

## PHYSICIAN PRESCRIBING INFORMATION

### NAME OF THE MEDICINAL PRODUCT

**Braftovi 75 mg**

### QUALITATIVE AND QUANTITATIVE COMPOSITION

Each hard capsule contains 75 mg of encorafenib

For the full list of excipients, *see Description (10)*.

### PHARMACEUTICAL FORM

Hard capsule

## 1 THERAPEUTIC INDICATIONS

### 1.1 BRAF V600E or V600K Mutation-Positive Unresectable or Metastatic Melanoma

BRAFTOVI<sup>®</sup> - encorafenib is a kinase inhibitor indicated, in combination with binimetinib, for the treatment of adult patients with unresectable or metastatic melanoma with a BRAF V600E or V600K mutation [*see Dosage and Administration (2.1)*].

### 1.2 BRAF V600E Mutation-Positive Metastatic Colorectal Cancer (CRC)

BRAFTOVI<sup>®</sup> - encorafenib is indicated, in combination with cetuximab, for the treatment of adult patients with metastatic colorectal cancer (CRC) with a BRAF V600E mutation, as detected by an -approved test, after prior therapy [*see Dosage and Administration (2.1)*].

### 1.3 Limitations of Use

BRAFTOVI is not indicated for treatment of patients with wild-type BRAF melanoma or wild-type BRAF CRC [*see Warnings and Precautions (5.2)*].

## 2 DOSAGE AND ADMINISTRATION

### 2.1 Patient Selection

#### BRAF V600E or V600K Mutation-Positive Unresectable or Metastatic Melanoma

Confirm the presence of a BRAF V600E or V600K mutation in tumor specimens prior to initiating BRAFTOVI [*see Warnings and Precautions (5.2), Clinical Studies (13.1)*].

#### BRAF V600E Mutation-Positive Metastatic Colorectal Cancer (CRC)

Confirm the presence of a BRAF V600E mutation in tumor specimens prior to initiating BRAFTOVI [*see Warnings and Precautions (5.2), Clinical Studies (13.2)*].

### 2.2 Recommended Dosage for BRAF V600E or V600K Mutation-Positive Unresectable or Metastatic Melanoma

The recommended dosage of BRAFTOVI is 450 mg (six 75 mg capsules) orally once daily in combination with binimetinib until disease progression or unacceptable toxicity. Refer to the binimetinib prescribing information for recommended binimetinib dosing information.

### 2.3 Recommended Dosage for BRAF V600E Mutation-Positive Metastatic Colorectal Cancer (CRC)

The recommended dosage of BRAFTOVI is 300 mg (four 75 mg capsules) orally once daily in combination with cetuximab until disease progression or unacceptable toxicity. Refer to the cetuximab prescribing information for recommended cetuximab dosing information.

### 2.4 Administration

BRAF TOVI may be taken with or without food [see *Clinical Pharmacology (11.3)*]. Do not take a missed dose of BRAF TOVI within 12 hours of the next dose of BRAF TOVI.

Do not take an additional dose if vomiting occurs after BRAF TOVI administration but continue with the next scheduled dose.

## 2.5 Dosage Modifications for Adverse Reactions

### BRAF V600E or V600K Mutation-Positive Unresectable or Metastatic Melanoma

If binimetinib is withheld, reduce BRAF TOVI to a maximum dose of 300 mg (four 75 mg capsules) once daily until binimetinib is resumed [see *Warnings and Precautions (5.7)*].

Dose reductions for adverse reactions associated with BRAF TOVI are presented in [Table 1](#).

**Table 1: Recommended Dose Reductions for BRAF TOVI for Adverse Reactions – Melanoma**

Action	Recommended Dose
First Dose Reduction	300 mg (four 75 mg capsules) orally once daily
Second Dose Reduction	225 mg (three 75 mg capsules) orally once daily
Subsequent Modification	Permanently discontinue if unable to tolerate BRAF TOVI 225 mg (three 75 mg capsules) once daily

### BRAF V600E Mutation-Positive Metastatic Colorectal Cancer (CRC)

If cetuximab is discontinued, discontinue BRAF TOVI.

Dose reductions for adverse reactions associated with BRAF TOVI are presented in [Table 2](#).

**Table 2: Recommended Dose Reductions for BRAF TOVI for Adverse Reactions – CRC**

Action	Recommended Dose
First Dose Reduction	225 mg (three 75 mg capsules) orally once daily
Second Dose Reduction	150 mg (two 75 mg capsules) orally once daily
Subsequent Modification	Permanently discontinue if unable to tolerate BRAF TOVI 150 mg (two 75 mg capsules) once daily

### BRAF V600E or V600K Mutation-Positive Unresectable or Metastatic Melanoma and BRAF V600E Mutation-Positive Metastatic Colorectal Cancer (CRC)

Dosage modifications for adverse reactions associated with BRAF TOVI are presented in [Table 3](#).

**Table 3: Recommended Dosage Modifications for BRAF TOVI for Adverse Reactions**

Severity of Adverse Reaction <sup>a</sup>	Dose Modification for BRAF TOVI
<i>New Primary Malignancies [see Warnings and Precautions (5.1)]</i>	
Non-Cutaneous RAS Mutation-positive Malignancies	Permanently discontinue BRAF TOVI.
<i>Hepatotoxicity</i>	
<ul style="list-style-type: none"> <li>Grade 2 AST or ALT increased</li> </ul>	Maintain BRAF TOVI dose. <ul style="list-style-type: none"> <li>If no improvement within 4 weeks, withhold BRAF TOVI until improves to Grade 0-1 or to pretreatment/baseline levels and then resume at same dose.</li> </ul>
<ul style="list-style-type: none"> <li>Grade 3 or 4 AST or ALT increased</li> </ul>	See <i>Other Adverse Reactions</i> .

Severity of Adverse Reaction <sup>a</sup>	Dose Modification for BRAFTOVI
<i>Uveitis [see Warnings and Precautions (5.4)]</i>	
<ul style="list-style-type: none"> <li>Grade 1-3</li> </ul>	If Grade 1 or 2 does not respond to specific ocular therapy, or for Grade 3 uveitis, withhold BRAFTOVI for up to 6 weeks. <ul style="list-style-type: none"> <li>If improved, resume at same or reduced dose.</li> <li>If not improved, permanently discontinue BRAFTOVI.</li> </ul>
<ul style="list-style-type: none"> <li>Grade 4</li> </ul>	Permanently discontinue BRAFTOVI.
<i>QTc Prolongation [see Warnings and Precautions (5.5)]</i>	
<ul style="list-style-type: none"> <li>QTcF greater than 500 ms and less than or equal to 60 ms increase from baseline</li> </ul>	Withhold BRAFTOVI until QTcF less than or equal to 500 ms. Resume at reduced dose. <ul style="list-style-type: none"> <li>If more than one recurrence, permanently discontinue BRAFTOVI.</li> </ul>
<ul style="list-style-type: none"> <li>QTcF greater than 500 ms and greater than 60 ms increase from baseline</li> </ul>	Permanently discontinue BRAFTOVI.
<i>Dermatologic (other than Hand-foot Skin Reaction [HFSR])</i>	
<ul style="list-style-type: none"> <li>Grade 2</li> </ul>	If no improvement within 2 weeks, withhold BRAFTOVI until Grade 0-1. Resume at same dose.
<ul style="list-style-type: none"> <li>Grade 3</li> </ul>	Withhold BRAFTOVI until Grade 0-1. Resume at same dose if first occurrence or reduce dose if recurrent.
<ul style="list-style-type: none"> <li>Grade 4</li> </ul>	Permanently discontinue BRAFTOVI.
<i>Other Adverse Reactions (including Hemorrhage [see Warnings and Precautions (5.3)] and HFSR<sup>b</sup>)</i>	
<ul style="list-style-type: none"> <li>Recurrent Grade 2 or</li> <li>First occurrence of any Grade 3</li> </ul>	Withhold BRAFTOVI for up to 4 weeks. <ul style="list-style-type: none"> <li>If improves to Grade 0-1 or to pretreatment/baseline level, resume at reduced dose.</li> <li>If no improvement, permanently discontinue BRAFTOVI.</li> </ul>
<ul style="list-style-type: none"> <li>First occurrence of any Grade 4</li> </ul>	Permanently discontinue BRAFTOVI or Withhold BRAFTOVI for up to 4 weeks. <ul style="list-style-type: none"> <li>If improves to Grade 0-1 or to pretreatment/baseline level, then resume at reduced dose.</li> <li>If no improvement, permanently discontinue BRAFTOVI.</li> </ul>
<ul style="list-style-type: none"> <li>Recurrent Grade 3</li> </ul>	Consider permanently discontinuing BRAFTOVI.
<ul style="list-style-type: none"> <li>Recurrent Grade 4</li> </ul>	Permanently discontinue BRAFTOVI.

<sup>a</sup> National Cancer Institute Common Terminology Criteria for Adverse Events (NCI CTCAE) version 4.03.

<sup>b</sup> Dose modification of BRAFTOVI when administered with binimetinib or with cetuximab is not recommended for new primary cutaneous malignancies; ocular events other than uveitis, iritis, and iridocyclitis; interstitial lung disease/pneumonitis; cardiac dysfunction; creatine phosphokinase (CPK) elevation; rhabdomyolysis; and venous thromboembolism.

Refer to the binimetinib or cetuximab prescribing information for dose modifications for adverse reactions associated with each product, as appropriate.

## 2.6 Dose Modifications for Coadministration With Strong or Moderate CYP3A4 Inhibitors

Avoid coadministration of BRAFTOVI with strong or moderate CYP3A4 inhibitors. If coadministration is unavoidable, reduce the BRAFTOVI dose according to the recommendations in [Table 4](#). After the inhibitor has been discontinued for 3 to 5 elimination half-lives, resume the BRAFTOVI dose that was taken prior to initiating the CYP3A4 inhibitor [see *Drug Interactions (7.1)*, *Clinical Pharmacology (11.3)*].

**Table 4: Recommended Dose Reductions for BRAFTOVI for Coadministration With Strong or Moderate CYP3A4 Inhibitors**

Current Daily Dose <sup>a</sup>	Dose for Coadministration with Moderate CYP3A4 Inhibitor	Dose for Coadministration with Strong CYP3A4 Inhibitor
450 mg	225 mg (three 75 mg capsules)	150 mg (two 75 mg capsules)
300 mg	150 mg (two 75 mg capsules)	75 mg

225 mg	75 mg	75 mg
150 mg	75 mg	75 mg <sup>b</sup>

<sup>a</sup> Current daily dose refers to recommended dose of BRAFTOVI based on indication or reductions for adverse reactions based on dosing recommendations in Table 1 (Melanoma) and Table 2 (CRC).

<sup>b</sup> Encorafenib exposure at the 75 mg QD BRAFTOVI dosage when coadministered with a strong CYP3A4 inhibitor is expected to be higher than at the 150 mg QD dosage in the absence of a CYP3A4 inhibitor and similar to exposure at the 225 mg QD dosage in the absence of a CYP3A4 inhibitor. Monitor patients closely for adverse reactions and use clinical judgement when using BRAFTOVI with strong CYP3A4 inhibitors at the 150 mg dose level.

### 3 DOSAGE FORMS AND STRENGTHS

Capsules: 75 mg, hard gelatin, stylized "A" on the cap and "LGX 75 mg" on white body.

### 4 CONTRAINDICATIONS

Hypersensitivity to the active substance or to any of the excipients listed in *Description (10)*.

### 5 WARNINGS AND PRECAUTIONS

#### 5.1 New Primary Malignancies

New primary malignancies, cutaneous and non-cutaneous, have been observed in patients treated with BRAF inhibitors and can occur with BRAFTOVI.

##### Cutaneous Malignancies

In COLUMBUS, cutaneous squamous cell carcinoma (cuSCC), including keratoacanthoma (KA), occurred in 2.6%, and basal cell carcinoma occurred in 1.6% of patients who received BRAFTOVI in combination with binimetinib. Median time to first occurrence of cuSCC/KA was 5.8 months (range 1 to 9 months) [*see Adverse Reactions (6.1)*].

For patients who received BRAFTOVI as a single agent, cuSCC/KA was reported in 8%, basal cell carcinoma in 1%, and a new primary melanoma in 5% of patients.

In BEACON CRC, cuSCC/KA occurred in 1.4% of patients with CRC, and a new primary melanoma occurred in 1.4% of patients who received BRAFTOVI in combination with cetuximab.

Perform dermatologic evaluations prior to initiating treatment, every 2 months during treatment, and for up to 6 months following discontinuation of treatment. Manage suspicious skin lesions with excision and dermatopathologic evaluation. Dose modification is not recommended for new primary cutaneous malignancies.

##### Non-Cutaneous Malignancies

Based on its mechanism of action, BRAFTOVI may promote malignancies associated with activation of RAS through mutation or other mechanisms [*see Warnings and Precautions (5.2)*]. Monitor patients receiving BRAFTOVI for signs and symptoms of non-cutaneous malignancies. Discontinue BRAFTOVI for RAS mutation-positive non-cutaneous malignancies [*see Dosage and Administration (2.5)*].

#### 5.2 Tumor Promotion in BRAF Wild-Type Tumors

In vitro experiments have demonstrated paradoxical activation of MAP-kinase signaling and increased cell proliferation in BRAF wild-type cells, which are exposed to BRAF inhibitors. Confirm evidence of BRAF V600E or V600K mutation prior to initiating BRAFTOVI [*see Therapeutic indications (1), Dosage and Administration (2.1)*].

#### 5.3 Hemorrhage

In COLUMBUS, hemorrhage occurred in 19% of patients receiving BRAFTOVI in combination with binimetinib; Grade 3 or greater hemorrhage occurred in 3.2% of patients. The most frequent hemorrhagic events were gastrointestinal, including rectal hemorrhage (4.2%), hematochezia (3.1%), and hemorrhoidal hemorrhage (1%). Fatal intracranial hemorrhage in the setting of new or progressive brain metastases occurred in 1.6% of patients.

In BEACON CRC, hemorrhage occurred in 19% of patients receiving BRAFTOVI in combination with cetuximab; Grade 3 or higher hemorrhage occurred in 1.9% of patients, including fatal gastrointestinal hemorrhage in 0.5% of patients. The most frequent hemorrhagic events were epistaxis (6.9%), hematochezia (2.3%) and rectal hemorrhage (2.3%).

Withhold, reduce dose, or permanently discontinue based on severity of adverse reaction [see *Dosage and Administration (2.5)*, *Adverse Reactions (6.1)*].

#### **5.4 Uveitis**

Uveitis, including iritis and iridocyclitis, has been reported in patients treated with BRAFTOVI in combination with binimetinib. In COLUMBUS, the incidence of uveitis among patients treated with BRAFTOVI in combination with binimetinib was 4%.

Assess for visual symptoms at each visit. Perform an ophthalmologic evaluation at regular intervals and for new or worsening visual disturbances, and to follow new or persistent ophthalmologic findings. Withhold, reduce dose, or permanently discontinue based on severity of adverse reaction [see *Dosage and Administration (2.5)*, *Adverse Reactions (6.1)*].

#### **5.5 QT Prolongation**

BRAFTOVI is associated with dose-dependent QTc interval prolongation in some patients [see *Clinical Pharmacology (11.2)*]. In COLUMBUS, an increase in QTcF to > 500 ms was measured in 0.5% (1/192) of patients who received BRAFTOVI in combination with binimetinib.

Monitor patients who already have or who are at significant risk of developing QTc prolongation, including patients with known long QT syndromes, clinically significant bradyarrhythmias, severe or uncontrolled heart failure and those taking other medicinal products associated with QT prolongation. Correct hypokalemia and hypomagnesemia prior to and during BRAFTOVI administration. Withhold, reduce dose, or permanently discontinue for QTc > 500 ms [see *Dosage and Administration (2.5)*, *Adverse Reactions (6.1)*].

#### **5.6 Embryo-Fetal Toxicity**

Based on its mechanism of action, BRAFTOVI can cause fetal harm when administered to a pregnant woman. Encorafenib produced embryo-fetal developmental changes in rats and rabbits and was an abortifacient in rabbits at doses greater than or equal to those resulting in exposures approximately 26 (in the rat) and 178 (in the rabbit) times the human exposure at the recommended dose of 450 mg, with no clear findings at lower doses.

Advise women of the potential risk to a fetus. Advise females of reproductive potential to use an effective, non-hormonal method of contraception since BRAFTOVI can render hormonal contraceptives ineffective, during treatment and for 2 weeks after the final dose of BRAFTOVI [see *Use in Specific Populations (8.1, 8.3)*].

#### **5.7 Risks Associated with BRAFTOVI as a Single Agent**

BRAFTOVI when used as a single agent is associated with an increased risk of certain adverse reactions compared to when BRAFTOVI is used in combination with binimetinib. In COLUMBUS, Grades 3 or 4 dermatologic reactions occurred in 21% of patients treated with BRAFTOVI single agent compared to 2% of patients treated with BRAFTOVI in combination with binimetinib [see *Warnings and Precautions (5.1)*, *Adverse Reactions (6.1)*].

If binimetinib is temporarily interrupted or permanently discontinued, reduce the dose of BRAFTOVI as recommended [see *Dosage and Administration (2.5)*].

#### **5.8 Risks Associated with Combination Treatment**

BRAFTOVI is indicated for use as part of a regimen in combination with binimetinib or cetuximab. Refer to the prescribing information for binimetinib and cetuximab for additional risk information.

## 6 ADVERSE REACTIONS

The following adverse reactions are described elsewhere in the labeling:

- New Primary Malignancies [see Warnings and Precautions (5.1)]
- Hemorrhage [see Warnings and Precautions (5.3)]
- Uveitis [see Warnings and Precautions (5.45.4)]
- QT Prolongation [see Warnings and Precautions (5.5)]

### 6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

#### BRAF V600E or V600K Mutation-Positive Unresectable or Metastatic Melanoma

The safety of BRAFTOVI in combination with binimetinib is described in 192 patients with BRAF V600 mutation-positive unresectable or metastatic melanoma who received BRAFTOVI (450 mg once daily) in combination with binimetinib (45 mg twice daily) in a randomized open-label, active-controlled trial (COLUMBUS).

The COLUMBUS trial [see Clinical Studies (13.1)] excluded patients with a history of Gilbert's syndrome, abnormal left ventricular ejection fraction, prolonged QTc (>480 ms), uncontrolled hypertension, and history or current evidence of retinal vein occlusion. The median duration of exposure was 11.8 months for patients treated with BRAFTOVI in combination with binimetinib and 6.2 months for patients treated with vemurafenib.

The most common ( $\geq 25\%$ ) adverse reactions in patients receiving BRAFTOVI in combination with binimetinib were fatigue, nausea, vomiting, abdominal pain, and arthralgia.

Adverse reactions leading to dose interruptions of BRAFTOVI occurred in 30% of patients receiving BRAFTOVI in combination with binimetinib; the most common were nausea (7%), vomiting (7%), and pyrexia (4%). Adverse reactions leading to dose reductions of BRAFTOVI occurred in 14% of patients receiving BRAFTOVI in combination with binimetinib; the most common were arthralgia (2%), fatigue (2%), and nausea (2%). Five percent (5%) of patients receiving BRAFTOVI in combination with binimetinib experienced an adverse reaction that resulted in permanent discontinuation of BRAFTOVI; the most common were hemorrhage in 2% and headache in 1% of patients.

Table 5 and Table 6 present adverse drug reactions and laboratory abnormalities, respectively, identified in COLUMBUS. The COLUMBUS trial was not designed to demonstrate a statistically significant difference in adverse reaction rates for BRAFTOVI in combination with binimetinib, as compared to vemurafenib, for any specific adverse reaction listed in Table 5.

**Table 5: Adverse Reactions Occurring in  $\geq 10\%$  of Patients Receiving BRAFTOVI in Combination With Binimetinib in COLUMBUS<sup>a</sup>**

Adverse Reaction	BRAFTOVI with binimetinib N=192		Vemurafenib N=186	
	All Grades (%)	Grades 3 and 4 <sup>b</sup> (%)	All Grades (%)	Grades 3 and 4 (%)
<b>General Disorders and Administration Site Conditions</b>				
Fatigue <sup>c</sup>	43	3	46	6
Pyrexia <sup>c</sup>	18	4	30	0

**Table 5: Adverse Reactions Occurring in  $\geq 10\%$  of Patients Receiving BRAFTOVI in Combination With Binimetinib in COLUMBUS<sup>a</sup>**

Adverse Reaction	BRAFTOVI with binimetinib N=192		Vemurafenib N=186	
	All Grades (%)	Grades 3 and 4 <sup>b</sup> (%)	All Grades (%)	Grades 3 and 4 (%)
<b>Gastrointestinal Disorders</b>				
Nausea	41	2	34	2
Vomiting <sup>c</sup>	30	2	16	1
Abdominal pain <sup>c</sup>	28	4	16	1
Constipation	22	0	6	1
<b>Musculoskeletal and Connective Tissue Disorders</b>				
Arthralgia <sup>c</sup>	26	1	46	6
Myopathy <sup>c</sup>	23	0	22	1
Pain in extremity	11	1	13	1
<b>Skin and Subcutaneous Tissue Disorders</b>				
Hyperkeratosis <sup>c</sup>	23	1	49	1
Rash <sup>c</sup>	22	1	53	13
Dry skin <sup>c</sup>	16	0	26	0
Alopecia <sup>c</sup>	14	0	38	0
Pruritus <sup>c</sup>	13	1	21	1
<b>Nervous System Disorders</b>				
Headache <sup>c</sup>	22	2	20	1
Dizziness <sup>c</sup>	15	3	4	0
Peripheral neuropathy <sup>c</sup>	12	1	13	2
<b>Vascular Disorders</b>				
Hemorrhage <sup>c</sup>	19	3	9	2

<sup>a</sup> Grades per National Cancer Institute CTCAE v4.03.

<sup>b</sup> Grade 4 adverse reactions limited to fatigue (n=1), pruritus (n=1) and rash (n=1) in the BRAFTOVI with binimetinib arm.

<sup>c</sup> Represents a composite of multiple, related preferred terms.

BRAFTOVI when used as a single agent increases the risk of certain adverse reactions compared to BRAFTOVI in combination with binimetinib. In patients receiving BRAFTOVI 300 mg orally once daily as a single agent, the following adverse reactions were observed at a higher rate ( $\geq 5\%$ ) compared to patients receiving BRAFTOVI in combination with binimetinib: palmar-plantar erythrodysesthesia syndrome (51% vs. 7%), hyperkeratosis (57% vs. 23%), dry skin (38% vs. 16%), erythema (16% vs. 7%), rash (41% vs. 22%), alopecia (56% vs. 14%), pruritus (31% vs. 13%), arthralgia (44% vs. 26%), myopathy (33% vs. 23%), back pain (15% vs. 9%), dysgeusia (13% vs. 6%), and acneiform dermatitis (8% vs. 3%).

Other clinically important adverse reactions occurring in  $< 10\%$  of patients who received BRAFTOVI in combination with binimetinib were:

Nervous system disorders: *Facial paresis*

Gastrointestinal disorders: *Pancreatitis*

Skin and subcutaneous tissue disorders: *Panniculitis*

Immune system disorders: *Drug hypersensitivity*

**Table 6: Laboratory Abnormalities Occurring in ≥10% (All Grades) of Patients Receiving BRAFTOVI in Combination With Binimetinib in COLUMBUS<sup>a</sup>**

Laboratory Abnormality	BRAFTOVI with binimetinib <sup>a</sup> N=192		Vemurafenib <sup>a</sup> N=186	
	All Grades (%)	Grades 3 and 4 (%)	All Grades (%)	Grades 3 and 4 (%)
<b>Hematology</b>				
Anemia	36	3.6	34	2.2
Leukopenia	13	0	10	0.5
Lymphopenia	13	2.1	30	7
Neutropenia	13	3.1	4.8	0.5
<b>Chemistry</b>				
Increased Creatinine	93	3.6	92	1.1
Increased Gamma Glutamyl Transferase	45	11	34	4.8
Increased ALT	29	6	27	2.2
Increased AST	27	2.6	24	1.6
Hyperglycemia	28	5	20	2.7
Increased Alkaline Phosphatase	21	0.5	35	2.2
Hyponatremia	18	3.6	15	0.5
Hypermagnesemia	10	1.0	26	0.5

<sup>a</sup> Grades per National Cancer Institute CTCAE v4.03.

### BRAF V600E Mutation-Positive Metastatic Colorectal Cancer (CRC)

The safety of BRAFTOVI 300 mg once daily in combination with cetuximab (400 mg/m<sup>2</sup> initial dose, followed by 250 mg/m<sup>2</sup> weekly) was evaluated in 216 patients with BRAF V600E mutation-positive metastatic CRC in a randomized, open-label, active-controlled trial (BEACON CRC). The BEACON CRC trial [see *Clinical Studies* (13.2)] excluded patients with a history of Gilbert’s syndrome, abnormal left ventricular ejection fraction, prolonged QTc (> 480 ms), uncontrolled hypertension, and history or current evidence of retinal vein occlusion. The median duration of exposure was 4.4 months for patients treated with BRAFTOVI in combination with cetuximab and 1.6 months for patients treated with either irinotecan or infusional 5-fluorouracil (5-FU)/folinic acid (FA)/irinotecan (FOLFIRI) in combination with cetuximab.

The most common (≥ 25%) adverse reactions in patients receiving BRAFTOVI in combination with cetuximab were fatigue, nausea, diarrhea, dermatitis acneiform, abdominal pain, decreased appetite, arthralgia, and rash.

Adverse reactions leading to dose interruptions of BRAFTOVI occurred in 33% of patients receiving BRAFTOVI in combination with cetuximab; the most common were vomiting (4%), fatigue (4%), nausea (4%), pyrexia (3%), and diarrhea (3%). Adverse reactions leading to dose reductions of BRAFTOVI occurred in 9% of patients receiving BRAFTOVI in combination with cetuximab; the most common were fatigue (2%), arthralgia (2%), and peripheral neuropathy (2%). Ten percent (10%) of patients receiving BRAFTOVI in combination with cetuximab experienced an adverse reaction that resulted in permanent



discontinuation of BRAFTOVI. None of the adverse reactions leading to permanent discontinuation of BRAFTOVI occurred in more than one patient (>0.5%).

Table 7 and Table 8 present adverse drug reactions and laboratory abnormalities, respectively, identified in BEACON CRC.

**Table 7: Adverse Reactions Occurring in  $\geq 10\%$  of Patients Receiving BRAFTOVI in Combination With Cetuximab in BEACON CRC<sup>a</sup>**

Adverse Reaction	BRAFTOVI with cetuximab N=216		Irinotecan with cetuximab or FOLFIRI with cetuximab N=193	
	All Grades (%)	$\geq$ Grade 3 <sup>b</sup> (%)	All Grades (%)	$\geq$ Grade 3 (%)
<b>General Disorders and Administration Site Conditions</b>				
Fatigue <sup>c</sup>	51	7	50	8
Pyrexia <sup>c</sup>	17	1	15	1
<b>Gastrointestinal Disorders</b>				
Nausea	34	1	41	1
Diarrhea <sup>c</sup>	33	2	48	10
Abdominal pain <sup>c</sup>	30	4	32	5
Vomiting	21	1	29	3
Constipation	15	0	18	1
<b>Metabolism and Nutrition Disorders</b>				
Decreased appetite	27	1	27	3
<b>Musculoskeletal and Connective Tissue Disorders</b>				
Arthralgia <sup>c</sup>	27	1	3	0
Myopathy <sup>c</sup>	15	1	4	0
Pain in extremity	10	0	1	0
<b>Skin and Subcutaneous Tissue Disorders</b>				
Dermatitis acneiform <sup>c</sup>	32	1	43	3
Rash <sup>c</sup>	26	0	26	2
Pruritus <sup>c</sup>	14	0	6	0
Melanocytic nevus	14	0	0	0
Dry skin <sup>c</sup>	13	0	12	1
<b>Nervous System Disorders</b>				
Headache <sup>c</sup>	20	0	3	0
Peripheral neuropathy <sup>c</sup>	12	1	6	0
<b>Vascular Disorders</b>				
Hemorrhage <sup>c</sup>	19	2	9	0
<b>Psychiatric Disorders</b>				

**Table 7: Adverse Reactions Occurring in  $\geq 10\%$  of Patients Receiving BRAFTOVI in Combination With Cetuximab in BEACON CRC<sup>a</sup>**

Adverse Reaction	BRAFTOVI with cetuximab N=216		Irinotecan with cetuximab or FOLFIRI with cetuximab N=193	
	All Grades (%)	$\geq$ Grade 3 <sup>b</sup> (%)	All Grades (%)	$\geq$ Grade 3 (%)
Insomnia <sup>c</sup>	13	0	6	0

<sup>a</sup> Grades per National Cancer Institute CTCAE v4.03.

<sup>b</sup> Grade 4-5 adverse reactions in the BRAFTOVI with cetuximab arm were limited to Grade 5 hemorrhage (n=1).

<sup>c</sup> Represents a composite of multiple, related preferred terms.

Other clinically important adverse reactions occurring in  $<10\%$  of patients who received BRAFTOVI in combination with cetuximab were:

Gastrointestinal disorders: *Pancreatitis*

**Table 8: Laboratory Abnormalities Occurring in  $\geq 10\%$  (All Grades) of Patients Receiving BRAFTOVI in Combination With Cetuximab in BEACON CRC<sup>a</sup>**

Laboratory Abnormality <sup>b</sup>	BRAFTOVI with cetuximab		Irinotecan with cetuximab or FOLFIRI with cetuximab	
	All Grades (%)	Grades 3 and 4 (%)	All Grades (%)	Grades 3 and 4 (%)
<b>Hematology</b>				
Anemia	34	4	48	5
Lymphopenia	24	7	35	5
Increased Activated Partial Thromboplastin Time	13	1	7	1
<b>Chemistry</b>				
Hypomagnesemia	19	0	22	1
Increased Alkaline Phosphatase	18	4	30	7
Increased ALT	17	0	29	3
Increased AST	15	1	22	2
Hypokalemia	12	3	32	5
Hyponatremia	11	2	13	2

<sup>a</sup> Grades per National Cancer Institute CTCAE v4.03.

<sup>b</sup> Based on the number of patients with available baseline and at least one on-treatment laboratory test.

## Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorization of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product.

Any suspected adverse events should be reported to the Ministry of Health according to the National Regulation by using an online form <https://sideeffects.health.gov.il>

## 7 DRUG INTERACTIONS

### 7.1 Effect of Other Drugs on BRAFTOVI

#### Strong or Moderate CYP3A4 Inhibitors

Coadministration of BRAFTOVI with a strong or moderate CYP3A4 inhibitor increases encorafenib plasma concentrations [see *Clinical Pharmacology (11.3)*] and may increase encorafenib adverse reactions. Avoid coadministration of BRAFTOVI with strong or moderate CYP3A4 inhibitors, including grapefruit juice. If coadministration is unavoidable, reduce the BRAFTOVI dose [see *Dosage and Administration (2.6)*].

#### Strong CYP3A4 Inducers

Coadministration of BRAFTOVI with a strong CYP3A4 inducer may decrease encorafenib plasma concentrations [see *Clinical Pharmacology (11.3)*] and may decrease encorafenib efficacy. Avoid coadministration of BRAFTOVI with strong CYP3A4 inducers.

### **7.2 Effect of BRAFTOVI on Other Drugs**

#### Sensitive CYP3A4 Substrates

BRAFTOVI is a strong CYP3A4 inducer at steady-state. Concomitant use of BRAFTOVI may decrease the plasma concentrations of CYP3A4 substrates (including hormonal contraceptives), [see *Clinical Pharmacology (11.3)*], which may reduce the efficacy of these substrates. Avoid the coadministration of BRAFTOVI with CYP3A4 substrates for which a decrease in plasma concentration may lead to reduced efficacy of the substrate. If the coadministration cannot be avoided, see the CYP3A4 substrate product labeling for recommendations.

#### OATP1B1, OATP1B3, or BCRP Substrates

Coadministration of BRAFTOVI with OATP1B1, OATP1B3, or BCRP substrates can result in increased concentrations of the substrates, and may increase toxicity of these agents. When used in combination, monitor patients closely for signs and symptoms of increased exposure and consider adjusting the dose of these substrates [see *Clinical Pharmacology (11.3)*].

### **7.3 Drugs That Prolong the QT Interval**

BRAFTOVI is associated with dose-dependent QTc interval prolongation [see *Warnings and Precautions (5.5)*, *Clinical Pharmacology (11.2)*]. Avoid coadministration of BRAFTOVI with drugs known to prolong the QT/QTc interval.

## **8 USE IN SPECIFIC POPULATIONS**

### **8.1 Pregnancy**

#### Risk Summary

Based on its mechanism of action, BRAFTOVI can cause fetal harm when administered to a pregnant woman [see *Clinical Pharmacology (11.1)*]. There are no available clinical data on the use of BRAFTOVI during pregnancy. In animal reproduction studies, encorafenib produced embryo-fetal developmental changes in rats and rabbits and was an abortifacient in rabbits at doses greater than or equal to those resulting in exposures approximately 26 (in the rat) and 178 (in the rabbit) times the human exposure at the clinical dose of 450 mg, with no clear findings at lower doses (*see Data*). Advise pregnant women of the potential risk to a fetus.

In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

## Data

### *Animal Data*

In reproductive toxicity studies, administration of encorafenib to rats during the period of organogenesis resulted in maternal toxicity, decreased fetal weights, and increased incidence of total skeletal variations at a dose of 20 mg/kg/day (approximately 26 times the human exposure based on area under the concentration-time curve [AUC] at the recommended clinical dose of 450 mg once daily). In pregnant rabbits, administration of encorafenib during the period of organogenesis resulted in maternal toxicity, decreased fetal body weights, increased incidence of total skeletal variations and increased post-implantation loss, including total loss of pregnancy at a dose of 75 mg/kg/day (approximately 178 times the human exposure based on AUC at the recommended clinical dose of 450 mg once daily). While formal placental transfer studies have not been performed, encorafenib exposure in the fetal plasma of both rats and rabbits was up to 1.7% and 0.8%, respectively, of maternal exposure.

## **8.2 Lactation**

### Risk Summary

There are no data on the presence of encorafenib or its metabolites in human milk or the effects of encorafenib on the breastfed infant, or on milk production. Because of the potential for serious adverse reactions from BRAFTOVI in breastfed infants, advise women not to breastfeed during treatment with BRAFTOVI and for 2 weeks after the final dose.

## **8.3 Females and Males of Reproductive Potential**

### Pregnancy Testing

Verify the pregnancy status of females of reproductive potential prior to initiating BRAFTOVI [*see Use in Specific Populations (8.1)*].

### Contraception

BRAFTOVI can cause fetal harm when administered to a pregnant woman [*see Use in Specific Populations (8.1)*].

### *Females*

Advise females of reproductive potential to use effective contraception during treatment with BRAFTOVI and for 2 weeks after the final dose. Counsel patients to use a non-hormonal method of contraception since BRAFTOVI has the potential to render hormonal contraceptives ineffective [*see Drug Interactions (7.2)*].

### Infertility

### *Males*

Based on findings in male rats at doses approximately 13 times the human exposure at the 450 mg clinical dose, use of BRAFTOVI may impact fertility in males [*see Nonclinical Toxicology (12.1)*].

## **8.4 Pediatric Use**

The safety and effectiveness of BRAFTOVI have not been established in pediatric patients.

## **8.5 Geriatric Use**

Of the 690 patients with BRAF mutation-positive melanoma who received BRAFTOVI at doses between 300 mg and 600 mg once daily in combination with binimetinib (45 mg twice daily) across multiple clinical trials, 20% were aged 65 to 74 years and 8% were aged 75 years and older [*see Clinical Studies (13.1)*].

Of the 216 patients with BRAF V600E mutation positive metastatic CRC who received BRAFTOVI 300 mg QD in combination with cetuximab, 62 (29%) were 65 years of age to up to 75 years of age, while 20 (9%) were 75 years of age and over [*see Clinical Studies (13.2)*].

No overall differences in the safety or effectiveness of BRAFTOVI plus binimetinib or BRAFTOVI plus cetuximab were observed in elderly patients as compared to younger patients.

## 8.6 Hepatic Impairment

No BRAFTOVI dosage adjustment is recommended in patients with mild hepatic impairment (Child-Pugh Class A) [see *Clinical Pharmacology* (11.3)]. A recommended dosage has not been established in patients with moderate (Child-Pugh Class B) or severe (Child-Pugh Class C) hepatic impairment.

## 8.7 Renal Impairment

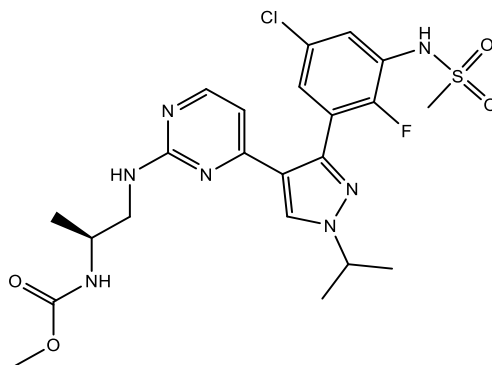
No BRAFTOVI dosage adjustment is recommended in patients with mild to moderate renal impairment (CLcr 30 to < 90 mL/min) [see *Clinical Pharmacology* (11.3)]. A recommended dosage has not been established in patients with severe renal impairment (CLcr <30 mL/min).

## 9 OVERDOSAGE

Since encorafenib is 86% bound to plasma proteins, hemodialysis is likely to be ineffective in the treatment of overdose with BRAFTOVI.

## 10 DESCRIPTION

Encorafenib is a kinase inhibitor. The chemical name is methyl *N*-{(2*S*)-1-[(4-{3-[5-chloro-2-fluoro-3-(methanesulfonamido)phenyl]-1-(propan-2-yl)-1*H*-pyrazol-4-yl}pyrimidin-2-yl)amino]propan-2-yl}carbamate. The molecular formula is C<sub>22</sub>H<sub>27</sub>ClFN<sub>7</sub>O<sub>4</sub>S and the molecular weight is 540 daltons. The chemical structure of encorafenib is shown below:



Encorafenib is a white to almost white powder. In aqueous media, encorafenib is slightly soluble at pH 1, very slightly soluble at pH 2, and insoluble at pH 3 and higher.

BRAFTOVI (encorafenib) capsules for oral use contain 75 mg of encorafenib with the following inactive ingredients: copovidone, microcrystalline cellulose, succinic acid, poloxamer 188, crospovidone, colloidal silicon dioxide, magnesium stearate (vegetable origin). The capsule shell contains gelatin, titanium dioxide, iron oxide red, iron oxide yellow, ferrosulfate, monogramming ink (Pharmaceutical Glaze (Shellac-45% in Ethanol), Ferrosulfate, N-Butyl Alcohol, Isopropyl Alcohol, Propylene Glycol, Ammonium Hydroxide 28%).

## 11 CLINICAL PHARMACOLOGY

### 11.1 Mechanism of Action

Encorafenib is a kinase inhibitor that targets BRAF V600E, as well as wild-type BRAF and CRAF in *in vitro* cell-free assays with IC<sub>50</sub> values of 0.35, 0.47, and 0.3 nM, respectively. Mutations in the BRAF gene, such as BRAF V600E, can result in constitutively activated BRAF kinases that may stimulate tumor cell growth. Encorafenib was also able to bind to other kinases *in vitro* including JNK1, JNK2, JNK3,

LIMK1, LIMK2, MEK4, and STK36 and reduce ligand binding to these kinases at clinically achievable concentrations ( $\leq 0.9 \mu\text{M}$ ).

Encorafenib inhibited in vitro growth of tumor cell lines expressing BRAF V600 E, D, and K mutations. In mice implanted with tumor cells expressing BRAF V600E, encorafenib induced tumor regressions associated with RAF/MEK/ERK pathway suppression.

Encorafenib and binimetinib target two different kinases in the RAS/RAF/MEK/ERK pathway. Compared with either drug alone, coadministration of encorafenib and binimetinib resulted in greater anti-proliferative activity in vitro in BRAF mutation-positive cell lines and greater anti-tumor activity with respect to tumor growth inhibition in BRAF V600E mutant human melanoma xenograft studies in mice. Additionally, the combination of encorafenib and binimetinib delayed the emergence of resistance in BRAF V600E mutant human melanoma xenografts in mice compared to either drug alone.

In the setting of BRAF-mutant CRC, induction of EGFR-mediated MAPK pathway activation has been identified as a mechanism of resistance to BRAF inhibitors. Combinations of a BRAF inhibitor and agents targeting EGFR have been shown to overcome this resistance mechanism in nonclinical models.

Coadministration of encorafenib and cetuximab had an anti-tumor effect greater than either drug alone, in a mouse model of colorectal cancer with mutated BRAF V600E.

## 11.2 Pharmacodynamics

### Cardiac Electrophysiology

A dedicated study to evaluate the QT prolongation potential of BRAF TOVI has not been conducted. BRAF TOVI is associated with dose-dependent QTc interval prolongation. Based on a central tendency analysis of QTc in a study of adult patients with melanoma who received the recommended dose of BRAF TOVI in combination with binimetinib, the largest mean (90% CI) QTcF change from baseline ( $\Delta\text{QTcF}$ ) was 18 (14 to 22) ms [*see Warnings and Precautions (5.5)*].

## 11.3 Pharmacokinetics

The pharmacokinetics of encorafenib were studied in healthy subjects and patients with solid tumors, including advanced and unresectable or metastatic cutaneous melanoma harboring a BRAF V600E or V600K mutation and BRAF V600E mutation-positive metastatic CRC. After a single dose, systemic exposure of encorafenib was dose proportional over the dose range of 50 mg to 700 mg (0.1 to 1.6 times the maximum recommended dose of 450 mg). After once-daily dosing, systemic exposure of encorafenib was less than dose proportional over the dose range of 50 mg to 800 mg (0.1 to 1.8 times the maximum recommended dose of 450 mg). Steady-state was reached within 15 days, with exposure being 50% lower compared to Day 1; intersubject variability (CV%) of AUC ranged from 12% to 69%.

### Absorption

The median  $T_{\text{max}}$  of encorafenib is 2 hours. At least 86% of the dose is absorbed.

### *Effect of Food*

Following administration of a single dose of BRAF TOVI 100 mg (0.2 times the maximum recommended dose of 450 mg) with a high-fat, high-calorie meal (consisting of approximately 150 calories from protein,

350 calories from carbohydrates, and 500 calories from fat) the mean maximum encorafenib concentration ( $C_{max}$ ) decreased by 36% and there was no effect on AUC.

### Distribution

The geometric mean (CV%) of apparent volume of distribution is 164 L (70%). The protein binding of encorafenib is 86% in vitro. The blood-to-plasma concentration ratio is 0.58.

### Elimination

The mean (CV%) terminal half-life ( $t_{1/2}$ ) of encorafenib is 3.5 hours (17%), and the apparent clearance is 14 L/h (54%) at day 1, increasing to 32 L/h (59%) at steady-state at the maximum recommended dose of 450 mg.

### *Metabolism*

Encorafenib is primarily metabolized by CYP3A4 (83%) and to a lesser extent by CYP2C19 (16%) and CYP2D6 (1%).

### *Excretion*

Following a single radiolabeled dose of 100 mg encorafenib, 47% (5% unchanged) of the administered dose was recovered in feces and 47% (2% unchanged) in urine.

### Specific Populations

No clinically significant differences in the pharmacokinetics of encorafenib were observed based on age (19 to 94 years), sex, body weight (34 to 168 kg), mild hepatic impairment (Child-Pugh Class A), and mild or moderate renal impairment (CL<sub>cr</sub> 30 to < 90 mL/min). The effect of race or ethnicity, moderate or severe hepatic impairment (Child-Pugh Class B or C), and severe renal impairment (CL<sub>cr</sub> <30 mL/min) on encorafenib pharmacokinetics have not been studied.

### Drug Interaction Studies

#### *Clinical Studies*

**CYP3A4 Inhibitors:** Coadministration of posaconazole (strong CYP3A4 inhibitor) or diltiazem (moderate CYP3A4 inhibitor) increased AUC of encorafenib by 3- and 2-fold, respectively, and increased  $C_{max}$  by 68% and 45%, respectively, after a single dose of 50 mg BRAFTOVI (0.1 times the maximum recommended dose of 450 mg).

**Strong CYP3A4 Inducers:** The effect of a strong CYP3A4 inducer on encorafenib exposure has not been studied[see *Drug Interactions (7.1)*].

**Moderate CYP3A4 Inducers:** Repeat dose administration of BRAFTOVI 450 mg once daily and binimetinib 45 mg twice daily with modafinil, a moderate CYP3A4 inducer, decreased encorafenib steady-state AUC by 24% and  $C_{max}$  by 20%, compared to BRAFTOVI alone.

**Effect of encorafenib on CYP3A4 Substrates:** Repeat dose administration of BRAFTOVI 450 mg once daily and binimetinib 45 mg twice daily with a single dose of midazolam 2 mg, a sensitive CYP3A4 substrate, decreased midazolam AUC by 82% and  $C_{max}$  by 74% relative to midazolam 2 mg alone.

**Effect of encorafenib on Other CYP Substrates:** There was no clinically significant effect of repeat dose administration of BRAFTOVI 450 mg once daily and binimetinib 45 mg twice daily on the exposure of substrates of CYP1A2, CYP2B6, CYP2C9, CYP2C19, and CYP2D6.

**Proton Pump Inhibitors:** No clinically significant differences in encorafenib pharmacokinetics were observed when coadministered with rabeprazole.

**Binimetinib:** No clinically significant differences in the pharmacokinetics of binimetinib (UGT1A1 substrate) were observed when coadministered with BRAFTOVI (UGT1A1 inhibitor).

*Cetuximab:* No clinically significant differences in the pharmacokinetics of encorafenib or cetuximab were observed when the recommended BRAFTOVI dose of 300 mg was coadministered with cetuximab.

*Transporters:* Repeat dose administration of BRAFTOVI 450 mg once daily and binimetinib 45 mg twice daily with a single dose of rosuvastatin (a sensitive substrate for OATP1B1, OATP1B3, and BCRP) increased rosuvastatin C<sub>max</sub> by 2.7-fold and AUC by 1.6-fold.

#### *In Vitro Studies*

*CYP/UGT Enzymes:* Encorafenib is a reversible inhibitor of UGT1A1.

*Transporters:* Encorafenib is a substrate of P-glycoprotein (P-gp) but not of breast cancer resistance protein (BCRP), multidrug resistance-associated protein 2 (MRP2), organic anion transporting polypeptide (OATP1B1, OATP1B3) or organic cation transporter (OCT1) at clinically relevant plasma concentrations.

Encorafenib is an inhibitor of P-gp, BCRP, OCT2, organic anion transporter (OAT1, OAT3), OATP1B1, and OATP1B3, but not of OCT1 or MRP2 at clinically relevant plasma concentrations.

## **12 NONCLINICAL TOXICOLOGY**

### **12.1 Carcinogenesis, Mutagenesis, Impairment of Fertility**

Carcinogenicity studies with encorafenib have not been conducted. Encorafenib was not genotoxic in studies evaluating reverse mutations in bacteria, chromosomal aberrations in mammalian cells, or micronuclei in bone marrow of rats.

No dedicated fertility studies were performed with encorafenib in animals. In a general toxicology study in rats, decreased testes and epididymis weights, tubular degeneration in testes, and oligospermia in epididymides were observed at doses approximately 13 times the human exposure at the 450 mg clinical dose based on AUC. No effects on reproductive organs were observed in either sex in any of the non-human primate toxicity studies.

### **12.2 Animal Toxicology and/or Pharmacology**

Adverse histopathology findings of hyperplasia and hyperkeratosis occurred in the stomach of rats at encorafenib doses of 20 mg/kg/day (approximately 14 times the human exposure at the 450 mg clinical dose based on AUC) or greater, in both 4 and 13-week studies.

## **13 CLINICAL STUDIES**

### **13.1 BRAF V600E or V600K Mutation-Positive Unresectable or Metastatic Melanoma**

BRAFTOVI in combination with binimetinib was evaluated in a randomized, active-controlled, open-label, multicenter trial (COLUMBUS; NCT01909453). Eligible patients were required to have BRAF V600E or V600K mutation-positive unresectable or metastatic melanoma, as detected using the bioMerieux THxID™BRAFF assay. Patients were permitted to have received immunotherapy in the adjuvant setting and one prior line of immunotherapy for unresectable locally advanced or metastatic disease. Prior use of BRAF inhibitors or MEK inhibitors was prohibited. Randomization was stratified by American Joint Committee on Cancer (AJCC) Stage (IIIB, IIIC, IVM1a or IVM1b, versus IVM1c), Eastern Cooperative Oncology Group (ECOG) performance status (0 versus 1), and prior immunotherapy for unresectable or metastatic disease (yes versus no).

Patients were randomized (1:1:1) to receive BRAFTOVI 450 mg once daily in combination with binimetinib 45 mg twice daily (BRAFTOVI in combination with binimetinib), BRAFTOVI 300 mg once daily, or vemurafenib 960 mg twice daily. Treatment continued until disease progression or unacceptable toxicity. Only the results of the approved dosing (BRAFTOVI 450 mg in combination with binimetinib 45 mg) are described below.

The major efficacy outcome measure was progression-free survival (PFS), as assessed by a blinded independent central review, to compare BRAFTOVI in combination with binimetinib with vemurafenib.



Additional efficacy outcome measures included overall survival (OS), as well as objective response rate (ORR) and duration of response (DoR) which were assessed by central review.

A total of 577 patients were randomized, 192 to the BRAFTOVI in combination with binimetinib arm, 194 to the BRAFTOVI arm, and 191 to the vemurafenib arm. Of the 383 patients randomized to either the BRAFTOVI in combination with binimetinib or the vemurafenib arms, the median age was 56 years (20 to 89 years), 59% were male, 91% were White, and 72% had baseline ECOG performance status of 0. Ninety-five percent (95%) had metastatic disease, 65% were Stage IVM1c, and 4% received prior CTLA-4, PD-1, or PD-L1 directed antibodies. Twenty-eight percent (28%) had elevated baseline serum lactate dehydrogenase (LDH), 45% had  $\geq 3$  organs with tumor involvement at baseline, and 3% had brain metastases. Based on centralized testing, 100% of patients' tumors tested positive for BRAF mutations; BRAF V600E (88%), BRAF V600K (11%), or both (<1%).

BRAFTOVI in combination with binimetinib demonstrated a statistically significant improvement in PFS compared to vemurafenib. Efficacy results are summarized in Table 9 and NFigure 1.

**Table 9: Efficacy Results for COLUMBUS**

	<b>BRAFTOVI with binimetinib N=192</b>	<b>Vemurafenib N=191</b>
<b>Progression-Free Survival</b>		
Number of events (%)	98 (51)	106 (55)
Progressive disease	88 (46)	104 (54)
Death	10 (5)	2 (1)
Median PFS, months (95% CI)	14.9 (11, 18.5)	7.3 (5.6, 8.2)
HR (95% CI) <sup>a</sup>	0.54 (0.41, 0.71)	
<i>P</i> -value <sup>b</sup>	<0.0001	
<b>Overall Survival<sup>c</sup></b>		
Number of events (%)	105 (55)	127 (67)
Median OS, months (95% CI)	33.6 (24.4, 39.2)	16.9 (14.0, 24.5)
HR (95% CI) <sup>a</sup>	0.61 (0.47, 0.79)	
<b>Overall Response Rate</b>		
ORR (95% CI)	63% (56%, 70%)	40% (33%, 48%)
CR	8%	6%
PR	55%	35%
<b>Duration of Response</b>		
Median DoR, months (95% CI)	16.6 (12.2, 20.4)	12.3 (6.9, 16.9)

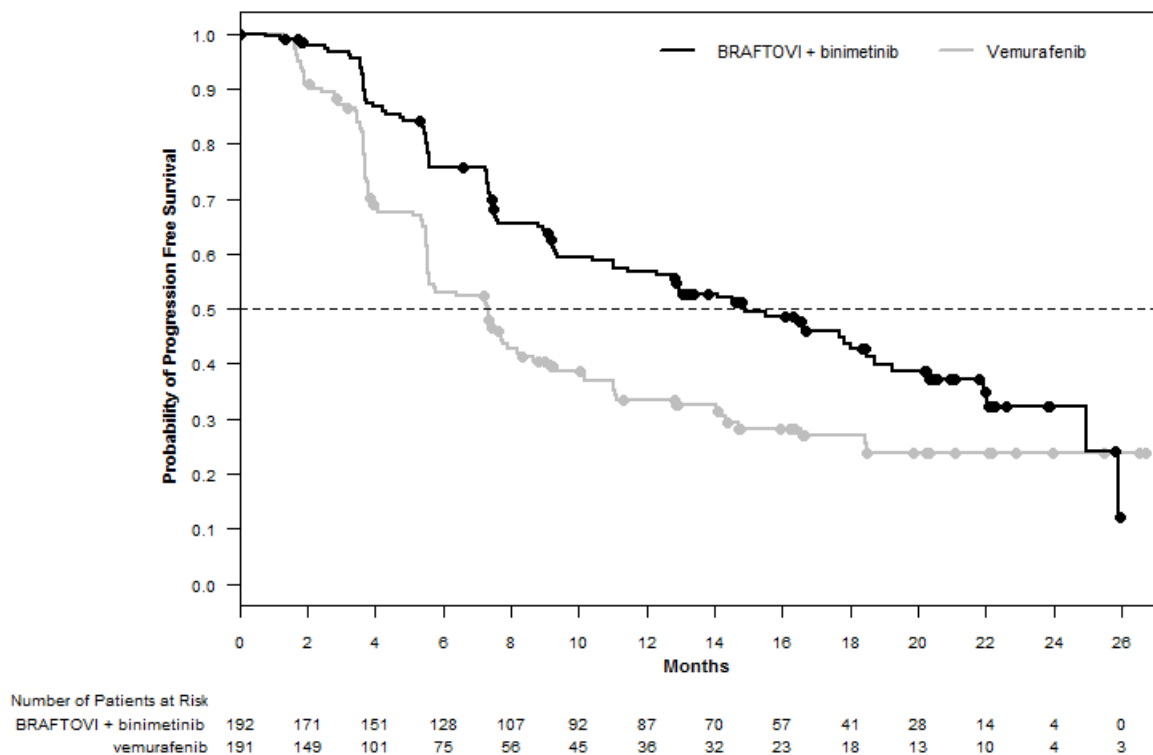
CI = Confidence interval; CR = Complete response; DoR = Duration of response; HR = Hazard ratio; NE = Not estimable; ORR = Overall response rate; OS = Overall survival; PFS = Progression-free survival; PR = Partial response.

<sup>a</sup> Estimated with Cox proportional hazard model adjusted by the following stratification factors: American Joint Committee on Cancer (AJCC) Stage (IIIB, IIIC, IVM1a or IVM1b, versus IVM1c) and Eastern Cooperative Oncology Group (ECOG) performance status (0 versus 1).

<sup>b</sup> Log-rank test adjusted by the same stratification factors.

<sup>c</sup> Based on a cutoff date of 17.6 months after the date of the PFS analysis.

**NFigure 1: Kaplan-Meier Curves for Progression-Free Survival in COLUMBUS**



### 13.2 BRAF V600E Mutation-Positive Metastatic Colorectal Cancer (CRC)

BRAFTOVI in combination with cetuximab was evaluated in a randomized, active-controlled, open-label, multicenter trial (BEACON CRC; NCT02928224). Eligible patients were required to have BRAF V600E mutation-positive metastatic colorectal cancer (CRC), as detected using the Qiagen therascreen BRAF V600E RGQ polymerase chain reaction (PCR) Kit, with disease progression after 1 or 2 prior regimens. Other key eligibility criteria included absence of prior treatment with a RAF, MEK, or EGFR inhibitor, eligibility to receive cetuximab per local labeling with respect to tumor RAS status, and ECOG performance status (PS) 0-1. Randomization was stratified by Eastern Cooperative Oncology Group (ECOG) performance status (0 versus 1), prior use of irinotecan (yes versus no), and cetuximab product used (US-licensed versus EU-approved).

Patients were randomized 1:1:1 to one of the following treatment arms:

- BRAFTOVI 300 mg orally once daily in combination with cetuximab (BRAFTOVI/cetuximab arm)
- BRAFTOVI 300 mg orally once daily in combination with binimetinib and cetuximab
- Irinotecan with cetuximab or FOLFIRI with cetuximab (control arm)

The dosage of cetuximab in all patients was 400 mg/m<sup>2</sup> intravenously for the first dose followed by 250 mg/m<sup>2</sup> weekly.

Patients in the control arm received cetuximab with either irinotecan 180 mg/m<sup>2</sup> intravenously on Days 1 and 15 of each 28-day cycle or FOLFIRI intravenously (irinotecan 180 mg/m<sup>2</sup> on Days 1 and 15; folinic acid 400 mg/m<sup>2</sup> on Days 1 and 15; then fluorouracil 400 mg/m<sup>2</sup> bolus on Days 1 and 15 followed by fluorouracil 2400 mg/m<sup>2</sup>/day by continuous infusion over 2 days).

Treatment continued until disease progression or unacceptable toxicity. Only the results of the approved regimen (BRAFTOVI in combination with cetuximab) are described below.

The major efficacy outcome measure was overall survival (OS). Additional efficacy outcome measures included progression-free survival (PFS), overall response rate (ORR), and duration of response (DoR) as assessed by blinded independent central review (BICR). OS and PFS were assessed in all randomized patients. ORR and DoR were assessed in the subset of the first 220 patients included in the randomized portion of the BRAFTOVI/cetuximab and control arm of the study.

A total of 220 patients were randomized to the BRAFTOVI/cetuximab arm and 221 to the control arm. Of these 441 patients, the median age was 61 years; 53% were female; 80% were White and 15% were Asian. Fifty percent (50%) had baseline ECOG performance status of 0; 66% received 1 prior therapy and 34% received 2; 93% received prior oxaliplatin and 52% received prior irinotecan.

BRAFTOVI in combination with cetuximab demonstrated a statistically significant improvement in OS, ORR, and PFS compared to the active comparator. Efficacy results are summarized in [Table 10](#) and [Figure 2](#).

**Table 10: Efficacy Results From BEACON CRC**

	<b>BRAFTOVI with cetuximab N = 220</b>	<b>Irinotecan with cetuximab or FOLFIRI with cetuximab N = 221</b>
<b>Overall Survival</b>		
Number of Events (%)	93 (42)	114 (52)
Median OS, months (95% CI)	8.4 (7.5, 11.0)	5.4 (4.8, 6.6)
HR (95% CI) <sup>a,b</sup>	0.60 (0.45, 0.79)	
<i>P</i> -value <sup>a,c</sup>	0.0003	
<b>Overall Response Rate (per BICR)</b>		
ORR (95% CI) <sup>d</sup>	20% (13%, 29%)	2% (0%, 7%)
CR	5%	0%
PR	15%	2%
<i>P</i> -value <sup>a,c</sup>	<0.0001	
Median DoR, months (95% CI)	6.1 (4.1, 8.3)	NR (2.6, NR)
<b>Progression Free Survival (per BICR)</b>		
Number of events (%)	133 (60)	128 (58)
Progressive disease	110 (50)	101 (46)
Death	23 (10)	27 (12)
Median PFS, months (95% CI)	4.2 (3.7, 5.4)	1.5 (1.4, 1.7)
HR (95% CI) <sup>a,b</sup>	0.40 (0.31, 0.52)	
<i>P</i> -value <sup>a,f</sup>	< 0.0001	

CI = Confidence interval; CR = Complete response; DoR = Duration of response; HR = Hazard ratio; NR = Not reached; ORR = Overall response rate; OS = Overall survival; PFS = Progression-free survival; PR = Partial response.

<sup>a</sup> Stratified by ECOG PS, source of cetuximab (US-licensed versus EU-approved) and prior irinotecan use at randomization.

<sup>b</sup> Stratified Cox proportional hazard model.

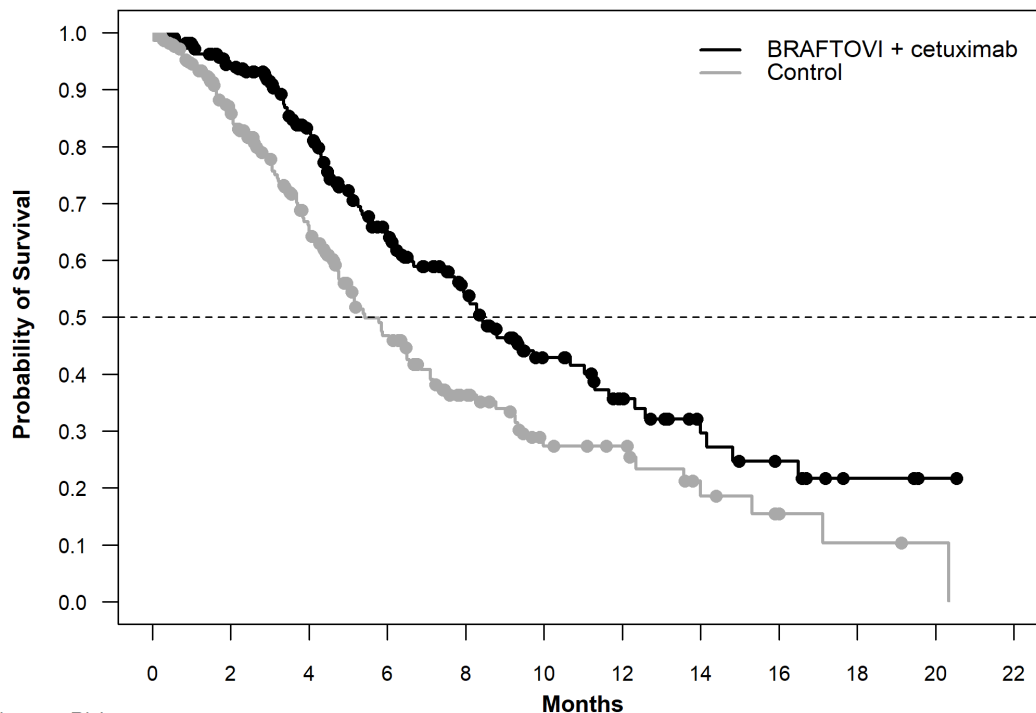
<sup>c</sup> Stratified log-rank test, tested at alpha level of 0.0084.

<sup>d</sup> BRAFTOVI/cetuximab arm (n=113) and control arm (n=107).

<sup>e</sup> Cochran-Mantel-Haenszel test; tested at alpha level of 0.05.

<sup>f</sup> Stratified log-rank test, tested at alpha level of 0.0234.

**Figure 2: Kaplan-Meier Curves for Overall Survival in BEACON CRC**



Number of Patients at Risk

BRAFTOVI + cetuximab	220	184	133	87	57	33	21	12	8	3	1	0
Control	221	158	102	60	34	18	15	7	4	2	1	0

## 14 HOW SUPPLIED/STORAGE AND HANDLING

BRAFTOVI (encorafenib) is supplied as 75 mg hard gelatin capsules.

75 mg: size OO with a flesh colored opaque cap and white opaque body, printed with a stylized “A” on the cap and “LGX 75mg” on the body, available in cartons containing two bottles of 90 capsules each.

Store below 25°C.

After first opening: Use within 45 days and store below 25°C.

The expiry date of the product is indicated on the packaging materials.

## 15 MANUFACTURER

Array BioPharma Inc.,  
3200 Walnut Street, Boulder, Colorado 80301 USA

## 16 LICENSE HOLDER

Medison Pharma Ltd.  
10 Hashiloah St., Petah Tikva. POB 7090, Israel

## 17 REGISTRATION NUMBER

167-76-35722-00

Revised in: November 2023