6% and basal cell carcinoma occurred in 1.6% of patients. Perform dermatologic evaluations prior to initiating treatment, every 2 months during treatment, and for up to 6 months following discontinuation of treatment. Discontinue BRAFTOVI for *RAS* mutation-positive non-cutaneous malignancies.

Tumor Promotion in *BRAF* Wild-Type Tumors: Confirm evidence of *BRAF*^{V600E} or *BRAF*^{V600K} mutation prior to initiating BRAFTOVI.

Cardiomyopathy: In the COLUMBUS trial, cardiomyopathy occurred in 7% and Grade 3 left ventricular dysfunction occurred in 1.6% of patients. Cardiomyopathy resolved in 87% of patients. Assess left ventricular ejection fraction by echocardiogram or MUGA scan prior to initiating treatment, 1 month after initiating treatment, and then every 2 to 3 months during treatment. The safety has not been established in patients with a baseline ejection fraction that is either below 50% or below the institutional lower limit of normal.

Venous Thromboembolism (VTE): In the COLUMBUS trial, VTE occurred in 6% of patients, including 3.1% of patients who developed pulmonary embolism.

Hemorrhage: In the COLUMBUS trial, hemorrhage occurred in 19% of patients and ≥Grade 3 hemorrhage occurred in 3.2% of patients. Fatal intracranial hemorrhage in the setting of new or progressive brain metastases occurred in 1.6% of patients.

Ocular Toxicities: In the COLUMBUS trial, serous retinopathy occurred in 20% of patients; 8% were retinal detachment and 6% were macular edema. Symptomatic serous retinopathy occurred in 8% of patients with no cases of blindness. In patients with *BRAF* mutation-positive melanoma across multiple clinical trials, 0.1% of patients experienced retinal vein occlusion (RVO). Permanently discontinue MEKTOVI in patients with documented RVO. In COLUMBUS, uveitis, including iritis and iridocyclitis, was reported in 4% of patients. Assess for visual symptoms at each visit. Perform ophthalmic evaluation at regular intervals and for any visual disturbances.

Interstitial Lung Disease (ILD): ILD, including pneumonitis, occurred in 0.3% of patients with *BRAF* mutation-positive melanoma across multiple clinical trials. Assess new or progressive unexplained pulmonary symptoms or findings for possible ILD.

Hepatotoxicity: In the COLUMBUS trial, the incidence of Grade 3 or 4 increases in liver function laboratory tests was 6% for alanine aminotransferase (ALT) and 2.6% for aspartate aminotransferase (AST). Monitor liver laboratory tests before and during treatment and as clinically indicated.

Rhabdomyolysis: In the COLUMBUS trial, elevation of laboratory values of serum creatine phosphokinase (CPK) occurred in 58% of patients. Rhabdomyolysis was reported in 0.1% of patients with *BRAF* mutation-positive melanoma across multiple clinical trials. Monitor CPK periodically and as clinically indicated.

QTc Prolongation: In the COLUMBUS trial, an increase in QTcF to >500 ms was measured in 0.5% (1/192) of patients. Monitor patients who already have or who are at significant risk of developing QTc prolongation. Correct hypokalemia and hypomagnesemia prior to and during BRAFTOVI administration. Withhold, reduce dose, or permanently discontinue for QTc >500 ms.

Embryo-Fetal Toxicity: BRAFTOVI or MEKTOVI can cause fetal harm when administered to pregnant women. Nonhormonal contraceptives should be used during treatment and for at least 30 days after the final dose for patients taking BRAFTOVI + MEKTOVI.

Adverse Reactions

The most common adverse reactions (≥20%, all Grades, in the COLUMBUS trial) were: fatigue, nausea, diarrhea, vomiting, abdominal pain, arthralgia, myopathy, hyperkeratosis, rash, headache, constipation, visual impairment, serous retinopathy.

In the COLUMBUS Trial, the most common laboratory abnormalities (≥20%, all Grades) included: increased creatinine, increased CPK, increased gamma glutamyl transferase, anemia, increased ALT, hyperglycemia, increased AST, and increased alkaline phosphatase.

Drug interactions

Avoid concomitant use of strong or moderate CYP3A4 inhibitors or inducers and sensitive CYP3A4 substrates with BRAFTOVI. Modify BRAFTOVI dose if concomitant use of strong or moderate CYP3A4 inhibitors cannot be avoided.

Please see full Prescribing Information for BRAFTOVI and full Prescribing Information for MEKTOVI for additional information [6,7]. You may report side effects to the FDA at (800) FDA-1088 or www.fda.gov/medwatch. You may also report side effects to Array at 1-844-Rx-Array (1-844-792-7729).

About Array BioPharma

Array BioPharma Inc. is a fully-integrated, biopharmaceutical company focused on the discovery, development and commercialization of

transformative and well-tolerated targeted small molecule drugs to treat patients afflicted with cancer and other high-burden diseases. Array markets in the United States BRAFTOVI® (encorafenib) capsules in combination with MEKTOVI® (binimetinib) tablets for the treatment of patients with unresectable or metastatic melanoma with a *BRAF*^{V600E} or *BRAF*^{V600K} mutation. Array's lead clinical programs, encorafenib and binimetinib, are being investigated in over 30 clinical trials across a number of solid tumor indications, including a Phase 3 trial in *BRAF*-mutant colorectal cancer. Array's pipeline includes several additional programs being advanced by Array or current license-holders, including selumetinib (partnered with AstraZeneca), larotrectinib (partnered with Loxo Oncology), ipatasertib (partnered with Genentech), tucatinib (partnered with Seattle Genetics) and ARRY-797 (being developed by Yarra Therapeutics, a wholly-owned subsidiary of Array), all of which are currently in registration trials. Ganovo® (danoprevir, partnered with Roche) was recently approved in China for the treatment of viral hepatitis C. For more information on Array, please visit www.arraybiopharma.com or follow @arraybiopharma on Twitter and LinkedIn.

References

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- [5] American Cancer Society. What Causes Melanoma Skin Cancer. 2016. <https://www.cancer.org/cancer/melanoma-skin-cancer/causes-risks-prevention/what-causes.html>. Accessed April 11, 2018.
- [6] BRAFTOVI® (encorafenib) Prescribing Information. Array BioPharma Inc., June 2018
- [7] MEKTOVI® (binimetinib) Prescribing Information. Array BioPharma Inc., June 2018

Array BioPharma Forward-Looking Statement

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, among others, statements about the future development plans of encorafenib and binimetinib; expectations that events will occur that will create greater value for Array; and the potential for the results of current and future clinical trials to support regulatory approval or the marketing success of encorafenib and binimetinib. Because these statements reflect our current expectations concerning future events and involve significant risks and uncertainties, our actual results could differ materially from those anticipated in these forward-looking statements as a result of many factors. These factors include, but are not limited to, the potential that the FDA, EMA or other regulatory agencies determine results from clinical trials are not sufficient to support registration or marketing approval of encorafenib and binimetinib; our ability to effectively and timely conduct clinical trials in light of increasing costs and difficulties in locating appropriate trial sites and in enrolling patients who meet the criteria for certain clinical trials; risks associated with our dependence on third-party service providers to successfully conduct clinical trials and to manufacture drug substance and product within and outside the U.S.; our ability to grow and successfully develop commercialization capabilities; our ability to achieve and maintain profitability and maintain sufficient cash resources; and our ability to attract and retain experienced scientists and management. Additional information concerning these and other risk factors can be found in our most recent annual report filed on Form 10-K, in our quarterly reports filed on Form 10-Q, and in other reports filed by Array with the Securities and Exchange Commission. We are providing this information as of September 13, 2018. We undertake no duty to update any forward-looking statements to reflect the occurrence of events or circumstances after the date of such statements or of anticipated or unanticipated events that alter any assumptions underlying such statements.

BRAFTOVI® is a registered trademark of Array BioPharma Inc. in the United States and various other countries.

MEKTOVI® is a registered trademark of Array BioPharma Inc. in the United States and various other countries.

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