פברואר 2022

YERVOY 5mg/ml
Concentrate for solution for infusion
יירבוי 5 מ"ג/מ"ל
תמיסה מרוכזת להכנת תמיסה לעירוי

רופא/ה ,רוקח/ת יקר/ה,

חברת בריסטול-מאיירס סקוויב (ישראל) שמחה להודיע על רישום התויה חדשה לתכשיר שבנדון ועדכון עלונים לרופא ולצרכן.

התוויות התכשיר כפי שאושרו ע"י משרד הבריאות (ההתוויה החדשה ועדכון עריכה בהתוויה קיימת מסומנים בצבע אדום):

1.1 Unresectable or Metastatic Melanoma
YERVOY (ipilimumab) is indicated for the treatment of advanced (unresectable or metastatic) melanoma.
YERVOY (ipilimumab), in combination with nivolumab, is indicated for the treatment of patients with advanced (unresectable or metastatic) melanoma.

1.2 Advanced Renal Cell Carcinoma
YERVOY, in combination with nivolumab, is indicated for the first-line treatment of patients with intermediate or poor risk, ~~previously untreated~~ advanced renal cell carcinoma (RCC)

1.3 Microsatellite Instability-High or Mismatch Repair Deficient Metastatic Colorectal Cancer
YERVOY, in combination with nivolumab, is indicated for the treatment of adult and pediatric patients 12 years of age and older with microsatellite instability-high (MSI-H) or mismatch repair deficient (dMMR) metastatic colorectal cancer (CRC) that has progressed following treatment with a fluoropyrimidine, oxaliplatin, and irinotecan.

1.4 Metastatic Non-Small Cell Lung Cancer
YERVOY, in combination with nivolumab and 2 cycles of platinum-doublet chemotherapy, is indicated for the first-line treatment of adult patients with metastatic or recurrent non-small cell lung cancer (NSCLC) with no EGFR or ALK genomic tumor aberrations.

1.5 Hepatocellular Carcinoma
Yervoy, in combination with nivolumab, is indicated for the treatment of patients with hepatocellular carcinoma (HCC) Child-Pugh A who have been previously treated with sorafenib.

1.6 Malignant Pleural Mesothelioma
YERVOY, in combination with nivolumab, is indicated for the first-line treatment of adult patients with unresectable malignant pleural mesothelioma.

המרכיב הפעיל: Ipilimumab 5mg/ml

העלונים לרופא ולצרכן עודכנו בהתאם לתוספת ההתוויה החדשה.

- בעלון לרופא התווסף גם מידע ממחקר Checkmate 067 עבור התווית מלנומה במתן משולב של Yervoy עם Opdivo. מידע זה כבר מופיע בעלונים של Opdivo. כמו כן, בוצעו עדכונים נוספים בהתאם לעלון הרפרנס.
- בעלון לצרכן פרט לתוספת מידע הקשור להתוויה החדשה בוצעו עדכוני עריכה בנוסח ההתוויות הקיימות וכן נוסף מידע על התווית מלנומה בהתבסס על מחקר Checkmate 067.

העלונים לרופא ולצרכן עם סימון השינויים מצורפים בעמודים הבאים.

תוספת טקסט מסומנת בקו תחתון, מחיקת טקסט ~~בקו חוצה~~, עדכונים לסעיפים המשקפים את פרופיל הבטיחות של התכשיר מודגשים בצהוב.

העלון לרופא והעלון לצרכן הנקיים נשלחו לפרסום במאגר התרופות שבאתר משרד הבריאות וניתן לקבלם מודפסים על ידי פנייה לבעל הרישום בריסטול-מאיירס סקוויב (ישראל) בע"מ.

בברכה,

לנה גיטלין

מנהלת רגולציה ורוקחת ממונה

בריסטול-מאיירס סקוויב (ישראל)

FULL PRESCRIBING INFORMATION

NAME OF THE MEDICINAL PRODUCT

YERVOY 5 MG/ML

QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml of concentrate contains 5 mg ipilimumab.

One 10 ml vial contains 50 mg of ipilimumab.

One 40 ml vial contains 200 mg of ipilimumab.

PHARMACEUTICAL FORM

Concentrate for solution for infusion

Patient safety information Card and Brochure

The marketing of Yervoy is subject to a risk management plan (RMP) including a 'patient safety information card'. The 'patient safety information card' emphasizes important safety information that the patient should be aware of before and during treatment. Please advise the patient the need to review the card before starting treatment.

For patients receiving Yervoy in combination with Opdivo, please provide the patient with the 'Patient safety information card' and 'patient brochure' available for Opdivo in combination with Yervoy, and advise the patient to review it before starting treatment.

1 INDICATIONS AND USAGE

1.1 Unresectable or Metastatic Melanoma

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- YERVOY (ipilimumab), in combination with nivolumab, is indicated for the treatment of patients with advanced (unresectable or metastatic) melanoma.

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1.5 Hepatocellular Carcinoma

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1.6 Malignant Pleural Mesothelioma

YERVOY, in combination with nivolumab, is indicated for the first-line treatment of adult patients with unresectable malignant pleural mesothelioma.

2 DOSAGE AND ADMINISTRATION

2.1 Recommended Dosage

The recommended dose of YERVOY as a single agent is 3 mg/kg administered intravenously over 90 minutes every 3 weeks for a maximum of 4 doses. In the event of toxicity, doses may be delayed, but all treatment must be administered within 16 weeks of the first dose *[see Clinical Studies (14)]*.

~~YERVOY (ipilimumab), in combination with OPDIVO (nivolumab) for unresectable or metastatic melanoma, review the Full Prescribing Information for OPDIVO (nivolumab) prior to initiation.~~

The recommended dosages of YERVOY in combination with other therapeutic agents are presented in Table 1. Refer to the respective Prescribing Information for each therapeutic agent administered in combination with YERVOY for recommended dosage information, as appropriate.

Table 1: Recommended Dosages of YERVOY in Combination with Other Therapeutic Agents*

Indication	Recommended YERVOY Dosage	Duration of Therapy

Table 1: Recommended Dosages of YERVOY in Combination with Other Therapeutic Agents*

Indication	Recommended YERVOY Dosage	Duration of Therapy
Unresectable or metastatic melanoma	3 mg/kg every 3 weeks (90-minute intravenous infusion) with nivolumab 1 mg/kg (30-minute intravenous infusion on the same day)	In combination with nivolumab for a maximum of 4 doses or until unacceptable toxicity, whichever occurs earlier. After completing 4 doses of combination therapy, administer nivolumab as a single agent until disease progression or unacceptable toxicity.†
Advanced renal cell carcinoma	1 mg/kg every 3 weeks with nivolumab 3 mg/kg (30-minute intravenous infusion on the same day)	In combination with nivolumab for 4 doses. After completing 4 doses of combination therapy, administer nivolumab as single agent until disease progression or unacceptable toxicity†
Microsatellite instability-high (MSI-H) or mismatch repair deficient (dMMR) metastatic colorectal cancer	1 mg/kg every 3 weeks with nivolumab 3 mg/kg (30-minute intravenous infusion on the same day)	In combination with nivolumab for 4 doses. After completing 4 doses of combination therapy, administer nivolumab as single agent until disease progression or unacceptable toxicity†
Hepatocellular carcinoma	3 mg/kg every 3 weeks with nivolumab 1 mg/kg (30-minute intravenous infusion on the same day)	In combination with nivolumab for 4 doses. After completing 4 doses of combination therapy, administer nivolumab as single agent until disease progression or unacceptable toxicity†
Metastatic or recurrent non-small cell lung cancer	1 mg/kg every 6 weeks with nivolumab 360 mg every 3 weeks (30-minute intravenous infusion) and histology-based platinum-doublet chemotherapy every 3 weeks	In combination with nivolumab until disease progression, unacceptable toxicity, or up to 2 years in patients without disease progression† 2 cycles of histology-based platinum-doublet chemotherapy
Malignant pleural mesothelioma	1 mg/kg every 6 weeks with nivolumab 360 mg every 3 weeks (30-minute intravenous infusion)	In combination with nivolumab until disease progression, unacceptable toxicity, or up to 2 years in patients without

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	or 1 mg/kg every 6 weeks with nivolumab 3 mg/kg every 2 weeks (30-minute intravenous infusion)	disease progression†

* Refer to the Prescribing Information for the agents administered in combination with YERVOY for recommended dosing information, as appropriate.

† Refer to the Prescribing Information for nivolumab for dosage information after completing use in combination with YERVOY.

Recommended Dose Modifications

Table 2: Recommended Treatment Modifications for Immune-Mediated Adverse Reactions of YERVOY

Target/Organ System	Adverse Reaction (CTCAE v4)	Treatment Modification
Endocrine	Symptomatic endocrinopathy	Withhold YERVOY Resume YERVOY in patients with complete or partial resolution of adverse reactions (Grade 0 to 1) and who are receiving less than 7.5 mg prednisone or equivalent per day.
	▯ Symptomatic reactions lasting 6 weeks or longer ▯ Inability to reduce corticosteroid dose to 7.5 mg prednisone or equivalent per day	Permanently discontinue YERVOY
Ophthalmologic	Grade 2 through 4 reactions ▯ not improving to Grade 1 within 2 weeks while receiving topical therapy or ▯ requiring systemic treatment	Permanently discontinue YERVOY

Table 2: Recommended Treatment Modifications for Immune-Mediated Adverse Reactions of YERVOY

Target/Organ System	Adverse Reaction (CTCAE v4)	Treatment Modification
All Other	Grade 2	Withhold YERVOY Resume YERVOY in patients with complete or partial resolution of adverse reactions (Grade 0 to 1) and who are receiving less than 7.5 mg prednisone or equivalent per day.
	□ Grade 2 reactions lasting 6 weeks or longer □ Inability to reduce corticosteroid dose to 7.5 mg prednisone or equivalent per day □ Grade 3 or 4	Permanently discontinue YERVOY

2.2 Preparation and Administration

Do not shake product.

Visually inspect for particulate matter and discoloration prior to administration. Discard vial if solution is cloudy, there is pronounced discoloration (solution may have pale-yellow color), or there is foreign particulate matter other than translucent-to-white, amorphous particles.

Preparation of Solution

Allow the vial(s) to stand at room temperature for approximately 5 minutes prior to preparation of infusion.

Withdraw the required volume of YERVOY and transfer into an intravenous bag.

Dilute with 0.9% Sodium Chloride Injection, USP or 5% Dextrose Injection, USP to a final concentration ranging from 1 mg/mL to 2 mg/mL. Mix diluted solution by gentle inversion.

After preparation, store the diluted solution under refrigeration at 2°C to 8°C for no more than 24 hours from the time of preparation to the time of infusion.

Discard partially used or empty vials of YERVOY.

Administration

Do not co- administer other drugs through the same intravenous line.

Flush the intravenous line with 0.9% Sodium Chloride Injection, USP or 5% Dextrose Injection, USP after each dose.

Administer diluted solution over 30 minutes or 90 minutes depending on the dose, through an intravenous line containing a sterile, non-pyrogenic, low-protein-binding in-line filter.

When administered in combination with nivolumab, infuse nivolumab first followed by YERVOY on the same day. When administered with nivolumab and platinum-doublet chemotherapy, infuse nivolumab first followed by YERVOY and then platinum-doublet chemotherapy on the same day. Use separate infusion bags and filters for each infusion.

3 DOSAGE FORMS AND STRENGTHS

Injection: 50 mg/10 mL (5 mg/mL) or 200 mg/40 mL (5 mg/mL) as a clear to slightly opalescent, colorless to pale-yellow liquid that may contain light (few) particulates, in a single dose vial.

4 CONTRAINDICATIONS

Hypersensitivity to ipilimumab or to any of the excipients listed in section 11 (Description).

5 WARNINGS AND PRECAUTIONS

5.1 Severe and Fatal Immune-Mediated Adverse Reactions

YERVOY is a fully human monoclonal antibody that blocks T-cell inhibitory signals induced by the CTLA-4 pathway, thereby removing inhibition of the immune response with the potential for induction of immune-mediated adverse reactions. Immune-mediated adverse reactions listed herein may not be inclusive of all possible severe and fatal immune-mediated reactions.

Immune-mediated adverse reactions, which may be severe or fatal, can occur in any organ system or tissue. Immune-mediated adverse reactions can occur at any time after starting YERVOY. While immune-mediated adverse reactions usually manifest during treatment, immune-mediated adverse reactions can also manifest after discontinuation of YERVOY.

Early identification and management are essential to ensure safe use of YERVOY. Monitor for signs and symptoms that may be clinical manifestations of underlying immune-mediated adverse reactions. Evaluate clinical chemistries including liver enzymes, creatinine, adrenocorticotropic hormone (ACTH) level, and thyroid function at baseline and before each dose. Institute medical management promptly, including specialty consultation as appropriate.

Withhold or permanently discontinue YERVOY depending on severity *[see Dosage and Administration]*. In general, if YERVOY requires interruption or discontinuation, administer systemic corticosteroid therapy (1 to 2 mg/kg/day prednisone or equivalent) until improvement to Grade 1 or less. Upon improvement to Grade 1 or less, initiate corticosteroid taper and continue to taper over at least 1 month. Consider administration of other systemic immunosuppressants in patients whose immune-mediated adverse reactions are not controlled with corticosteroid therapy.

Immune-Mediated Colitis

YERVOY can cause immune-mediated colitis, which may be fatal. Cytomegalovirus (CMV) infection/reactivation has been reported in patients with corticosteroid-refractory immune-mediated colitis. In cases of corticosteroid-refractory colitis, consider repeating infectious workup to exclude alternative etiologies.

YERVOY 3 mg/kg as a Single Agent

Immune-mediated colitis occurred in 12% (62/511) of patients who received YERVOY 3 mg/kg as a single agent, including Grade 3-5 (7%) and Grade 2 (5%). Colitis led to permanent

discontinuation of YERVOY in 4.3% and withholding of at least one dose of YERVOY in 0.2% of patients.

Systemic corticosteroids were required in 74% (46/62) of patients with immune-mediated colitis. Five patients required coadministration of another immunosuppressant with corticosteroids. Colitis resolved in 76% of the 62 patients. One patient was withheld one or more doses of YERVOY for colitis, and no patient received additional treatment after symptom improvement.

YERVOY 1 mg/kg with 3 mg/kg Nivolumab

Immune-mediated colitis occurred in 9% (60/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 3 (4.4%), and Grade 2 (3.7%). Colitis led to permanent discontinuation of YERVOY and nivolumab in 3.2% and withholding of YERVOY and nivolumab in 2.7% of patients.

In patients who received YERVOY 1 mg/kg with nivolumab, use of systemic corticosteroids was one of the diagnostic criteria required to identify immune-mediated colitis. Systemic corticosteroids were therefore required in 100% (60/60) of patients with immune-mediated colitis. Approximately 23% of patients required coadministration of another immunosuppressant with corticosteroids. Colitis resolved in 95% of the 60 patients. Of the 18 patients in whom YERVOY or nivolumab was withheld for colitis, 16 received additional treatment after symptom improvement; of these, 10 had recurrence of colitis.

YERVOY 3 mg/kg with 1 mg/kg Nivolumab

~~Immune-mediated colitis occurred in 10% (5/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 2 months (range: 1.1 to 19 months). Immune-mediated colitis led to permanent discontinuation or withholding of treatment in 4.1% and 4.1% of patients, respectively. Sixty percent (60%) of patients with colitis received high-dose corticosteroids (at least 40 mg prednisone equivalents per day) for a median duration of 15 days (range: 9 days to 1.1 months). Complete resolution occurred in 80% of patients. Of the 2 patients in whom YERVOY or nivolumab was withheld for colitis, 2 received additional treatment after symptom improvement, and 2 had recurrence of colitis.~~

Immune-mediated colitis occurred in 25% (115/456) of patients with melanoma or HCC receiving YERVOY 3 mg/kg with nivolumab 1 mg/kg every 3 weeks, including Grade 4 (0.4%), Grade 3 (14%), and Grade 2 (8%) adverse reactions. Colitis led to permanent discontinuation of YERVOY with nivolumab in 14% and withholding of treatment in 4.4% of patients.

Systemic corticosteroids were required in 100% (115/115) of patients with colitis. Approximately 23% of patients required addition of infliximab to high-dose corticosteroids. Colitis resolved in 93% of 115 patients. Of the 20 patients in whom YERVOY with nivolumab was withheld for colitis, 16 reinitiated treatment after symptom improvement, and 9 had recurrence of colitis.

Immune-Mediated Hepatitis

YERVOY 3 mg/kg as a Single Agent

Immune-mediated hepatitis occurred in 4.1% (21/511) of patients who received YERVOY 3 mg/kg as a single agent, including Grade 3-5 (1.6%) and Grade 2 (2.5%). Hepatitis led to permanent discontinuation of YERVOY in 0.4% of patients and withholding of at least one dose of YERVOY in none of the patients.

Systemic corticosteroids were required in 29% (6/21) of patients with immune-mediated hepatitis. No patients required the coadministration of another immunosuppressant with corticosteroids. Hepatitis resolved in 86% of the 21 patients.

YERVOY 3 mg/kg with Vemurafenib

The safety and effectiveness of YERVOY in combination with vemurafenib have not been established *[see Indications and Usage (1)]*. In a dose-finding trial, Grade 3 increases in transaminases with or without concomitant increases in total bilirubin occurred in 6 of 10 patients who received concurrent YERVOY (3 mg/kg) and vemurafenib (960 mg or 720 mg twice daily).

YERVOY 1 mg/kg with 3 mg/kg Nivolumab

Immune-mediated hepatitis occurred in 7% (48/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 4 (1.2%), Grade 3 (4.9%), and Grade 2 (0.4%). Hepatitis led to permanent discontinuation of YERVOY and nivolumab in 3.6% and withholding of YERVOY and nivolumab in 2.6% of patients.

In patients who received YERVOY 1 mg/kg with nivolumab, use of systemic corticosteroids was one of the diagnostic criteria required to identify immune-mediated hepatitis. Systemic corticosteroids were therefore required in 100% (48/48) of patients with immune-mediated hepatitis. Approximately 19% of patients required coadministration of another immunosuppressant with corticosteroids. Hepatitis resolved in 88% of the 48 patients. Of the 17 patients in whom YERVOY or nivolumab was withheld for hepatitis, 14 received additional treatment after symptom improvement; of these, 10 had recurrence of hepatitis.

YERVOY 3 mg/kg with 1 mg/kg Nivolumab

~~Immune-mediated hepatitis occurred in 20% (10/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 1.3 months (range: 22 days to 4.1 months). Immune-mediated hepatitis led to permanent discontinuation or withholding of treatment in 6.1% and 12% of patients, respectively. Seventy percent (70%) of patients with hepatitis received high-dose corticosteroids (at least 40 mg prednisone equivalents per day) for a median duration of 14 days (range: 3 days to 34 months). Complete resolution occurred in 70% of patients. Of the 6 patients in whom YERVOY or nivolumab was withheld for hepatitis, 4 received additional treatment after symptom improvement, and 3 had recurrence of hepatitis.~~

Immune-mediated hepatitis occurred in 15% (70/456) of patients with melanoma or HCC receiving YERVOY 3 mg/kg with nivolumab 1 mg/kg every 3 weeks, including Grade 4 (2.4%), Grade 3 (11%), and Grade 2 (1.8%) adverse reactions. Immune-mediated hepatitis led to permanent discontinuation of YERVOY with nivolumab in 8% and withholding of treatment in 3.5% of patients.

Systemic corticosteroids were required in 100% (70/70) of patients with hepatitis. Approximately 9% of patients with immune-mediated hepatitis required addition of mycophenolic acid to high-dose corticosteroids. Hepatitis resolved in 91% of the 70 patients. Of the 16 patients in whom YERVOY with nivolumab was withheld for hepatitis, 14 reinitiated treatment after symptom improvement, and 8 had recurrence of hepatitis.

Immune-Mediated -Dermatologic -Adverse Reactions

YERVOY can cause immune-mediated rash or dermatitis, including bullous and exfoliative dermatitis, Stevens Johnson Syndrome, toxic epidermal necrolysis (TEN), and DRESS (Drug Rash with Eosinophilia and Systemic Symptoms). Topical emollients and/or topical corticosteroids may be adequate to treat mild to moderate non-bullous/exfoliative rashes. Withhold or permanently discontinue YERVOY depending on severity *[see Dosage and Administration]*.

YERVOY 3 mg/kg as a Single Agent

Immune-mediated rash occurred in 15% (76/511) of patients who received YERVOY 3 mg/kg as a single agent, including Grade 3-5 (2.5%) and Grade 2 (12%). Rash led to permanent discontinuation of YERVOY in 0.2% and withholding of at least one dose of YERVOY in 1.4% of patients.

Systemic corticosteroids were required in 43% (33/76) of patients with immune-mediated rash. Rash resolved in 71% of the 76 patients. Of the 7 patients in whom YERVOY was withheld for rash, 3 received additional treatment after symptom improvement; of these, 1 had recurrence of rash.

YERVOY 1 mg/kg with 3 mg/kg Nivolumab

Immune-mediated rash occurred in 16% (108/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 3 (3.5%) and Grade 2 (4.2%). Rash led to permanent discontinuation of YERVOY and nivolumab in 0.5% of patients and withholding of YERVOY and nivolumab in 2.0% of patients.

In patients who received YERVOY 1 mg/kg with nivolumab, use of systemic corticosteroids was one of the diagnostic criteria required to identify immune-mediated rash. Systemic corticosteroids were therefore required in 100% (108/108) of patients. Rash resolved in 75% of 108 patients. Of the 13 patients in whom YERVOY or nivolumab was withheld for rash, 11 received additional treatment after symptom improvement; of these, 5 had recurrence of rash.

YERVOY 3 mg/kg with 1 mg/kg Nivolumab

~~Immune-mediated rash occurred in 35% (17/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 15 days (range: 6 days to 3.1 months). Immune-mediated rash led to withholding of treatment in 6% of patients. Twelve percent (12%) of patients with rash received high-dose corticosteroids (at least 40 mg prednisone equivalents per day) for a median duration of 8 days (range: 1 to 15 days). Complete resolution occurred in 65% of patients. Of the 3 patients in whom YERVOY or nivolumab was withheld for rash, 2 received additional treatment after symptom improvement, and none had recurrence of rash.~~

Immune-mediated rash occurred in 28% (127/456) of patients with melanoma or HCC receiving YERVOY 3 mg/kg with nivolumab 1 mg/kg every 3 weeks, including Grade 3 (4.8%) and Grade 2 (10%) adverse reactions. Immune-mediated rash led to permanent discontinuation of YERVOY with nivolumab in 0.4% and withholding of treatment in 3.9% of patients.

Systemic corticosteroids were required in 100% (127/127) of patients with immune-mediated rash. Rash resolved in 84% of the 127 of patients. Of the 18 patients in whom YERVOY with nivolumab was withheld for rash, 15 reinitiated treatment after symptom improvement, and 8 had recurrence of rash.

Immune-Mediated Endocrinopathies

YERVOY 3 mg/kg as a Single Agent

Grade 2-5 immune-mediated endocrinopathies occurred in 4% (21/511) of patients who received YERVOY 3 mg/kg as a single agent.

Severe to life-threatening (Grade 3-4) endocrinopathies occurred in 9 patients (1.8%). All 9 of these patients had hypopituitarism with some patients having additional concomitant endocrinopathies such as adrenal insufficiency, hypogonadism, and hypothyroidism. Six of the 9 patients were hospitalized for severe endocrinopathies.

Moderate (Grade 2) endocrinopathy occurred in 12 patients (2.3%), including hypothyroidism, adrenal insufficiency, hypopituitarism, hyperthyroidism and Cushing's syndrome.

Of the 21 patients with moderate to life-threatening endocrinopathy, 17 required long-term hormone replacement therapy including, adrenal hormones (n=10) and thyroid hormones (n=13).

YERVOY 1 mg/kg with 3 mg/kg Nivolumab

Hypophysitis:

YERVOY can cause immune-mediated hypophysitis. Hypophysitis can present with acute symptoms associated with mass effect such as headache, photophobia, or visual field cuts. Hypophysitis can cause hypopituitarism. Initiate hormone replacement as clinically indicated. Withhold or permanently discontinue YERVOY depending on severity *[see Dosage and Administration]*.

Hypophysitis occurred in 4.4% (29/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 4 (0.3%), Grade 3 (2.4%), and Grade 2 (0.9%). Hypophysitis led to permanent discontinuation of YERVOY and nivolumab in

1.2% and withholding of YERVOY with nivolumab in 2.1% of patients. Approximately 72% of patients with hypophysitis received hormone replacement therapy. Systemic corticosteroids were required in 72% (21/29) of patients with immune-mediated hypophysitis. Hypophysitis resolved in 59% of the 29 patients. Of the 14 patients in whom YERVOY or nivolumab was withheld for hypophysitis, 11 received additional treatment after symptom improvement; of these, 2 had recurrence of hypophysitis.

Adrenal Insufficiency:

Adrenal insufficiency occurred in 7% (48/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 4 (0.3%), Grade 3 (2.5%), and Grade 2 (4.1%). Adrenal insufficiency led to permanent discontinuation of YERVOY with nivolumab in 1.2% and withholding of YERVOY with nivolumab in 2.1% of patients. Approximately 94% of patients with adrenal insufficiency received hormone replacement therapy. Systemic corticosteroids were required in 94% (45/48) of patients with adrenal insufficiency. Adrenal insufficiency resolved in 29% of the 48 patients. Of the 14 patients in whom YERVOY or nivolumab was withheld for adrenal insufficiency, 11 received additional treatment after symptom improvement; of these, 2 had recurrence of adrenal insufficiency.

Hyperthyroidism:

Hyperthyroidism occurred in 12% (80/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 3 (0.6%) and Grade 2 (4.5%). No patients discontinued YERVOY for hyperthyroidism. Hyperthyroidism led to withholding of YERVOY with nivolumab in 2.3% of patients. Approximately 19% received a thyroid synthesis inhibitor. Systemic corticosteroids were required in 20% (16/80) of patients with hyperthyroidism. Hyperthyroidism resolved in 85% of the 80 patients. Of the 15 patients in whom YERVOY or nivolumab was withheld for hyperthyroidism, 11 received additional treatment after symptom improvement; of these, 3 had recurrence of hyperthyroidism.

Hypothyroidism:

Hypothyroidism occurred in 18% (122/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 3 (0.6%) and Grade 2 (11%). Hypothyroidism led to permanent discontinuation of YERVOY with nivolumab in 0.2% and withholding of YERVOY with nivolumab in 1.4% of patients. Approximately 82% received thyroid hormone replacement. Systemic corticosteroids were required in 7% (9/122) of patients with hypothyroidism. Hypothyroidism resolved in 27% of the 122 patients. Of the 9 patients in whom YERVOY or nivolumab was withheld for hypothyroidism, 5 received additional treatment after symptom improvement; of these, one patient had recurrence of hypothyroidism.

Thyroiditis:

Thyroiditis occurred in 2.7% (22/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 3 (4.5%) and Grade 2 (2.2%). Thyroiditis led to permanent discontinuation of YERVOY with nivolumab in 0.2% and withholding of YERVOY with nivolumab in 0.8% of patients. Systemic corticosteroids were

required in 18% (4/22) of patients with thyroiditis. Thyroiditis resolved in 64% of the 22 patients. Of the 5 patients in whom YERVOY or nivolumab was withheld for thyroiditis, 5 received additional treatment after symptom improvement; of these, no patients had recurrence of thyroiditis.

Type 1 Diabetes Mellitus:

Diabetes occurred in 2.7% (15/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 4 (0.6%), Grade 3 (0.3%), and Grade 2 (0.9%). Diabetes led to the permanent discontinuation of YERVOY with nivolumab in 0.5% and withholding of YERVOY with nivolumab in 0.5% of patients. Systemic corticosteroids were required in 7% (1/15) of patients with diabetes. Diabetes resolved in 27% of the 15 patients. Of the 3 patients in whom YERVOY or nivolumab was withheld for diabetes, 2 received additional treatment after symptom improvement; of these, none had recurrence of diabetes.

YERVOY 3 mg/kg with 1 mg/kg Nivolumab

Hypophysitis:

~~Hypophysitis occurred in 4% (2/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 3.7 months (range: 3 to 4.3 months). Hypophysitis led to withholding of treatment in 2% of patients. One patient with hypophysitis received high-dose corticosteroids (at least 40 mg prednisone equivalents per day) for 6 days.~~

Hypophysitis occurred in 9% (42/456) of patients with melanoma or HCC receiving YERVOY 3 mg/kg with nivolumab 1 mg/kg every 3 weeks, including Grade 3 (2.4%) and Grade 2 (6%) adverse reactions. Hypophysitis led to permanent discontinuation of YERVOY with nivolumab in 0.9% and withholding of treatment in 4.2% of patients.

Approximately 86% of patients with hypophysitis received hormone replacement therapy. Systemic corticosteroids were required in 88% (37/42) of patients with hypophysitis. Hypophysitis resolved in 38% of the 42 patients. Of the 19 patients in whom YERVOY with nivolumab was withheld for hypophysitis, 9 reinitiated treatment after symptom improvement, and 1 had recurrence of hypophysitis.

Adrenal Insufficiency:

~~Adrenal insufficiency occurred in 18% (9/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 2.8 months (range: 1.4 to 8 months). Adrenal insufficiency led to withholding of treatment in 4.1% of patients. One patient with adrenal insufficiency received high-dose corticosteroids (at least 40 mg prednisone equivalents per day) for 1.2 months. Complete resolution occurred in 22% of patients.~~

Adrenal insufficiency occurred in 8% (35/456) of patients with melanoma or HCC receiving YERVOY 3 mg/kg with nivolumab 1 mg/kg every 3 weeks, including Grade 4 (0.2%), Grade 3 (2.4%), and Grade 2 (4.2%) adverse reactions. Adrenal insufficiency led to permanent discontinuation of YERVOY with nivolumab in 0.4% of patients and withholding of treatment in 2.0% of patients.

Approximately 71% (25/35) of patients with adrenal insufficiency received hormone replacement therapy, including systemic corticosteroids. Adrenal insufficiency resolved in 37% of the 35 patients. Of the 9 patients in whom YERVOY with nivolumab was withheld for adrenal insufficiency, 7 reinitiated treatment after symptom improvement, and all required hormone replacement therapy for their ongoing adrenal insufficiency.

Hypothyroidism:

~~Hypothyroidism or thyroiditis resulting in hypothyroidism occurred in 22% (11/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 3.3 months (range: 1.4 to 16.2 months). Complete resolution occurred in 46% of patients.~~

Hypothyroidism occurred in 20% (91/456) of patients with melanoma or HCC receiving YERVOY 3 mg/kg with nivolumab 1 mg/kg every 3 weeks, including Grade 3 (0.4%) and Grade 2 (11%) adverse reactions. Hypothyroidism led to permanent discontinuation of YERVOY with nivolumab in 0.9% of patients and withholding of treatment in 0.9% of patients.

Approximately 89% of patients with hypothyroidism received levothyroxine. Systemic corticosteroids were required in 2.2% (2/91) of patients with hypothyroidism. Hypothyroidism resolved in 41% of the 91 patients. Of the 4 patients in whom YERVOY with nivolumab was withheld for hypothyroidism, 2 reinitiated treatment after symptom improvement, and none had recurrence of hypothyroidism.

Hyperthyroidism:

~~Hyperthyroidism occurred in 10% (5/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 1.4 months (range: 1.4 to 2.8 months). Complete resolution occurred in 80% of patients.~~

Hyperthyroidism occurred in 9% (42/456) of patients with melanoma or HCC receiving YERVOY 3 mg/kg with nivolumab 1 mg/kg every 3 weeks, including Grade 3 (0.9%) and Grade 2 (4.2%) adverse reactions. Hyperthyroidism led to permanent discontinuation of YERVOY with nivolumab in no patients and withholding of treatment in 2.4% of patients.

Approximately 26% of patients with hyperthyroidism received methimazole and 21% received carbimazole. Systemic corticosteroids were required in 17% (7/42) of patients. Hyperthyroidism resolved in 91% of the 42 patients. Of the 11 patients in whom YERVOY with nivolumab was withheld for hyperthyroidism, 8 reinitiated treatment after symptom improvement, and 1 had recurrence of hyperthyroidism.

Immune-Mediated Pneumonitis

YERVOY 1 mg/kg with 3 mg/kg Nivolumab

Immune-mediated pneumonitis occurred in 3.9% (26/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 3 (1.4%) and Grade 2 (2.6%). Pneumonitis led to permanent discontinuation of YERVOY and nivolumab in 1.8% and withholding of YERVOY and nivolumab in 1.5% of patients.

In patients who received YERVOY 1 mg/kg with nivolumab, use of systemic corticosteroids was one of the diagnostic criteria required to identify immune-mediated pneumonitis. Systemic corticosteroids were therefore required in 100% (26/26) of patients with immune-mediated pneumonitis. Approximately 8% required coadministration of another immunosuppressant with corticosteroids. Pneumonitis resolved in 92% of the 26 patients. Of the 10 patients in whom YERVOY or nivolumab was withheld for pneumonitis, 10 received additional treatment after symptom improvement; of these, 4 had recurrence of pneumonitis.

In NSCLC, immune-mediated pneumonitis occurred in 9% (50/576) of patients receiving YERVOY 1 mg/kg every 6 weeks with nivolumab 3 mg/kg every 2 weeks, including Grade 4 (0.5%), Grade 3 (3.5%), and Grade 2 (4.0%) immune-mediated pneumonitis. Four patients (0.7%) died due to pneumonitis. The median duration was 1.5 months (range: 5 days to 25+ months). Immune-mediated pneumonitis led to permanent discontinuation of YERVOY with nivolumab in 5% of patients and withholding of YERVOY with nivolumab in 3.6% of patients.

Systemic corticosteroids were required in 100% of patients with pneumonitis followed by a corticosteroid taper. Pneumonitis resolved in 72% of the patients. Approximately 13% (2/16) of patients had recurrence of pneumonitis after re-initiation of YERVOY with nivolumab.

YERVOY 3 mg/kg with 1 mg/kg Nivolumab

~~Immune-mediated pneumonitis occurred in 10% (5/49) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC. Median time to onset was 8.3 months (range: 1.2 to 17.5 months). Immune-mediated pneumonitis led to permanent discontinuation or withholding of treatment in 6.1% and 4.1% of patients, respectively. All patients with pneumonitis received high-dose corticosteroids (at least 40 mg prednisone equivalents per day) for a median duration of 23 days (range: 12 days to 1.4 months). Complete resolution occurred in 60% of patients. Of the 2 patients in whom YERVOY or nivolumab was withheld for pneumonitis, 2 received additional treatment after symptom improvement, and 1 had recurrence of pneumonitis.~~

Immune-mediated pneumonitis occurred in 7% (31/456) of patients who received YERVOY 3 mg/kg with nivolumab for the treatment of HCC or melanoma, including Grade 4 (0.2%), Grade 3 (2.0%), and Grade 2 (4.4%). Immune-mediated pneumonitis led to permanent discontinuation or withholding of treatment in 2.9% and 3.9% of patients, respectively.

Systemic corticosteroids were required in 100% of patients with pneumonitis. Pneumonitis resolved in 94% of the patients. Of the 13 patients in whom YERVOY or nivolumab was withheld for pneumonitis, 13 received additional treatment after symptom improvement, and 4 had recurrence of pneumonitis.

Immune-Mediated Nephritis with Renal Dysfunction

YERVOY 1 mg/kg with 3 mg/kg Nivolumab

Immune-mediated nephritis with renal dysfunction occurred in 4.1% (27/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or mCRC, including Grade 4 (0.6%), Grade 3 (1.1%), and Grade 2 (2.2%). Nephritis with renal dysfunction led to

permanent discontinuation of YERVOY and nivolumab in 1.2% and withholding of nivolumab and YERVOY in 1.8% of patients.

In patients who received YERVOY 1 mg/kg with nivolumab, use of systemic corticosteroids was one of the diagnostic criteria required to identify immune-mediated nephritis with renal dysfunction. Systemic corticosteroids were therefore required in 100% (27/27) of patients with immune-mediated nephritis with renal dysfunction. Nephritis with renal dysfunction resolved in 67% of the 27 patients. Of the 12 patients in whom YERVOY or nivolumab was withheld for nephritis, 10 received additional treatment after symptom improvement; of these, 4 had recurrence of nephritis.

Other Immune-Mediated Adverse Reactions

Across clinical trials of YERVOY administered as a single agent or in combination with nivolumab, the following clinically significant immune-mediated adverse reactions, some with fatal outcome, occurred in <1% of patients unless otherwise specified, as shown below:

Nervous System: Autoimmune neuropathy (2%), meningitis, encephalitis, myelitis and demyelination, myasthenic syndrome/myasthenia gravis, Guillain-Barré syndrome, nerve paresis, motor dysfunction

Cardiovascular: Angiopathy, myocarditis, pericarditis, temporal arteritis, vasculitis

Ocular: Blepharitis, episcleritis, iritis, orbital myositis, scleritis, uveitis. Some cases can be associated with retinal detachment. If uveitis occurs in combination with other immune-mediated adverse reactions, consider a Vogt-Koyanagi-Harada-like syndrome, which has been observed in patients receiving YERVOY and may require treatment with systemic corticosteroids to reduce the risk of permanent vision loss.

Gastrointestinal: Duodenitis, gastritis, pancreatitis (1.3%)

Musculoskeletal and Connective Tissue: Arthritis, myositis, polymyalgia rheumatica, polymyositis, rhabdomyolysis

Other (hematologic/immune): Aplastic anemia, conjunctivitis, cytopenias (2.5%), eosinophilia (2.1%), erythema multiforme, histiocytic necrotizing lymphadenitis (Kikuchi lymphadenitis), hypersensitivity vasculitis, meningitis, neurosensory hypoacusis, psoriasis, sarcoidosis, systemic inflammatory response syndrome, and solid organ transplant rejection

5.2 Infusion Related Reactions

Severe infusion-related reactions can occur with YERVOY. Discontinue YERVOY in patients with severe or life-threatening infusion reactions. Interrupt or slow the rate of infusion in patients with mild or moderate infusion reactions *[see Dosage and Administration]*. Infusion-related reactions occurred in 2.9% (28/982) of patients who received single-agent YERVOY 3 mg/kg for the treatment of melanoma. Infusion-related reactions occurred in 5% (33/666) of patients who received YERVOY 1 mg/kg with nivolumab for the treatment of RCC or CRC. Infusion-related reactions occurred in 8% (4/49) of patients who received YERVOY 3 mg/kg with nivolumab for

the treatment of HCC. Infusion-related reactions occurred in 12% (37/300) of patients with malignant pleural mesothelioma who received YERVOY 1 mg/kg every 6 weeks with nivolumab 3 mg/kg every 2 weeks.

5.3 Complications of Allogeneic Hematopoietic Stem Cell Transplant after YERVOY

Fatal or serious graft-versus-host disease (GVHD) can occur in patients who receive YERVOY either before or after allogeneic hematopoietic stem cell transplantation (HSCT). These complications may occur despite intervening therapy between CTLA-4 receptor blocking antibody and allogeneic HSCT. Follow patients closely for evidence of GVHD and intervene promptly. *[See Adverse Reactions (6.3).]* Consider the benefit versus risks of treatment with YERVOY after allogeneic HSCT.

5.4 Embryo-Fetal Toxicity

Based on its mechanism of action and findings from animal studies, YERVOY can cause fetal harm when administered to a pregnant woman. In animal reproduction studies, administration of ipilimumab to cynomolgus monkeys from the onset of organogenesis through delivery resulted in higher incidences of abortion, stillbirth, premature delivery (with corresponding lower birth weight) and higher incidences of infant mortality in a dose-related manner. The effects of ipilimumab are likely to be greater during the second and third trimesters of pregnancy. Advise pregnant women of the potential risk to a fetus. Advise females of reproductive potential to use effective contraception during treatment with YERVOY- and for 3 months after the last dose *[see Use in Specific Populations (8.1, 8.3)]*.

5.5 5.5 Risks Associated When Administered in Combination with Nivolumab

YERVOY is indicated for use in combination with nivolumab for patients with advanced RCC, MSI-H or dMMR mCRC, HCC, and NSCLC. Refer to the nivolumab Full Prescribing Information for additional risk information that applies to the combination use treatment.

5.6 Patients on controlled sodium diet

This medicinal product contains 23 mg sodium per 10 ml vial and 92 mg sodium per 40 ml vial, respectively equivalent to 1.15% and 4.60% of the WHO recommended maximum daily intake of 2 g sodium for an adult. To be taken into consideration when treating patients on a controlled sodium diet.

5.7 Traceability

In order to improve the traceability of biological medicinal products, the name of the administered product should be clearly recorded. It is recommended to record the batch number as well.

6 ADVERSE REACTIONS

The following clinically significant adverse reactions are described elsewhere in the labeling:

- Severe and fatal immune-mediated adverse reactions *[see Warnings and Precautions (5.1)]*.
- Infusion-related reactions *[see Warnings and Precautions (5.2)]*.

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 with rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

The data described in the Warnings and Precautions section reflect exposure to YERVOY 3 mg/kg as a single agent (or in combination with an investigational gp100 peptide vaccine) in 511 patients in Study MDX010-20; ~~-~~YERVOY 1 mg/kg administered with nivolumab 3 mg/kg in ~~486~~ 786 patients in CHECKMATE-214, ~~and~~ CHECKMATE-142 and CHECKMATE-743; YERVOY 3 mg/kg administered with nivolumab 1 mg/kg in ~~49~~ 456 patients enrolled in CHECKMATE-067, CHECKMATE-040, and another randomized trial; and to YERVOY 1 mg/kg, administered in combination with nivolumab and platinum-doublet chemotherapy in CHECKMATE-9LA.~~, an open-label, multicenter, randomized trial in adult patients with previously untreated metastatic or recurrent non-small cell lung cancer with no EGFR or ALK genomic tumor aberrations.~~

Unresectable or Metastatic Melanoma

The safety of YERVOY was evaluated in 643 previously treated patients with unresectable or metastatic melanoma in Study MDX010-20 *[see Clinical Studies (14.1)]*. Study MDX010-20 excluded patients with active autoimmune disease or those receiving systemic immunosuppression for organ transplantation. Patients received YERVOY 3 mg/kg by intravenous infusion for 4 doses as a single agent (n=131), YERVOY with an investigational gp100 peptide vaccine (n=380), or gp100 peptide vaccine as a single agent (n=132). Patients in the trial received a median of 4 doses (range: 1 to 4 doses).

The trial population characteristics were: median age 57 years (range: 19 to 90), 59% male, 94% White, and baseline ECOG performance status 0 (56%).

YERVOY was discontinued for adverse reactions in 10% of patients. Table 3 presents adverse reactions from Study MDX010-20.

Table 3: Selected Adverse Reactions (≥ 5%) in Patients Receiving YERVOY with a Difference Between Arms of >5% for All Grades and >1% for Grades 3 to 5 Compared to gp100 Peptide Vaccine in Study MDX010-20

Adverse Reactions	YERVOY 3 mg/kg n=131		YERVOY 3 mg/kg and gp100 n=380		gp100 n=132	
	All Grades (%)	Grade 3 to 5 (%)	All Grades (%)	Grade 3 to 5 (%)	All Grades (%)	Grade 3 to 5 (%)
General and Administration-Site Conditions						
Fatigue	41	7	34	5	31	3
Gastrointestinal						

Table 3: Selected Adverse Reactions (≥ 5%) in Patients Receiving YERVOY with a Difference Between Arms of >5% for All Grades and >1% for Grades 3 to 5 Compared to gp100 Peptide Vaccine in Study MDX010-20

Adverse Reactions	YERVOY 3 mg/kg n=131		YERVOY 3 mg/kg and gp100 n=380		gp100 n=132	
	All Grades (%)	Grade 3 to 5 (%)	All Grades (%)	Grade 3 to 5 (%)	All Grades (%)	Grade 3 to 5 (%)
Diarrhea	32	5	37	4	20	1
Colitis	8	5	5	3	2	0
Dermatologic						
Pruritus	31	0	21	<1	11	0
Rash	29	2	25	2	8	0

Other Clinical Experience

Across clinical studies in which patients received YERVOY as a single agent at doses ranging from 0.3 to 10 mg/kg, the following adverse reactions were also reported (incidence <1% unless otherwise noted): urticaria (2%), large intestinal ulcer, esophagitis, acute respiratory distress syndrome, renal failure, and infusion reaction.

~~Adverse reactions in patients with advanced melanoma treated with ipilimumab 3 mg/kg (n= 767). Frequencies are based on pooled data from 9 clinical trials investigating the ipilimumab 3 mg/kg dose in melanoma.~~

~~Common: headache, weight decreased;~~
~~Very common: fatigue, pyrexia, vomiting, nausea, decreased appetite~~

Unresectable or Metastatic Melanoma: In Combination with Nivolumab

The safety of YERVOY, administered with nivolumab or as a single agent, was evaluated in CHECKMATE-067, a randomized (1:1:1), double-blind trial in 937 patients with previously untreated, unresectable or metastatic melanoma *[see Clinical Studies (14.1)]*. The trial excluded patients with autoimmune disease, a medical condition requiring systemic treatment with corticosteroids (more than 10 mg daily prednisone equivalent) or other immunosuppressive medication within 14 days of the start of study therapy, a positive test result for hepatitis B or C, or a history of HIV.

Patients were randomized to receive:

- YERVOY 3 mg/kg by intravenous infusion over 90 minutes with nivolumab 1 mg/kg by intravenous infusion every 3 weeks for 4 doses followed by nivolumab as a single agent at a dose of 3 mg/kg by intravenous infusion every 2 weeks (YERVOY and nivolumab arm; n=313), or
- Nivolumab 3 mg/kg by intravenous infusion every 2 weeks (nivolumab arm; n=313), or
- YERVOY 3 mg/kg by intravenous infusion over 90 minutes every 3 weeks for up to 4 doses (YERVOY arm; n=311).

The median duration of exposure to nivolumab was 2.8 months (range: 1 day to 36.4 months) for the YERVOY and nivolumab arm. In the YERVOY and nivolumab arm, 39% were exposed to nivolumab for ≥6 months and 30% exposed for >1 year.

Serious adverse reactions (74%), adverse reactions leading to permanent discontinuation (47%) or to dosing delays (58%), and Grade 3 or 4 adverse reactions (72%) occurred in patients treated with YERVOY and nivolumab.

The most frequent (≥10%) serious adverse reactions in the YERVOY and nivolumab arm were diarrhea (13%), colitis (10%), and pyrexia (10%). The most frequent adverse reactions leading to discontinuation of both drugs in the YERVOY and nivolumab arm were colitis (10%), diarrhea (8%), increased ALT (4.8%), increased AST (4.5%), and pneumonitis (1.9%).

The most common (≥20%) adverse reactions in the YERVOY and nivolumab arm were fatigue, diarrhea, rash, nausea, pyrexia, pruritus, musculoskeletal pain, vomiting, decreased appetite, cough, headache, dyspnea, upper respiratory tract infection, arthralgia, and increased transaminases.

Tables 4 and 5 summarize the incidence of adverse reactions and laboratory abnormalities, respectively, in CHECKMATE-067.

Table 4: Adverse Reactions Occurring in ≥10% of Patients on the YERVOY and Nivolumab Arm or the Nivolumab Arm and at a Higher Incidence than in the YERVOY Arm (Between Arm Difference of ≥5% All Grades or ≥2% Grades 3-4) - CHECKMATE-067

Adverse Reaction	YERVOY and Nivolumab (n=313)		Nivolumab (n=313)		YERVOY (n=311)	
	All Grades (%)	Grades 3-4 (%)	All Grades (%)	Grades 3-4 (%)	All Grades (%)	Grades 3-4 (%)
General						
Fatigue[a]	62	7	59	1.6	51	4.2
Pyrexia	40	1.6	16	0	18	0.6
Gastrointestinal						
Diarrhea	54	11	36	5	47	7
Nausea	44	3.8	30	0.6	31	1.9
Vomiting	31	3.8	20	1.0	17	1.6
Skin and Subcutaneous Tissue						
Rash[b]	53	6	40	1.9	42	3.5
Vitiligo	9	0	10	0.3	5	0

Adverse Reaction	YERVOY and Nivolumab (n=313)		Nivolumab (n=313)		YERVOY (n=311)	
	All Grades (%)	Grades 3-4 (%)	All Grades (%)	Grades 3-4 (%)	All Grades (%)	Grades 3-4 (%)
Musculoskeletal and Connective Tissue						
Musculoskeletal pain[c]	32	2.6	42	3.8	36	1.9
Arthralgia	21	0.3	21	1.0	16	0.3
Metabolism and Nutrition						
Decreased appetite	29	1.9	22	0	24	1.3
Respiratory, Thoracic and Mediastinal						
Cough/productive cough	27	0.3	28	0.6	22	0
Dyspnea/exertional dyspnea	24	2.9	18	1.3	17	0.6
Infections						
Upper respiratory tract infection[d]	23	0	22	0.3	17	0
Endocrine						
Hypothyroidism	19	0.6	11	0	5	0
Hyperthyroidism	11	1.3	6	0	1	0
Investigations						
Decreased weight	12	0	7	0	7	0.3
Vascular						
Hypertension[e]	7	2.2	11	5	9	2.3

Toxicity was graded per NCI CTCAE v4.

[a] Includes asthenia and fatigue.

[b] Includes pustular rash, dermatitis, acneiform dermatitis, allergic dermatitis, atopic dermatitis, bullous dermatitis, exfoliative dermatitis, psoriasiform dermatitis, drug eruption, exfoliative rash, erythematous rash, generalized rash, macular rash, maculopapular rash, morbilliform rash, papular rash, papulosquamous rash, and pruritic rash.

[c] Includes back pain, bone pain, musculoskeletal chest pain, musculoskeletal discomfort, myalgia, neck pain, pain in extremity, and spinal pain.

[d] Includes upper respiratory tract infection, nasopharyngitis, pharyngitis, and rhinitis.

[e] Includes hypertension and blood pressure increased.

Clinically important adverse reactions in <10% of patients who received YERVOY with nivolumab:

Gastrointestinal Disorders: stomatitis, intestinal perforation

Skin and Subcutaneous Tissue Disorders: vitiligo

Musculoskeletal and Connective Tissue Disorders: myopathy, Sjogren's syndrome, spondyloarthropathy, myositis (including polymyositis)

Nervous System Disorders: neuritis, peroneal nerve palsy

Table 5: Laboratory Abnormalities Worsening from Baseline[a] Occurring in ≥20% of Patients Treated with YERVOY with Nivolumab or Single-Agent Nivolumab and at a Higher Incidence than in the YERVOY Arm (Between Arm Difference of ≥5% All Grades or ≥2% Grades 3-4) - CHECKMATE-067

Laboratory Abnormality	YERVOY and Nivolumab		Nivolumab		YERVOY	
	All Grades (%)	Grade 3-4 (%)	All Grades (%)	Grade 3-4 (%)	All Grades (%)	Grade 3-4 (%)
Chemistry						
Increased ALT	55	16	25	3.0	29	2.7
Hyperglycemia	53	5	46	7	26	0
Increased AST	52	13	29	3.7	29	1.7
Hyponatremia	45	10	22	3.3	26	7
Increased lipase	43	22	32	12	24	7
Increased alkaline phosphatase	41	6	27	2.0	23	2.0
Hypocalcemia	31	1.1	15	0.7	20	0.7
Increased amylase	27	10	19	2.7	15	1.6
Increased creatinine	26	2.7	19	0.7	17	1.3
Hematology						
Anemia	52	2.7	41	2.6	41	6
Lymphopenia	39	5	41	4.9	29	4.0

[a] Each test incidence is based on the number of patients who had both baseline and at least one on-study laboratory measurement available: YERVOY and nivolumab (range: 75 to 297); nivolumab (range: 81 to 306); YERVOY (range: 61 to 301)

Advanced Renal Cell Carcinoma: In Combination with Nivolumab

The safety of YERVOY in combination with nivolumab was evaluated in 1082 patients with previously untreated advanced RCC in CHECKMATE-214 *[see Clinical Studies (14.2)]*. Patients received YERVOY 1 mg/kg with nivolumab 3 mg/kg intravenously every 3 weeks for 4 doses followed by nivolumab as a single agent at a dose of 3 mg/kg every 2 weeks (n=547) or sunitinib 50 mg orally daily for first 4 weeks of each 6-week cycle (n=535). The median duration of treatment was 7.9 months (range: 1 day to 21.4+ months) in YERVOY and nivolumab arm. In this trial, 57% of patients in the YERVOY and nivolumab arm were exposed to treatment for greater than 6 months and 38% of patients were exposed to treatment for greater than 1 year.

Serious adverse reactions occurred in 59% of patients receiving YERVOY with nivolumab. The most frequent serious adverse reactions reported in ≥2% of patients treated with YERVOY and nivolumab were diarrhea, pyrexia, pneumonia, pneumonitis, hypophysitis, acute kidney injury, dyspnea, adrenal insufficiency, and colitis.

In patients who received YERVOY with nivolumab, study therapy was discontinued for adverse reactions in 31% and delayed for adverse reactions in 54%.

The most common adverse reactions (≥20%) in the YERVOY and nivolumab arm were fatigue, rash, diarrhea, musculoskeletal pain, pruritus, nausea, cough, pyrexia, arthralgia, vomiting, dyspnea, and decreased appetite. Table 4 6 summarizes adverse reactions in CHECKMATE-214.

Table ~~4~~6: Adverse Reactions (>15%) in Patients Receiving YERVOY and Nivolumab in CHECKMATE-214

Adverse Reaction	YERVOY 1 mg/kg and Nivolumab n=547		Sunitinib n=535	
	Grades 1-4 (%)	Grades 3-4 (%)	Grades 1-4 (%)	Grades 3-4 (%)
General and Administration Site Conditions				
Fatigue[a]	58	8	69	13
Pyrexia	25	0.7	17	0.6
Edema[b]	16	0.5	17	0.6
Skin and Subcutaneous Tissue				
Rash[c]	39	3.7	25	1.1
Pruritus/generalized pruritus	33	0.5	11	0
Gastrointestinal				
Diarrhea	38	4.6	58	6
Nausea	30	2.0	43	1.5
Vomiting	20	0.9	28	2.1
Abdominal pain	19	1.6	24	1.9
Constipation	17	0.4	18	0
Musculoskeletal and Connective Tissue				
Musculoskeletal pain[d]	37	4.0	40	2.6
Arthralgia	23	1.3	16	0
Respiratory, Thoracic, and Mediastinal				
Cough/productive cough	28	0.2	25	0.4
Dyspnea/exertional dyspnea	20	2.4	21	2.1
Metabolism and Nutrition				
Decreased appetite	21	1.8	29	0.9
Nervous System				
Headache	19	0.9	23	0.9
Endocrine				
Hypothyroidism	18	0.4	27	0.2

Toxicity was graded per NCI CTCAE v4.

[a] Includes asthenia.

[b] Includes peripheral edema, peripheral swelling.

[c] Includes dermatitis described as acneiform, bullous, and exfoliative, drug eruption, rash described as exfoliative, erythematous, follicular, generalized, macular, maculopapular, papular, pruritic, and pustular, fixed-drug eruption.

[d] Includes back pain, bone pain, musculoskeletal chest pain, musculoskeletal discomfort, myalgia, neck pain, pain in extremity, spinal pain.

Table ~~5~~7 summarizes the laboratory abnormalities in CHECKMATE-214.

Table ~~5~~7: Laboratory Abnormalities (>15%) Worsening from Baseline in Patients Receiving YERVOY and Nivolumab in CHECKMATE-214

Laboratory Abnormality	YERVOY 1 mg/kg and Nivolumab[a]		Sunitinib[a]	
	Grades 1-4 (%)	Grades 3-4 (%)	Grades 1-4 (%)	Grades 3-4 (%)
Chemistry				
Increased lipase	48	20	51	20

Table ~~5~~7: Laboratory Abnormalities (>15%) Worsening from Baseline in Patients Receiving YERVOY and Nivolumab in CHECKMATE-214

Laboratory Abnormality	YERVOY 1 mg/kg and Nivolumab[a]		Sunitinib[a]	
	Grades 1-4 (%)	Grades 3-4 (%)	Grades 1-4 (%)	Grades 3-4 (%)
Increased creatinine	42	2.1	46	1.7
Increased ALT	41	7	44	2.7
Increased AST	40	4.8	60	2.1
Increased amylase	39	12	33	7
Hyponatremia	39	10	36	7
Increased alkaline phosphatase	29	2.0	32	1.0
Hyperkalemia	29	2.4	28	2.9
Hypocalcemia	21	0.4	35	0.6
Hypomagnesemia	16	0.4	26	1.6
Hematology				
Anemia	43	3.0	64	9
Lymphopenia	36	5	63	14

[a] Each test incidence is based on the number of patients who had both baseline and at least one on-study laboratory measurement available: nivolumab and YERVOY group (range: 490 to 538 patients) and sunitinib group (range: 485 to 523 patients).

In addition, among patients with TSH ≤ ULN at baseline, a lower proportion of patients experienced a treatment-emergent elevation of TSH > ULN in the YERVOY with nivolumab group compared to the sunitinib group (31% and 61%, respectively).

MSI-H or dMMR Metastatic Colorectal Cancer: In Combination with Nivolumab

The safety of YERVOY with nivolumab was evaluated in 119 patients with previously treated MSI-H or dMMR mCRC in a single-arm cohort of CHECKMATE-142 *[see Clinical Studies (14.3)]*. All patients had received prior fluorouracil-based chemotherapy for metastatic disease; 69% had received prior treatment with a fluoropyrimidine, oxaliplatin, and irinotecan and 29% had received an anti-EGFR antibody. Patients received YERVOY 1 mg/kg and nivolumab 3 mg/kg on Day 1 of each 21-day cycle for 4 doses, then nivolumab 3 mg/kg every 2 weeks until disease progression or unacceptable toxicity. The median duration of exposure for YERVOY was 2.1 months.

Serious adverse reactions occurred in 47% of patients receiving YERVOY and nivolumab. The most frequent serious adverse reactions reported in ≥2% of patients were colitis/diarrhea, hepatic events, abdominal pain, acute kidney injury, pyrexia, and dehydration.

The most common adverse reactions (≥20%) in the YERVOY and nivolumab cohort were fatigue, diarrhea, pyrexia, musculoskeletal pain, abdominal pain, pruritus, nausea, rash, decreased appetite, and vomiting. Table ~~6~~ 8 summarizes adverse reactions in CHECKMATE-142.

Table ~~6~~8: Adverse Reactions Occurring in ≥10% of Patients (CHECKMATE-142)

Adverse Reaction	YERVOY and Nivolumab MSI-H/dMMR Cohort (n=119)	
	All Grades (%)	Grades 3-4 (%)
General and Administration Site Conditions		
Fatigue[a]	49	6
Pyrexia	36	0
Edema[b]	7	0
Gastrointestinal		
Diarrhea	45	3.4
Abdominal pain[c]	30	5
Nausea	26	0.8
Vomiting	20	1.7
Constipation	15	0
Musculoskeletal and Connective Tissue		
Musculoskeletal pain[d]	36	3.4
Arthralgia	14	0.8
Skin and Subcutaneous Tissue		
Pruritus	28	1.7
Rash[e]	25	4.2
Dry Skin	11	0
Infections and Infestations		
Upper respiratory tract infection[f]	9	0
Metabolism and Nutrition		
Decreased appetite	20	1.7
Respiratory, Thoracic, and Mediastinal		
Cough	19	0.8
Dyspnea	13	1.7
Nervous System		
Headache	17	1.7
Dizziness	11	0
Endocrine		
Hyperglycemia	6	1
Hypothyroidism	14	0.8
Hyperthyroidism	12	0
Investigations		
Weight decreased	10	0
Psychiatric		
Insomnia	13	0.8

Toxicity was graded per NCI CTCAE v4.

[a] Includes asthenia.

[b] Includes peripheral edema and peripheral swelling.

[c] Includes upper abdominal pain, lower abdominal pain, and abdominal discomfort.
[d] Includes back pain, pain in extremity, myalgia, neck pain, and bone pain.
[e] Includes dermatitis, dermatitis acneiform, and rash described as maculo-papular, erythematous, and generalized.
[f] Includes nasopharyngitis and rhinitis.

Other clinically important adverse reactions reported in <10% of patients receiving YERVOY in CHECKMATE-142 were encephalitis (0.8%), necrotizing myositis (0.8%), and uveitis (0.8%).

Table ~~7~~ 9 summarizes laboratory abnormalities in CHECKMATE-142.

Table ~~7~~9: Laboratory Abnormalities Worsening from Baseline[a] Occurring in ≥10% of Patients (CHECKMATE-142)

Laboratory Abnormality	YERVOY and Nivolumab MSI-H/dMMR Cohort (n=119)	
	All Grades (%)	Grades 3-4 (%)
Hematology		
Anemia	42	9
Thrombocytopenia	26	0.9
Lymphopenia	25	6
Neutropenia	18	0
Chemistry		
Increased AST	40	12
Increased lipase	39	12
Increased amylase	36	3.4
Increased ALT	33	12
Increased alkaline phosphatase	28	5
Hyponatremia	26	5
Increased creatinine	25	3.6
Hyperkalemia	23	0.9
Increased bilirubin	21	5
Hypomagnesemia	18	0
Hypocalcemia	16	0
Hypokalemia	15	1.8

[a] Each test incidence is based on the number of patients who had both baseline and at least one on-study laboratory measurement available. Number of evaluable patients ranges from 87 to 114 for nivolumab with YERVOY and from 62 to 71 for nivolumab.

Hepatocellular Carcinoma: In Combination with Nivolumab

The safety of YERVOY 3 mg/kg in combination with nivolumab 1 mg/kg was evaluated in a subgroup of 49 patients with HCC and Child-Pugh Class A cirrhosis who progressed on or were intolerant to sorafenib enrolled in Cohort 4 of CHECKMATE-040. YERVOY and nivolumab were administered every 3 weeks for four doses, followed by single-agent nivolumab 240 mg every 2 weeks until disease progression or unacceptable toxicity.

During the YERVOY and nivolumab combination period, 33 of 49 (67%) patients received all four planned doses of YERVOY and nivolumab. During the entire treatment period, the median duration of exposure to YERVOY was 2.1 months (range: 0 to 4.5 months) and to nivolumab was 5.1 months (range: 0 to 35+ months). Forty-seven percent of patients were exposed to treatment for >6 months, and 35% of patients were exposed to treatment for >1 year. Serious adverse reactions occurred in 59% of patients. Treatment was discontinued in 29% of patients and delayed in 65% of patients for an adverse reaction.

Serious adverse reactions reported in ≥4% of patients were pyrexia, diarrhea, anemia, increased AST, adrenal insufficiency, ascites, esophageal varices hemorrhage, hyponatremia, increased blood bilirubin, and pneumonitis.

Table ~~8~~ 10 summarizes the adverse reactions and Table ~~9~~ 11 summarizes the laboratory abnormalities of YERVOY in combination with nivolumab in CHECKMATE-040.

Table ~~8~~10: Adverse Reactions Occurring in ≥10% of Patients Receiving YERVOY in Combination with Nivolumab in Cohort 4 of CHECKMATE-040

Adverse Reaction	YERVOY and Nivolumab (n=49)	
	All Grades (%)	Grades 3-4 (%)
Skin and Subcutaneous Tissue		
Rash	53	8
Pruritus	53	4
Musculoskeletal and Connective Tissue		
Musculoskeletal pain	41	2
Arthralgia	10	0
Gastrointestinal		
Diarrhea	39	4
Abdominal pain	22	6
Nausea	20	0
Ascites	14	6
Constipation	14	0
Dry mouth	12	0
Dyspepsia	12	2
Vomiting	12	2
Stomatitis	10	0
Respiratory, Thoracic and Mediastinal		
Cough	37	0
Dyspnea	14	0
Pneumonitis	10	2
Metabolism and Nutrition		
Decreased appetite	35	2

Table ~~8~~10: Adverse Reactions Occurring in ≥10% of Patients Receiving YERVOY in Combination with Nivolumab in Cohort 4 of CHECKMATE-040

Adverse Reaction	YERVOY and Nivolumab (n=49)	
	All Grades (%)	Grades 3-4 (%)
General		
Fatigue	27	2
Pyrexia	27	0
Malaise	18	2
Edema	16	2
Influenza-like illness	14	0
Chills	10	0
Nervous System		
Headache	22	0
Dizziness	20	0
Endocrine		
Hypothyroidism	20	0
Adrenal insufficiency	18	4
Investigations		
Weight decreased	20	0
Psychiatric		
Insomnia	18	0
Blood and Lymphatic System		
Anemia	10	4
Infections		
Influenza	10	2
Vascular		
Hypotension	10	0

Clinically important adverse reactions reported in <10% of patients receiving YERVOY with nivolumab were hyperglycemia (8%), colitis (4%), and increased blood creatine phosphokinase (2%).

Table ~~9~~11: Select Laboratory Abnormalities (≥10%) Worsening from Baseline in Patients Receiving YERVOY in Combination with Nivolumab in Cohort 4 of CHECKMATE-040

Laboratory Abnormality	YERVOY and Nivolumab (n=47)	
	All Grades (%)	Grades 3-4 (%)
Hematology		
Lymphopenia	53	13
Anemia	43	4.3
Neutropenia	43	9
Leukopenia	40	2.1
Thrombocytopenia	34	4.3
Chemistry		
Increased AST	66	40
Increased ALT	66	21
Increased bilirubin	55	11
Increased lipase	51	26
Hyponatremia	49	32

Hypocalcemia	47	0
Increased alkaline phosphatase	40	4.3
Increased amylase	38	15
Hypokalemia	26	2.1
Hyperkalemia	23	4.3
Increased creatinine	21	0
Hypomagnesemia	11	0

In patients who received YERVOY with nivolumab, virologic breakthrough occurred in 4 of 28 (14%) patients and 2 of 4 (50%) patients with active HBV or HCV at baseline, respectively. HBV virologic breakthrough was defined as at least a 1 log increase in HBV DNA for those patients with detectable HBV DNA at baseline. HCV virologic breakthrough was defined as a 1 log increase in HCV RNA from baseline.

First-line Treatment of Metastatic or Recurrent NSCLC: In Combination with Nivolumab and Platinum-Doublet Chemotherapy

The safety of YERVOY in combination with nivolumab and platinum-doublet chemotherapy was evaluated in CHECKMATE-9LA *[see Clinical Studies (14.5)]*. Patients received either YERVOY 1 mg/kg administered every 6 weeks in combination with nivolumab 360 mg administered every 3 weeks and platinum-doublet chemotherapy administered every 3 weeks for 2 cycles; or platinum-doublet chemotherapy administered every 3 weeks for 4 cycles. The median duration of therapy in YERVOY in combination with nivolumab and platinum-doublet chemotherapy was 6 months (range: 1 day to 19 months): 50% of patients received YERVOY and nivolumab for >6 months and 13% of patients received YERVOY and nivolumab for >1 year.

Serious adverse reactions occurred in 57% of patients who were treated with YERVOY in combination with nivolumab and platinum-doublet chemotherapy. The most frequent (>2%) serious adverse reactions were pneumonia, diarrhea, febrile neutropenia, anemia, acute kidney injury, musculoskeletal pain, dyspnea, pneumonitis, and respiratory failure. Fatal adverse reactions occurred in 7 (2%) patients, and included hepatic toxicity, acute renal failure, sepsis, pneumonitis, diarrhea with hypokalemia, and massive hemoptysis in the setting of thrombocytopenia.

Study therapy with YERVOY in combination with nivolumab and platinum-doublet chemotherapy was permanently discontinued for adverse reactions in 24% of patients and 56% had at least one treatment withheld for an adverse reaction. The most common (>20%) adverse reactions were fatigue, musculoskeletal pain, nausea, diarrhea, rash, decreased appetite, constipation, and pruritus.

Tables ~~10~~ 12 and ~~11~~ 13 summarize selected adverse reactions and laboratory abnormalities, respectively, in CHECKMATE-9LA.

Table ~~10~~12: Adverse Reactions in >10% of Patients Receiving YERVOY and Nivolumab and Platinum-Doublet Chemotherapy - CHECKMATE-9LA

Adverse Reaction	YERVOY and Nivolumab and Platinum-Doublet Chemotherapy (n=358)		Platinum-Doublet Chemotherapy (n=349)	
	All Grades (%)	Grades 3-4 (%)	All Grades (%)	Grades 3-4 (%)
General				
Fatigue[a]	49	5	40	4.9
Pyrexia	14	0.6	10	0.6
Musculoskeletal and Connective Tissue				
Musculoskeletal pain[b]	39	4.5	27	2.0
Gastrointestinal				
Nausea	32	1.7	41	0.9
Diarrhea[c]	31	6	18	1.7
Constipation	21	0.6	23	0.6
Vomiting	18	2.0	17	1.4
Abdominal pain[d]	12	0.6	11	0.9
Skin and Subcutaneous Tissue				
Rash[e]	30	4.7	10	0.3
Pruritus[f]	21	0.8	2.9	0
Alopecia	11	0.8	10	0.6
Metabolism and Nutrition				
Decreased appetite	28	2.0	22	1.7
Respiratory, Thoracic and Mediastinal				
Cough[g]	19	0.6	15	0.9
Dyspnea[h]	18	4.7	14	3.2
Endocrine				
Hypothyroidism[i]	19	0.3	3.4	0
Nervous System				
Headache	11	0.6	7	0
Dizziness[j]	11	0.6	6	0

Toxicity was graded per NCI CTCAE v4.

[a] Includes fatigue and asthenia

[b] Includes myalgia, back pain, pain in extremity, musculoskeletal pain, bone pain, flank pain, muscle spasms, musculoskeletal chest pain, musculoskeletal disorder, osteitis, musculoskeletal stiffness, non-cardiac chest pain, arthralgia, arthritis, arthropathy, joint effusion, psoriatic arthropathy, synovitis

[c] Includes colitis, ulcerative colitis, diarrhea, and enterocolitis

[d] Includes abdominal discomfort, abdominal pain, lower abdominal pain, upper abdominal pain, and gastrointestinal pain

[e] Includes acne, dermatitis, acneiform dermatitis, allergic dermatitis, atopic dermatitis, bullous dermatitis, generalized exfoliative dermatitis, eczema, keratoderma blenorrhagica, palmar-plantar erythrodysaesthesia syndrome, rash, erythematous rash, generalized rash, macular rash, maculo-papular rash, morbilliform rash, papular rash, pruritic rash, skin exfoliation, skin reaction, skin toxicity, Stevens-Johnson syndrome, urticaria

[f] Includes pruritus and generalized pruritus

[g] Includes cough, productive cough, and upper-airway cough syndrome

[h] Includes dyspnea, dyspnea at rest, and exertional dyspnea

[i] Includes autoimmune thyroiditis, increased blood thyroid stimulating hormone, hypothyroidism, thyroiditis, and decreased free tri-iodothyronine

[j] Includes dizziness, vertigo and positional vertigo

Table ~~11~~13: Laboratory Values Worsening from Baseline[a] Occurring in >20% of Patients on YERVOY and Nivolumab and Platinum-Doublet Chemotherapy - CHECKMATE-9LA

Laboratory Abnormality	YERVOY and Nivolumab and Platinum-Doublet Chemotherapy		Platinum-Doublet Chemotherapy	
	Grades 1-4 (%)	Grades 3-4 (%)	Grades 1-4 (%)	Grades 3-4 (%)
Hematology				
Anemia	70	9	74	16
Lymphopenia	41	6	40	11
Neutropenia	40	15	42	15
Leukopenia	36	10	40	9
Thrombocytopenia	23	4.3	24	5
Chemistry				
Hyperglycemia	45	7	42	2.6
Hyponatremia	37	10	27	7
Increased ALT	34	4.3	24	1.2
Increased lipase	31	12	10	2.2
Increased alkaline phosphatase	31	1.2	26	0.3
Increased amylase	30	7	19	1.3
Increased AST	30	3.5	22	0.3
Hypomagnesemia	29	1.2	33	0.6
Hypocalcemia	26	1.4	22	1.8
Increased creatinine	26	1.2	23	0.6
Hyperkalemia	22	1.7	21	2.1

[a] Each test incidence is based on the number of patients who had both baseline and at least one on-study laboratory measurement available: YERVOY and nivolumab and platinum-doublet chemotherapy group (range: 197 to 347 patients) and platinum-doublet chemotherapy group (range: 191 to 335 patients).

First-line Treatment of Unresectable Malignant Pleural Mesothelioma: In Combination with Nivolumab

The safety of YERVOY in combination with nivolumab was evaluated in CHECKMATE-743, a randomized, open-label trial in patients with previously untreated unresectable malignant pleural mesothelioma *[see Clinical Studies (14.6)]*. Patients received either YERVOY 1 mg/kg over 30 minutes by intravenous infusion every 6 weeks and nivolumab 3 mg/kg over 30 minutes by intravenous infusion every 2 weeks for up to 2 years; or platinum-doublet chemotherapy for up to 6 cycles. The median duration of therapy in YERVOY and nivolumab-treated patients was 5.6 months (range: 0 to 26.2 months); 48% of patients received YERVOY and nivolumab for >6 months and 24% of patients received YERVOY and nivolumab for >1 year.

Serious adverse reactions occurred in 54% of patients who were treated with YERVOY in combination with nivolumab. The most frequent (≥2%) serious adverse reactions were pneumonia, pyrexia, diarrhea, pneumonitis, pleural effusion, dyspnea, acute kidney injury, infusion-related reaction, musculoskeletal pain, and pulmonary embolism. Fatal adverse reactions occurred in 4 (1.3%) patients and included pneumonitis, acute heart failure, sepsis, and encephalitis.

Both YERVOY and nivolumab were permanently discontinued due to adverse reactions in 23% of patients and 52% had at least one dose withheld due to an adverse reaction. An additional 4.7% of patients permanently discontinued YERVOY alone due to adverse reactions.

The most common (≥20%) adverse reactions were fatigue, musculoskeletal pain, rash, diarrhea, dyspnea, nausea, decreased appetite, cough, and pruritus.

Tables 14 and 15 summarize adverse reactions and laboratory abnormalities, respectively, in CHECKMATE-743.

Table 14: Adverse Reactions in ≥10% of Patients Receiving YERVOY and Nivolumab - CHECKMATE-743

Adverse Reaction	YERVOY and Nivolumab (n=300)		Chemotherapy (n=284)	
	All Grades (%)	Grades 3-4 (%)	All Grades (%)	Grades 3-4 (%)
General				
Fatigue[a]	43	4.3	45	6
Pyrexia[b]	18	1.3	4.6	0.7
Edema[c]	17	0	8	0
Musculoskeletal and Connective Tissue				
Musculoskeletal pain[d]	38	3.3	17	1.1
Arthralgia	13	1.0	1.1	0
Skin and Subcutaneous Tissue				
Rash[e]	34	2.7	11	0.4
Pruritus[f]	21	1.0	1.4	0
Gastrointestinal				
Diarrhea[g]	32	6	12	1.1
Nausea	24	0.7	43	2.5
Constipation	19	0.3	30	0.7
Abdominal pain[h]	15	1	10	0.7
Vomiting	14	0	18	2.1
Respiratory, Thoracic, and Mediastinal				
Dyspnea[i]	27	2.3	16	3.2
Cough[j]	23	0.7	9	0
Metabolism and Nutrition				
Decreased appetite	24	1.0	25	1.4
Endocrine				
Hypothyroidism[k]	15	0	1.4	0
Infections and Infestations				
Upper respiratory tract infection[l]	12	0.3	7	0
Pneumonia[m]	10	4.0	4.2	2.1

[a] Includes fatigue and asthenia.

[b] Includes pyrexia and tumor-associated fever.

[c] Includes edema, generalized edema, peripheral edema, and peripheral swelling.

[d] Includes musculoskeletal pain, back pain, bone pain, flank pain, involuntary muscle contractions, muscle spasms, muscle twitching, musculoskeletal chest pain, musculoskeletal stiffness, myalgia, neck pain, non-cardiac chest pain, pain in extremity, polymyalgia rheumatica, and spinal pain.

[e] Includes rash, acne, acneiform dermatitis, allergic dermatitis, atopic dermatitis, autoimmune dermatitis, bullous dermatitis, contact dermatitis, dermatitis, drug eruption, dyshidrotic eczema, eczema, erythematous rash, exfoliative rash, generalized exfoliative dermatitis, generalized rash, granulomatous dermatitis, keratoderma blenorrhagica, macular rash, maculopapular rash, morbilliform rash, nodular rash, papular rash, psoriasiform dermatitis, pruritic rash, pustular rash, skin exfoliation, skin reaction, skin toxicity, Stevens-Johnson syndrome, toxic skin eruption, and urticaria.

[f] Includes pruritus, allergic pruritus, and generalized pruritus.

[g] Includes diarrhea, colitis, enteritis, infectious enteritis, enterocolitis, infectious enterocolitis, microscopic colitis, ulcerative colitis, and viral enterocolitis.

[h] Includes abdominal pain, abdominal discomfort, abdominal tenderness, gastrointestinal pain, lower abdominal pain, and upper abdominal pain.

[i] Includes dyspnea, dyspnea at rest, and exertional dyspnea.

[j] Includes cough, productive cough, and upper-airway cough syndrome.

[k] Includes hypothyroidism, autoimmune thyroiditis, decreased free tri-iodothyronine, increased blood thyroid stimulating hormone, primary hypothyroidism, thyroiditis, and autoimmune hypothyroidism.

[l] Includes upper respiratory tract infection, nasopharyngitis, pharyngitis, and rhinitis.

[m] Includes pneumonia, lower respiratory tract infection, lung infection, aspiration pneumonia, and Pneumocystis jirovecii pneumonia.

Table 15: Laboratory Values Worsening from Baseline[a] Occurring in ≥20% of Patients on YERVOY and Nivolumab - CHECKMATE-743

Laboratory Abnormality	YERVOY and Nivolumab		Chemotherapy	
	Grades 1-4 (%)	Grades 3-4 (%)	Grades 1-4 (%)	Grades 3-4 (%)
Chemistry				
Hyperglycemia	53	3.7	34	1.1
Increased AST	38	7	17	0
Increased ALT	37	7	15	0.4
Increased lipase	34	13	9	0.8
Hyponatremia	32	8	21	2.9
Increased alkaline phosphatase	31	3.1	12	0
Hyperkalemia	30	4.1	16	0.7
Hypocalcemia	28	0	16	0
Increased amylase	26	5	13	0.9
Increased creatinine	20	0.3	20	0.4
Hematology				
Lymphopenia	43	8	57	14
Anemia	43	2.4	75	15

[a] Each test incidence is based on the number of patients who had both baseline and at least one on-study laboratory measurement available: YERVOY and nivolumab group (range: 109 to 297 patients) and chemotherapy group (range: 90 to 276 patients).

6.2 Immunogenicity

As with all therapeutic proteins, there is a potential for immunogenicity. The detection of antibody formation is highly dependent on the sensitivity and specificity of the assay. Additionally, the observed incidence of antibody (including neutralizing antibody) positivity in an assay may be influenced by several factors including assay methodology, sample handling, timing of sample collection, concomitant medications, and underlying disease. For these reasons, comparison of the incidence of antibodies in the studies described below with the incidences of antibodies to other studies or to other products may be misleading.

Eleven (1.1%) of 1024 evaluable patients with unresectable or metastatic melanoma tested positive for treatment-emergent binding antibodies against ipilimumab in an electrochemiluminescent (ECL) based assay. This assay had substantial limitations in detecting anti-ipilimumab antibodies in the presence of ipilimumab. No patients tested positive for neutralizing antibodies. No infusion-related reactions occurred in patients who tested positive for anti-ipilimumab antibodies.

Of the 499 patients evaluable for anti-ipilimumab antibodies in CHECKMATE-214 and CHECKMATE-142, 27 (5.4%) were positive for anti-ipilimumab antibodies; there were no patients with neutralizing antibodies against ipilimumab. There was no evidence of increased incidence of infusion reactions to YERVOY in patients with anti-ipilimumab antibodies.

Of 305 patients evaluable for anti-ipilimumab antibodies in CHECKMATE-9LA, 8% were positive for anti-ipilimumab antibodies and 1.6% were positive for anti-ipilimumab neutralizing antibodies. There was no evidence of increased incidence of infusion reactions to YERVOY in patients with anti-ipilimumab antibodies. Of 308 patients evaluable for anti-nivolumab antibodies in CHECKMATE-9LA, 34% were positive for anti-nivolumab antibodies and 2.6% had neutralizing antibodies against nivolumab.

Of 271 patients evaluable for anti-ipilimumab antibodies in CHECKMATE-743, 13.7% were positive for anti-ipilimumab antibodies and 0.4% were positive for anti-ipilimumab neutralizing antibodies. Of 269 patients evaluable for anti-nivolumab antibodies in CHECKMATE-743, 25.7% were positive for anti-nivolumab antibodies and 0.7% had neutralizing antibodies against nivolumab.

6.3 Postmarketing Experience

The following adverse reactions have been identified during postapproval use of YERVOY. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

Blood and lymphatic system disorders: hemophagocytic lymphohistiocytosis (HLH)

Immune System: graft-versus-host disease, solid organ transplant rejection

Skin and Subcutaneous Tissue: Drug reaction with eosinophilia and systemic symptoms (DRESS syndrome)

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation 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

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Based on findings from animal studies and its mechanism of action *[see Clinical Pharmacology (12.1)]*, YERVOY can cause fetal harm when administered to a pregnant woman. There is insufficient human data for YERVOY exposure in pregnant women. In animal reproduction studies, administration of ipilimumab to cynomolgus monkeys from the onset of organogenesis through delivery resulted in higher incidences of abortion, stillbirth, premature delivery (with corresponding lower birth weight), and higher incidences of infant mortality in a dose-related manner *(see Data)*. The effects of ipilimumab are likely to be greater during the second and third trimesters of pregnancy. Human IgG1 is known to cross the placental barrier and ipilimumab is an IgG1; therefore, ipilimumab has the potential to be transmitted from the mother to the developing fetus. 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 a combined study of embryo-fetal and peri-postnatal development, pregnant cynomolgus monkeys received ipilimumab every 3 weeks from the onset of organogenesis in the first trimester through parturition. No treatment-related adverse effects on reproduction were detected during the first two trimesters of pregnancy. Beginning in the third trimester, administration of ipilimumab at doses resulting in exposures approximately 2.6 to 7.2 times the human exposure at a dose of 3 mg/kg resulted in dose-related increases in abortion, stillbirth, premature delivery (with corresponding lower birth weight), and an increased incidence of infant mortality. In addition, developmental abnormalities were identified in the urogenital system of 2 infant monkeys exposed *in utero* to 30 mg/kg of ipilimumab (7.2 times the humans exposure based on area under the curve at a dose of 3 mg/kg). One female infant monkey had unilateral renal

agenesis of the left kidney and ureter, and 1 male infant monkey had an imperforate urethra with associated urinary obstruction and subcutaneous scrotal edema.

Genetically engineered mice heterozygous for CTLA-4 (CTLA-4+/−), the target for ipilimumab, appeared healthy and gave birth to healthy CTLA-4+/− heterozygous offspring. Mated CTLA-4+/− heterozygous mice also produced offspring deficient in CTLA-4 (homozygous negative, CTLA-4−/−). The CTLA-4−/− homozygous negative offspring appeared healthy at birth, exhibited signs of multiorgan lymphoproliferative disease by 2 weeks of age, and all died by 3 to 4 weeks of age with massive lymphoproliferation and multiorgan tissue destruction.

8.2 Lactation

Risk Summary

There are no data on the presence of YERVOY in human milk or its effects on the breastfed child or milk production. In monkeys, ipilimumab was present in milk (see Data). Because of the potential for serious adverse reactions in breastfed children, advise women not to breastfeed during treatment with YERVOY and for 3 months following the last dose.

Data

In monkeys treated at dose levels resulting in exposures 2.6 and 7.2 times higher than those in humans at a 3 mg/kg dose, ipilimumab was present in milk at concentrations of 0.1 mcg/mL and 0.4 mcg/mL, representing a ratio of up to 0.3% of the steady-state serum concentration of the drug.

8.3 Females and Males of Reproductive Potential

Pregnancy Testing

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

Contraception

YERVOY can cause fetal harm when administered to a pregnant woman *[see Use in Specific Populations (8.1)]*. Advise females of reproductive potential to use effective contraception during treatment with YERVOY and for 3 months following the last dose.

8.4 Pediatric Use

The safety and effectiveness of YERVOY have been established in pediatric patients 12 years and older for the treatment of MSI-H or dMMR mCRC that has progressed following treatment with a fluoropyrimidine, oxaliplatin, and irinotecan. Use of YERVOY in this age group is supported by evidence from adequate and well-controlled studies of YERVOY in adults and population pharmacokinetic data demonstrating that the exposure at doses of 1 mg/kg in the pediatric and adult populations are comparable. In addition, the tumor biology and course of MSI-H or dMMR mCRC are sufficiently similar in adults and pediatric patients 12 years and older to allow extrapolation of data from adults to pediatric patients.

The safety and effectiveness for pediatric patients 12 years and older have not been established for the treatment of melanoma or for the treatment of renal cell carcinoma. In addition, the safety and effectiveness have not been established with YERVOY for any indication in pediatric patients less than 12 years of age.

8.5 Geriatric Use

Of the 511 patients treated with YERVOY in Study MDX010-20 (unresectable or metastatic melanoma), 28% were 65 years and over. No overall differences in safety or effectiveness were observed between these patients and younger patients.

Of the 314 patients randomized to YERVOY administered with nivolumab in CHECKMATE-067, 41% were 65 years or older and 11% were 75 years or older. No overall differences in safety or effectiveness were reported between elderly patients and younger patients.

CHECKMATE-142 (metastatic colorectal cancer) did not include sufficient numbers of patients aged 65 years and older to determine whether they respond differently from younger patients.

Of the 550 patients randomized to YERVOY 1 mg/kg with nivolumab in CHECKMATE-214 (renal cell carcinoma), 38% were 65 years or older and 8% were 75 years or older. No overall difference in safety was observed between these patients and younger patients. In geriatric patients with intermediate or poor risk, no overall difference in effectiveness was observed.

Of the 49 patients who received YERVOY 3 mg/kg with nivolumab in Cohort 4 of CHECKMATE-040 (hepatocellular carcinoma), 29% were between 65 years and 74 years of age and 8% were 75 years or older. Clinical studies of YERVOY in combination with nivolumab did not include sufficient numbers of patients with hepatocellular carcinoma aged 65 and over to determine whether they respond differently from younger patients.

Of the 361 patients randomized to YERVOY 1 mg/kg every 6 weeks in combination with nivolumab 360 mg every 3 weeks and platinum-doublet chemotherapy every 3 weeks (for 2 cycles) in CHECKMATE-9LA (NSCLC), 51% were 65 years or older and 10% were 75 years or older. No overall difference in safety was reported between older patients and younger patients; however, there was a higher discontinuation rate due to adverse reactions in patients aged 75 years or older (43%) relative to all patients who received YERVOY with nivolumab and chemotherapy (24%). For patients aged 75 years or older who received chemotherapy only, the discontinuation rate due to adverse reactions was 16% relative to all patients who had a discontinuation rate of 13%. Based on an updated analysis for overall survival, of the 361 patients randomized to YERVOY in combination with nivolumab and platinum-doublet chemotherapy in CHECKMATE-9LA, the hazard ratio for overall survival was 0.61 (95% CI: 0.47, 0.80) in the 176 patients younger than 65 years compared to 0.73 (95% CI: 0.56, 0.95) in the 185 patients 65 years or older.

Of the 303 patients randomized to YERVOY 1 mg/kg every 6 weeks in combination with nivolumab 3 mg/kg every 2 weeks in CHECKMATE-743 (malignant pleural mesothelioma), 77% were 65 years old or older and 26% were 75 years or older. No overall difference in safety was reported between older patients and younger patients; however, there were higher rates of serious adverse reactions and discontinuation rate due to adverse reactions in patients aged 75 years or older (68% and 35%, respectively) relative to all patients who received YERVOY with nivolumab (54% and 28%, respectively). For patients aged 75 years or older who received chemotherapy, the rate of serious adverse reactions was 34% and discontinuation due to adverse reactions was 26% relative to 28% and 19% respectively for all patients. The hazard ratio for overall survival was 0.76 (95% CI: 0.52, 1.11) in the 71 patients younger than 65 years compared to 0.74 (95% CI: 0.59, 0.93) in the 232 patients 65 years or older randomized to YERVOY in combination with nivolumab. The hazard ratio for overall survival was 0.67 (95% CI: 0.54, 0.84) in the patients younger than 75 years compared to 1.01 (95% CI: 0.70, 1.47) in the patients 75 years or older randomized to Yervoy in combination with nivolumab.

11 DESCRIPTION

Ipilimumab is a human cytotoxic T-lymphocyte- antigen 4 (CTLA-4)-blocking antibody. Ipilimumab is a recombinant IgG1 kappa immunoglobulin with an approximate molecular weight of 148 kDa. Ipilimumab is produced in mammalian (Chinese hamster ovary) cell culture.

YERVOY (ipilimumab) injection, for intravenous use, is a sterile, preservative-free, clear to slightly opalescent, colorless to pale-yellow liquid, which may contain a small amount of visible translucent-to-white, amorphous ipilimumab particulates. It is supplied in single-dose vials of 50 mg/10 mL or 200 mg/40 mL. Each milliliter contains 5 mg of ipilimumab and the following inactive ingredients: mannitol 10 mg, sodium chloride 5.85 mg, tris hydrochloride 3.15 mg, polysorbate 80 0.1 mg, diethylene triamine pentaacetic acid (DTPA) 0.04 mg, sodium hydroxide, hydrochloric acid and Water for Injection, USP at a pH of 7.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

CTLA-4 is a negative regulator of T-cell activity. Ipilimumab is a monoclonal antibody that binds to CTLA-4 and blocks the interaction of CTLA-4 with its ligands, CD80/CD86. Blockade of CTLA-4 has been shown to augment T-cell activation and proliferation, including the activation and proliferation of tumor infiltrating T-effector cells. Inhibition of CTLA-4 signaling can also reduce T-regulatory cell function, which may contribute to a general increase in T cell responsiveness, including the anti-tumor immune response.

12.3 Pharmacokinetics

The pharmacokinetics (PK) of ipilimumab was studied in 785 patients with unresectable or metastatic melanoma who received doses of 0.3, 3, or 10 mg/kg once every 3 weeks for 4 doses.

The PK of ipilimumab is linear in the dose range of 0.3 mg/kg to 10 mg/kg. Following administration of YERVOY every 3 weeks, the systemic accumulation was 1.5-fold or less. Steady-state concentrations of ipilimumab were reached by the third dose; the mean minimum concentration (Cmin) at steady-state was 19.4 mcg/mL at 3 mg/kg and 58.1 mcg/mL at 10 mg/kg every 3 weeks.

Elimination

The mean (percent coefficient of variation) terminal half-life ($t_{1/2}$) was 15.4 days (34%) and then mean (percent coefficient of variation) clearance (CL) was 16.8 mL/h (38%).

The CL of ipilimumab was unchanged in presence of anti-ipilimumab antibodies.

Specific Populations

The CL of ipilimumab increased with increasing body weight supporting the recommended body weight (mg/kg) based dosing. The following factors had no clinically important effect on the CL of ipilimumab: age (range: 23 to 88 years), sex, performance status, renal impairment (glomerular filtration rate ≥15 mL/min/1.73 m^2), mild hepatic impairment (total bilirubin [TB] >1 to 1.5 times the upper limit of normal [ULN] or AST > ULN), previous cancer therapy, and baseline lactate dehydrogenase (LDH) levels. The effect of race was not examined due to limited data available in non-White racial groups. YERVOY has not been studied in patients with moderate (TB > 1.5 to 3 times ULN and any AST) or severe (TB >3 times ULN and any AST) hepatic impairment.

Pediatric Patients: Based on a population PK analysis using available pooled data from 565 patients from four adult studies (n=521) and two pediatric studies (n=44), body weight normalized clearance of ipilimumab is comparable between adult and pediatric patients. In pediatric patients with a dosing regimen of 3 mg/kg every 3 weeks, the model simulated geometric mean (CV%) steady-state serum peak and trough concentrations of ipilimumab were 65.8 (17.6%) and 20.7 (33.1%) mcg/mL (for 2 to 6 years old), 70.1 (19.6%) and 19.6 (42.9%) mcg/mL (for 6 to <12 years old), and 73.3 (20.6%) and 17.8 (50.8%) mcg/mL (for 12 years and older), which are comparable to those in adult patients.

Drug Interaction Studies

Ipilimumab with Nivolumab

When YERVOY 1 mg/kg was administered with nivolumab 3 mg/kg every 3 weeks, the CL of ipilimumab was unchanged compared to when YERVOY was administered alone.

When YERVOY 3 mg/kg every 3 weeks was administered in combination with nivolumab 1 mg/kg every 3 weeks, the CL of ipilimumab was unchanged compared to ipilimumab administered alone and the CL of nivolumab was increased by 29% compared to nivolumab administered alone.

When YERVOY 1 mg/kg every 6 weeks was administered in combination with nivolumab 3 mg/kg every 2 weeks, the CL of ipilimumab increased by 30% compared to YERVOY

administered alone and the CL of nivolumab was unchanged compared to nivolumab administered alone.

When YERVOY 1 mg/kg every 6 weeks was administered in combination with nivolumab 360 mg every 3 weeks and chemotherapy, the CL of ipilimumab increased by 22% compared to YERVOY administered alone and the CL of nivolumab was unchanged compared to nivolumab administered alone.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

The carcinogenic potential of ipilimumab has not been evaluated in long-term animal studies, and the genotoxic potential of ipilimumab has not been evaluated.

Fertility studies have not been performed with ipilimumab.

14 CLINICAL STUDIES

14.1 Unresectable or Metastatic Melanoma

The efficacy of YERVOY were investigated in a Study MDX010-20, a randomized (3:1:1), double-blind, double-dummy trial (NCT00094653) that included patients with unresectable or metastatic melanoma previously treated with one or more of the following: aldesleukin, dacarbazine, temozolomide, fotemustine, or carboplatin. The trial enrolled only patients with HLA-A2*0201 genotype; this HLA genotype facilitates the immune presentation of the investigational peptide vaccine. The trial excluded patients with active autoimmune disease or those receiving systemic immunosuppression for organ transplantation. Patients were randomized to YERVOY administered at a dose of 3 mg/kg as an intravenous infusion every 3 weeks for 4 doses with an investigational peptide vaccine with incomplete Freund's adjuvant – gp100 administered at a dose of 2 mg peptide by deep subcutaneous injection every 3 weeks for 4 doses; gp100 administered at a dose of 2 mg by deep subcutaneous injection every 3 weeks for 4 doses as a single agent with a placebo; or YERVOY administered at a dose of 3 mg/kg by intravenous infusion every 3 weeks for 4 doses with a placebo. The major efficacy outcome measure was overall survival (OS) in the YERVOY and gp100 arm compared to that in the single agent gp100 arm. Secondary efficacy outcome measures were OS in the YERVOY and gp100 arm compared to the YERVOY arm, OS in the YERVOY arm compared to the gp100 arm, best overall response rate (BORR) as assessed by the investigator at week 24 between each of the trial arms, and duration of response. Assessment of tumor response was conducted at weeks 12 and 24, and every 3 months thereafter. Patients with evidence of objective tumor response at 12 or 24 weeks had assessment for confirmation of durability of response at 16 or 28 weeks, respectively.

A total of 676 patients were randomized, 403 to YERVOY and gp100 arm, 137 to YERVOY single agent arm and 136 to gp100 single agent arm. Of the randomized patients, 61%, 59%, and 54% in the YERVOY and gp100, YERVOY, and gp100 arms, respectively, were male. Twenty-nine percent were ≥65 years of age, the median age was 57 years, 71% had M1c stage, 12% had a history of previously treated brain metastasis, 98% had ECOG performance status of 0 and 1,

23% had received aldesleukin, and 38% had elevated LDH level. Sixty-one percent of patients randomized to either YERVOY-containing arm received all 4 planned doses. The median duration of follow-up was 8.9 months.

The efficacy results are shown in Table ~~12~~ 16 and Figure 1.

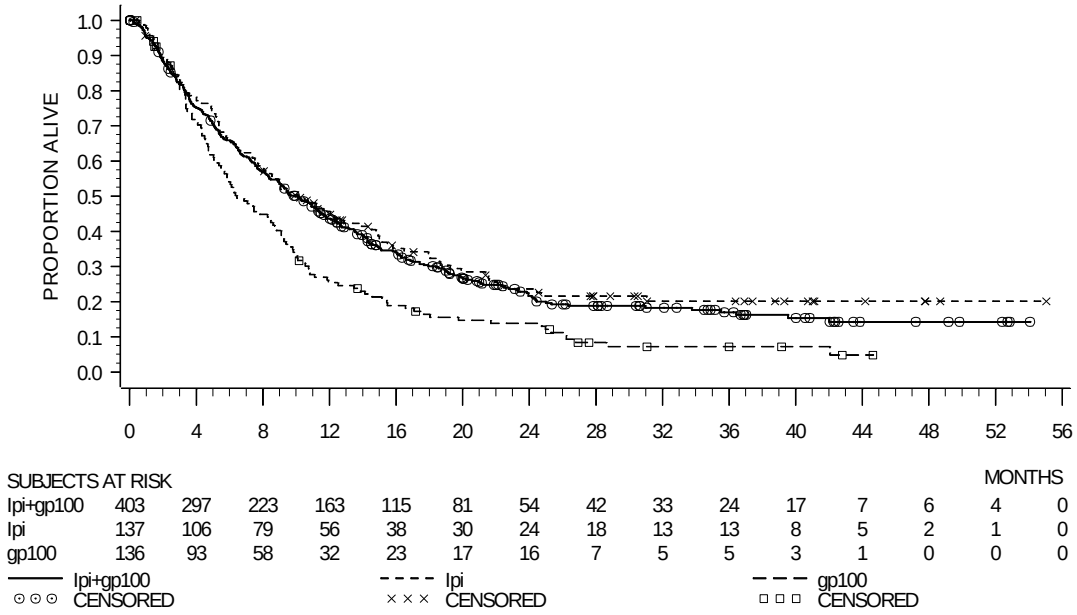
Table ~~12~~16: Efficacy Results for Study MDX010-20

	YERVOY 3 mg/kg n=137	YERVOY 3 mg/kg and gp 100 n=403	gp100 n=136
Overall Survival			
Median in months (95% CI)	10 (8.0, 13.8)	10 (8.5, 11.5)	6 (5.5, 8.7)
Hazard ratio (vs. gp100) (95% CI)	0.66 (0.51, 0.87)	0.68 (0.55, 0.85)	
p-value	p=0.0026[a]	p=0.0004	
Hazard ratio (vs. YERVOY) (95% CI)		1.04 (0.83, 1.30)	
Best Overall Response Rate (BORR) (95% CI)	10.9% (6.3%, 17.4%)	5.7% (3.7%, 8.4%)	1.5% (0.2%, 5.2%)
Median duration of response in months	NR[b]	11.5	NR[b]

[a] Not adjusted for multiple comparisons.

[b] Not reached

Figure 1: Kaplan Meier Curves for Overall Survival in Study MDX010-20



Previously Untreated Metastatic Melanoma: In Combination with Nivolumab

CHECKMATE-067 (NCT01844505) was a multicenter, randomized (1:1:1), double-blind trial in which 945 patients with previously untreated, unresectable or metastatic melanoma were randomized to one of the following arms: YERVOY and nivolumab, nivolumab, or YERVOY. Patients were required to have completed adjuvant or neoadjuvant treatment at least 6 weeks prior to randomization and have no prior treatment with anti-CTLA-4 antibody and no evidence of active brain metastasis, ocular melanoma, autoimmune disease, or medical conditions requiring systemic immunosuppression.

Patients were randomized to receive:

- YERVOY 3 mg/kg with nivolumab 1 mg/kg intravenously every 3 weeks for 4 doses, followed by nivolumab as a single agent at a dose of 3 mg/kg by intravenous infusion every 2 weeks (YERVOY and nivolumab arm),
- Nivolumab 3 mg/kg by intravenous infusion every 2 weeks (nivolumab arm), or
- YERVOY 3 mg/kg intravenously every 3 weeks for 4 doses followed by placebo every 2 weeks (YERVOY arm)

Randomization was stratified by PD-L1 expression (≥5% vs. <5% tumor cell membrane expression) as determined by a clinical trial assay, BRAF V600 mutation status, and M stage per the AJCC staging system (M0, M1a, M1b vs. M1c). Tumor assessments were conducted 12 weeks after randomization then every 6 weeks for the first year, and every 12 weeks thereafter. The major efficacy outcome measures were investigator-assessed PFS per RECIST v1.1 and OS. Additional efficacy outcome measures were confirmed ORR and duration of response.

The trial population characteristics were: median age 61 years (range: 18 to 90); 65% male; 97% White; ECOG performance score 0 (73%) or 1 (27%). Disease characteristics were: AJCC Stage IV disease (93%); M1c disease (58%); elevated LDH (36%); history of brain metastases (4%); BRAF V600 mutation-positive melanoma (32%); PD-L1 ≥5% tumor cell membrane expression as determined by the clinical trials assay (46%); and prior adjuvant therapy (22%).

CHECKMATE-067 demonstrated statistically significant improvements in OS and PFS for patients randomized to either nivolumab-containing arm as compared with the YERVOY arm. The trial was not designed to assess whether adding YERVOY to nivolumab improves PFS or OS compared to nivolumab as a single agent. Efficacy results are shown in Table 17 and Figure 2.

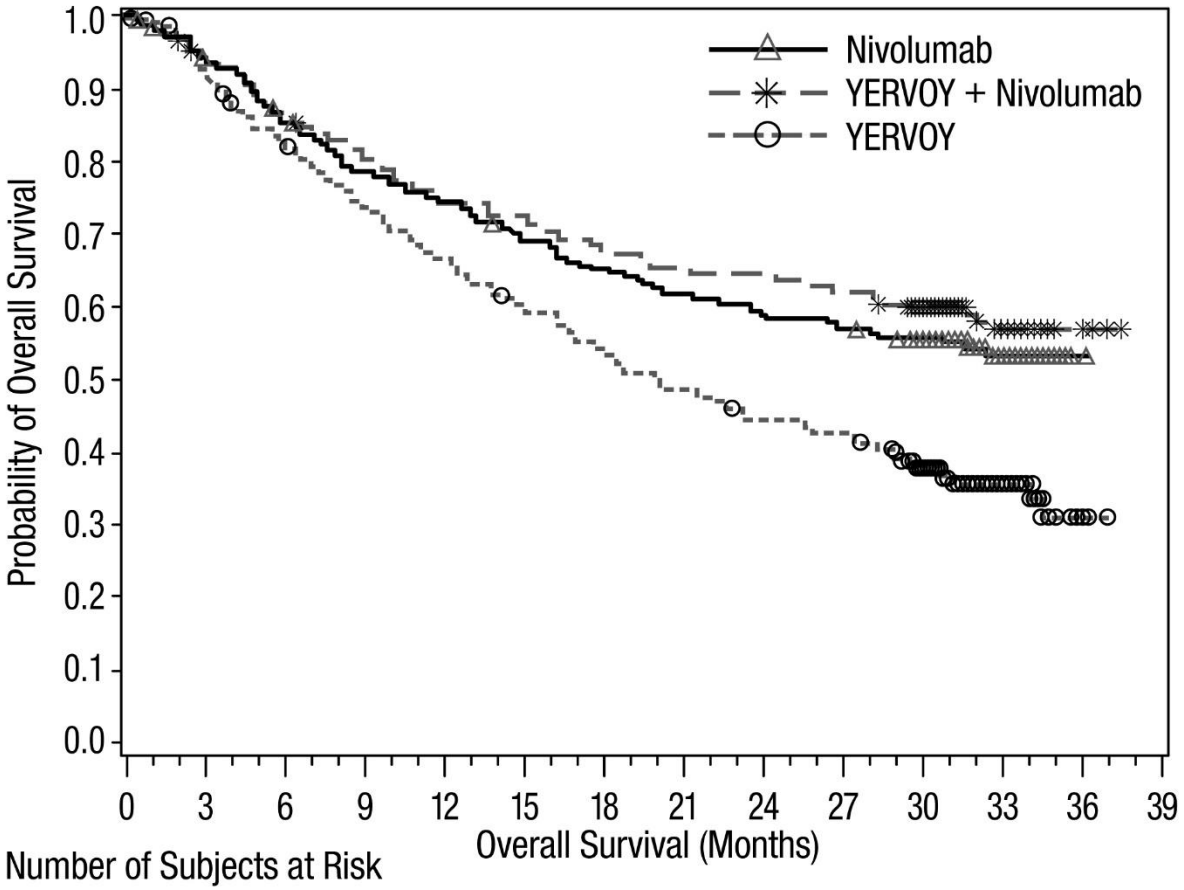
Table 17: Efficacy Results - CHECKMATE-067

	YERVOY and Nivolumab (n=314)	**Nivolumab (n=316)**	**YERVOY (n=315)**
Overall Survival[a]			
Deaths (%)	128 (41)	142 (45)	197 (63)
Hazard ratio[b] (vs. YERVOY) (95% CI)	0.55 (0.44, 0.69)	0.63 (0.50, 0.78)	
p-value[c, d]	<0.0001	<0.0001	
Progression-free Survival[a]			

	YERVOY and Nivolumab (n=314)	**Nivolumab (n=316)**	**YERVOY (n=315)**
Disease progression or death	151 (48%)	174 (55%)	234 (74%)
Median (months) (95% CI)	11.5 (8.9, 16.7)	6.9 (4.3, 9.5)	2.9 (2.8, 3.4)
Hazard ratio[b] (vs. YERVOY) (95% CI)	0.42 (0.34, 0.51)	0.57 (0.47, 0.69)	
p-value[c, e]	<0.0001	<0.0001	
Confirmed Overall Response Rate[a]	50%	40%	14%
(95% CI)	(44, 55)	(34, 46)	(10, 18)
p-value[f]	<0.0001	<0.0001	
Complete response	8.9%	8.5%	1.9%
Partial response	41%	31%	12%
Duration of Response			
Proportion ≥6 months in duration	76%	74%	63%
Range (months)	1.2+ to 15.8+	1.3+ to 14.6+	1.0+ to 13.8+

[a] OS results are based on final OS analysis with 28 months of minimum follow-up; PFS (co-primary endpoint) and ORR (secondary endpoint) results were based on primary analysis with 9 months of minimum follow-up.
[b] Based on a stratified proportional hazards model.
[c] Based on stratified log-rank test.
[d] If the maximum of the two OS p-values is less than 0.04 (a significance level assigned by the Hochberg procedure), then both p-values are considered significant.
[e] p-value is compared with .005 of the allocated alpha for final PFS treatment comparisons.
[f] Based on the stratified Cochran-Mantel-Haenszel test.
+ Censored observation

Figure 2: Overall Survival - CHECKMATE-067



Number of Subjects at Risk

Nivolumab	316	292	265	244	230	213	201	191	181	175	157	55	3	0
YERVOY + Nivolumab	314	292	265	247	226	221	209	200	198	192	170	49	7	0
YERVOY	315	285	254	228	205	182	164	149	136	129	104	34	4	0

Based on a minimum follow-up of 48 months, the median OS was not reached (95% CI: 38.2, NR) in the YERVOY and nivolumab arm. The median OS was 36.9 months (95% CI: 28.3, NR) in the nivolumab arm and 19.9 months (95% CI: 16.9, 24.6) in the YERVOY arm.

Based on a minimum follow-up of 28 months, the median PFS was 11.7 months (95% CI: 8.9, 21.9) in the YERVOY and nivolumab arm, 6.9 months (95% CI: 4.3, 9.5) in the nivolumab arm, and 2.9 months (95% CI: 2.8, 3.2) in the YERVOY arm. Based on a minimum follow-up of 28 months, the proportion of responses lasting ≥24 months was 55% in the YERVOY and nivolumab arm, 56% in the nivolumab arm, and 39% in the YERVOY arm.

14.2 Advanced Renal Cell Carcinoma

The efficacy of YERVOY with nivolumab was evaluated in CHECKMATE-214 (NCT02231749), a randomized (1:1), open-label study in patients with previously untreated advanced RCC. Patients were included regardless of their PD-L1 status. CHECKMATE-214 excluded patients with any history of or concurrent brain metastases, active autoimmune disease, or medical conditions requiring systemic immunosuppression. Patients were randomized to nivolumab 3 mg/kg and YERVOY 1 mg/kg administered intravenously every 3 weeks for 4 doses followed by nivolumab 3 mg/kg every two weeks or to sunitinib administered orally 50 mg daily for the first 4 weeks of each 6-week cycle. Treatment continued until disease progression or unacceptable toxicity. Patients were stratified by International Metastatic RCC Database Consortium (IMDC) prognostic score and region. The major efficacy outcome measures were OS, PFS (IRRC-assessed), and confirmed ORR (IRRC-assessed) in intermediate/poor risk patients. Intermediate/poor risk patients had at least 1 or more of 6 prognostic risk factors as per the IMDC criteria: less than one year from time of initial RCC diagnosis to randomization, Karnofsky performance status (KPS) <80%, hemoglobin less than the lower limit of normal, corrected calcium >10 mg/dL, platelet count > ULN, and absolute neutrophil count > ULN.

A total of 847 patients were randomized, 425 to YERVOY with nivolumab and 422 to sunitinib. The median age was 61 years (range: 21 to 85) with 38% ≥65 years of age and 8% ≥75 years of age. The majority of patients were male (73%) and White (87%) and 26% and 74% of patients had a baseline KPS of 70% to 80% and 90% to 100%, respectively.

Efficacy results from CHECKMATE-214 are presented in Table ~~13~~ 18 and Figure ~~2~~3. In intermediate/poor risk patients, the trial demonstrated statistically significant improvement in OS and ORR for patients randomized to YERVOY and nivolumab arm as compared with sunitinib arm. OS benefit was observed regardless of PD-L1 expression level. The trial did not demonstrate a statistically significant improvement in PFS.

Table ~~13~~18: Efficacy Results for CHECKMATE-214

Efficacy Parameter	**Intermediate/Poor-Risk**	
	YERVOY 1 mg/kg and Nivolumab n=425	**Sunitinib n=422**
Overall Survival		
Number of deaths	140 (32.9%)	188 (44.5%)
Median in months	NE	25.9
Hazard ratio (99.8% CI)[a]	0.63 (0.44, 0.89)	
p-value[b,c]	<0.0001	
Confirmed Objective Response Rate (95% CI)	41.6% (36.9%, 46.5%)	26.5% (22.4%, 31.0%)
Complete Response	40 (9.4%)	5 (1.2%)
Partial Response	137 (32.2%)	107 (25.4%)
Median duration of response in months (95% CI)	NE (21.8, NE)	18.2 (14.8, NE)
p-value[d,e]	<0.0001	
Progression-free Survival		

Table ~~13~~18: Efficacy Results for CHECKMATE-214

Efficacy Parameter	Intermediate/Poor-Risk	
	YERVOY 1 mg/kg and Nivolumab n=425	Sunitinib n=422
Number of events (progression or death)	228 (53.6%)	228 (54.0%)
Median in months	11.6	8.4
Hazard ratio (99.1% CI)[a]	0.82 (0.64, 1.05)	
p-value[b]	NS[f]	

[a] Based on a stratified proportional hazards model.

[b] Based on a stratified log-rank test.

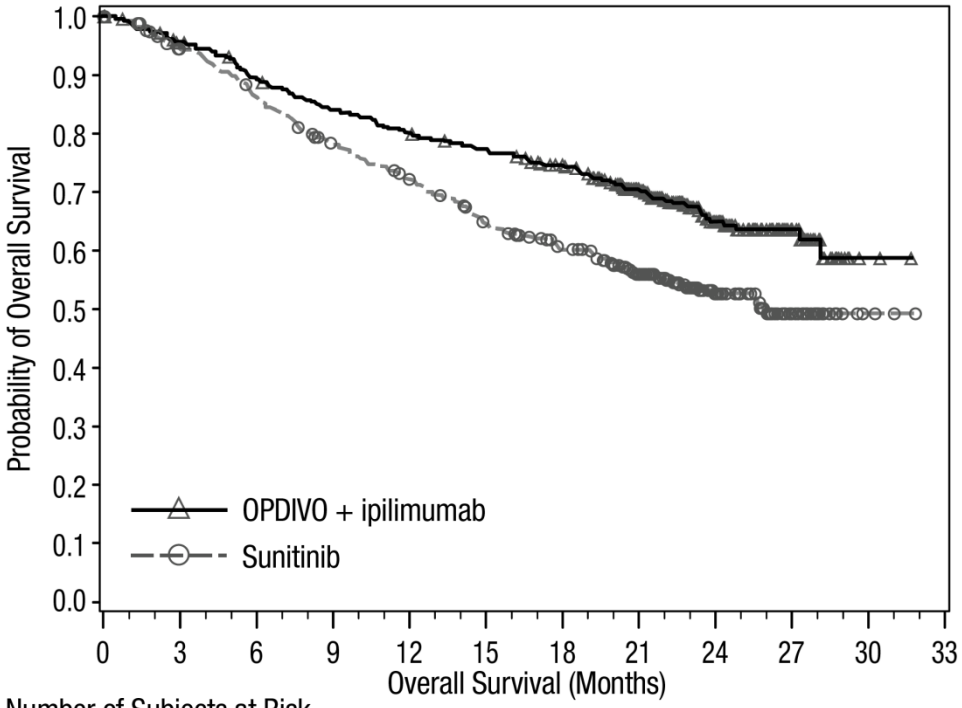
[c] p-value is compared to alpha 0.002 in order to achieve statistical significance.

[d] Based on the stratified DerSimonian-Laird test.

[e] p-value is compared to alpha 0.001 in order to achieve statistical significance.

[f] Not Significant at alpha level of 0.009

Figure ~~2~~3: Kaplan-Meier Curves for Overall Survival (Intermediate/Poor Risk Population) in CHECKMATE-214



CHECKMATE-214 also randomized 249 favorable risk patients as per IMDC criteria to nivolumab and YERVOY (n=125) or to sunitinib (n=124). These patients were not evaluated as

part of the efficacy analysis population. OS in favorable risk patients receiving nivolumab and YERVOY compared to sunitinib has a hazard ratio of 1.45 (95% CI: 0.75, 2.81). The efficacy of nivolumab and YERVOY in previously untreated renal cell carcinoma with favorable risk disease has not been established.

14.3 Microsatellite Instability-High or Mismatch Repair Deficient Metastatic Colorectal Cancer

The efficacy of YERVOY with nivolumab was evaluated in CHECKMATE-142 (NCT02060188), a multicenter, non-randomized, multiple parallel-cohort, open-label study conducted in patients with locally determined dMMR or MSI-H mCRC who had disease progression during or after prior treatment with fluoropyrimidine-, oxaliplatin-, or irinotecan-based chemotherapy. Key eligibility criteria were at least one prior line of treatment for metastatic disease, ECOG PS 0 or 1, and absence of the following: active brain metastases, active autoimmune disease, or medical conditions requiring systemic immunosuppression. Patients enrolled in the YERVOY and nivolumab MSI-H or dMMR mCRC cohort received YERVOY 1 mg/kg and nivolumab 3 mg/kg intravenously every 3 weeks for 4 doses, followed by nivolumab 3 mg/kg intravenously as a single agent every 2 weeks. Efficacy outcome measures were overall response rate (ORR) as assessed by Blinded Independent Central Review (BICR) using Response Evaluation Criteria in Solid Tumors (RECIST v1.1) and duration of response (DOR). Tumor assessments were conducted every 6 weeks for the first 24 weeks and every 12 weeks thereafter.

A total of 119 patients were enrolled in the YERVOY and nivolumab cohort. The median age was 58 years (range: 21 to 88), with 32% ≥65 years of age and 9% ≥75 years of age; 59% were male and 92% were white. Baseline ECOG PS was 0 (45%) or 1 (55%), and 29% were reported to have Lynch Syndrome. Across the cohort, 69% received prior treatment with a fluoropyrimidine, oxaliplatin, and irinotecan; 10%, 40%, 24%, and 15% received 1, 2, 3, or ≥4 prior lines of therapy for metastatic disease, respectively, and 29% had received an anti-EGFR antibody.

Efficacy results are shown in Table ~~14~~19.

Table ~~14~~19: Efficacy Results in MSI-H/dMMR Cohort of CHECKMATE-142

	YERVOY and Nivolumab[a] MSI-H/dMMR Cohort	
	All Patients (n=119)	**Prior Treatment (Fluoropyrimidine, Oxaliplatin, and Irinotecan) (n=82)**
Overall Response Rate per BICR; n (%)	71 (60%)	46 (56%)
(95% CI)[b]	(50, 69)	(45, 67)
Complete Response (%)	17 (14%)	11 (13%)
Partial Response (%)	54 (45%)	35 (43%)
Duration of Response		
Proportion of responders with ≥6 months response duration	89%	87%
Proportion of responders with ≥12 months response duration	77%	74%

[a] Minimum follow-up 27.5 months for all patients treated with YERVOY and nivolumab (n=119).

[b] Estimated using the Clopper-Pearson method.

14.4 Hepatocellular Carcinoma

CHECKMATE-040 (NCT01658878) was a multicenter, multiple cohort, open-label trial conducted in patients with HCC who progressed on or were intolerant to sorafenib. Additional eligibility criteria included histologic confirmation of HCC and Child-Pugh Class A cirrhosis. The trial excluded patients with active autoimmune disease, brain metastasis, a history of hepatic encephalopathy, clinically significant ascites, infection with HIV, or active co-infection with hepatitis B virus (HBV) and hepatitis C virus (HCV) or HBV and hepatitis D virus (HDV); however, patients with only active HBV or HCV were eligible.

The efficacy of YERVOY 3 mg/kg in combination with nivolumab 1 mg/kg was evaluated in Cohort 4 of CHECKMATE-040. A total of 49 patients received the combination regimen, which was administered every 3 weeks for four doses, followed by single-agent nivolumab at 240 mg every 2 weeks until disease progression or unacceptable toxicity.

The median age was 60 years (range: 18 to 80); 88% were male; 74% were Asian, and 25% were White. Baseline ECOG performance status was 0 (61%) or 1 (39%). Fifty-seven percent (57%) of patients had active HBV infection, 8% had active HCV infection, and 35% had no evidence of active HBV or HCV. The etiology for HCC was alcoholic liver disease in 16% and non-alcoholic liver disease in 6% of patients. Child-Pugh class and score was A5 for 82% and A6 for 18%; 80% of patients had extrahepatic spread; 35% had vascular invasion; and 51% had alfa-fetoprotein (AFP) levels ≥400 µg/L. Prior treatment history included surgery (74%), radiotherapy (29%), or local treatment (59%). All patients had received prior sorafenib, of whom

10% were unable to tolerate sorafenib; 29% of patients had received 2 or more prior systemic therapies.

Efficacy results are shown in Table ~~15~~20.

Table ~~15~~20: Efficacy Results - Cohort 4 of CHECKMATE-040

	YERVOY and Nivolumab (Cohort 4) (n=49)
Overall Response Rate per BICR,[a] n (%), RECIST v1.1	16 (33%)
(95% CI)[b]	(20, 48)
Complete response	4 (8%)
Partial response	12 (24%)
Duration of Response per BICR,[a] RECIST v1.1	n=16
Range (months)	4.6, 30.5+
Percent with duration ≥6 months	88%
Percent with duration ≥12 months	56%
Percent with duration ≥24 months	31%
Overall Response Rate per BICR,[a] n (%), mRECIST	17 (35%)
(95% CI)[b]	(22, 50)
Complete response	6 (12%)
Partial response	11 (22%)

[a] Confirmed by BICR.

[b] Confidence interval is based on the Clopper and Pearson method.

14.5 Metastatic Non-Small Cell Lung Cancer

First-line Treatment of Metastatic or Recurrent NSCLC: In Combination with Nivolumab and Platinum-Doublet Chemotherapy

CHECKMATE-9LA (NCT03215706) was a randomized, open-label trial in patients with metastatic or recurrent NSCLC. The trial included patients (18 years of age or older) with histologically confirmed Stage IV or recurrent NSCLC (per the 7th International Association for the Study of Lung Cancer classification [IASLC]), ECOG performance status 0 or 1, and no prior anticancer therapy (including EGFR and ALK inhibitors) for metastatic disease. Patients were enrolled regardless of their tumor PD-L1 status. Patients with known EGFR mutations or ALK translocations sensitive to available targeted inhibitor therapy, untreated brain metastases, carcinomatous meningitis, active autoimmune disease, or medical conditions requiring systemic immunosuppression were excluded from the study. Patients with stable brain metastases were eligible for enrollment.

Patients were randomized 1:1 to receive either:

- YERVOY 1 mg/kg administered intravenously over 30 minutes every 6 weeks, nivolumab 360 mg administered intravenously over 30 minutes every 3 weeks, and

platinum-doublet chemotherapy administered intravenously every 3 weeks for 2 cycles, or

- platinum-doublet chemotherapy administered every 3 weeks for 4 cycles.

Platinum-doublet chemotherapy consisted of either carboplatin (AUC 5 or 6) and pemetrexed 500 mg/m^2, or cisplatin 75 mg/m^2 and pemetrexed 500 mg/m^2 for non-squamous NSCLC; or carboplatin (AUC 6) and paclitaxel 200 mg/m^2 for squamous NSCLC. Patients with non-squamous NSCLC in the control arm could receive optional pemetrexed maintenance therapy. Stratification factors for randomization were tumor PD-L1 expression level (≥1% versus <1% or non-quantifiable), histology (squamous versus non-squamous), and sex (male versus female). Study treatment continued until disease progression, unacceptable toxicity, or for up to 2 years. Treatment could continue beyond disease progression if a patient was clinically stable and was considered to be deriving clinical benefit by the investigator. Patients who discontinued combination therapy because of an adverse reaction attributed to YERVOY were permitted to continue nivolumab as a single agent as part of the study. Tumor assessments were performed every 6 weeks from the first dose of study treatment for the first 12 months, then every 12 weeks until disease progression or study treatment was discontinued. The primary efficacy outcome measure was OS. Additional efficacy outcome measures included PFS, ORR, and duration of response as assessed by BICR.

A total of 719 patients were randomized to receive either YERVOY in combination with nivolumab and platinum-doublet chemotherapy (n=361) or platinum-doublet chemotherapy (n=358). The median age was 65 years (range: 26 to 86) with 51% of patients ≥65 years and 10% of patients ≥75 years. The majority of patients were White (89%) and male (70%). Baseline ECOG performance status was 0 (31%) or 1 (68%), 57% had tumors with PD-L1 expression ≥1% and 37% had tumors with PD-L1 expression that was <1%, 32% had tumors with squamous histology and 68% had tumors with non-squamous histology, 17% had CNS metastases, and 86% were former or current smokers.

The study demonstrated a statistically significant benefit in OS, PFS, and ORR. Efficacy results from the prespecified interim analysis when 351 events were observed (87% of the planned number of events for final analysis) are presented in Table ~~16~~21.

Table ~~16~~21: Efficacy Results - CHECKMATE-9LA

	YERVOY and Nivolumab and Platinum-Doublet Chemotherapy (n=361)	**Platinum-Doublet Chemotherapy (n=358)**
Overall Survival		
Events (%)	156 (43.2)	195 (54.5)

Table ~~16~~21: Efficacy Results - CHECKMATE-9LA

	YERVOY and Nivolumab and Platinum-Doublet Chemotherapy (n=361)	Platinum-Doublet Chemotherapy (n=358)
Median (months) (95% CI)	14.1 (13.2, 16.2)	10.7 (9.5, 12.5)
Hazard ratio (96.71% CI)[a]	0.69 (0.55, 0.87)	
Stratified log-rank p-value[b]	0.0006	
Progression-free Survival per BICR		
Events (%)	232 (64.3)	249 (69.6)
Hazard ratio (97.48% CI)[a]	0.70 (0.57, 0.86)	
Stratified log-rank p-value[c]	0.0001	
Median (months)[d] (95% CI)	6.8 (5.6, 7.7)	5.0 (4.3, 5.6)
Overall Response Rate per BICR (%)	38	25
(95% CI)[e]	(33, 43)	(21, 30)
Stratified CMH test p-value[f]	0.0003	
Duration of Response per BICR		
Median (months) (95% CI)[d]	10.0 (8.2, 13.0)	5.1 (4.3, 7.0)

[a] Based on a stratified Cox proportional hazard model.

[b] p-value is compared with the allocated alpha of 0.033 for this interim analysis.

[c] p-value is compared with the allocated alpha of 0.0252 for this interim analysis.

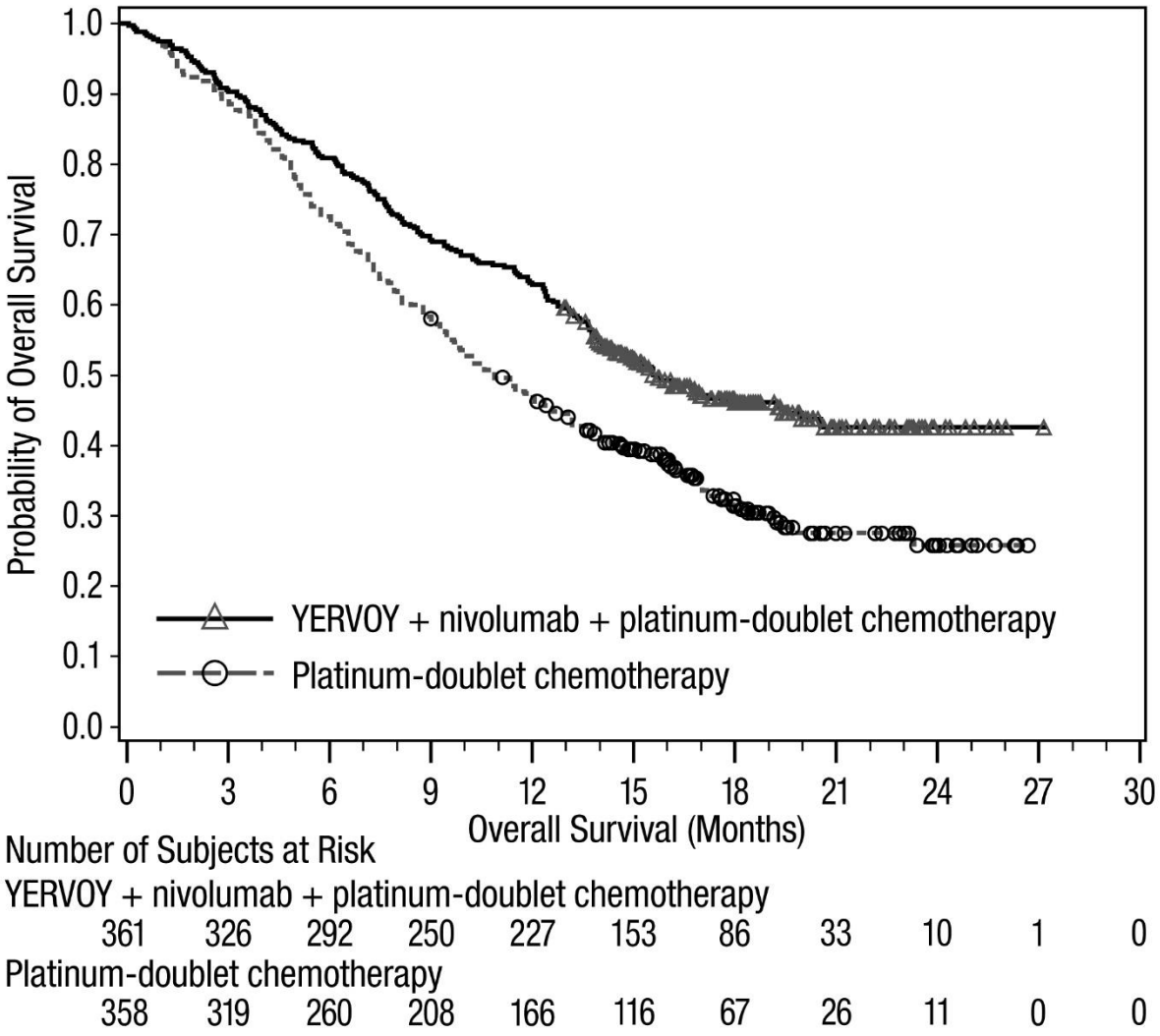
[d] Kaplan-Meier estimate.

[e] Confidence interval based on the Clopper and Pearson Method.

[f] p-value is compared with the allocated alpha of 0.025 for this interim analysis.

With an additional 4.6 months of follow-up the hazard ratio for overall survival was 0.66 (95% CI: 0.55, 0.80) and median survival was 15.6 months (95% CI: 13.9, 20.0) and 10.9 months (95% CI: 9.5, 12.5) for patients receiving YERVOY and nivolumab and platinum-doublet chemotherapy or platinum-doublet chemotherapy, respectively (Figure ~~3~~4).

Figure ~~3~~4: Overall Survival - CHECKMATE-9LA



14.6 Malignant Pleural Mesothelioma

CHECKMATE-743 (NCT02899299) was a randomized, open-label trial in patients with unresectable malignant pleural mesothelioma. The trial included patients with histologically confirmed and previously untreated malignant pleural mesothelioma with no palliative radiotherapy within 14 days of initiation of therapy. Patients with interstitial lung disease, active autoimmune disease, medical conditions requiring systemic immunosuppression, or active brain metastasis were excluded from the trial. Patients were randomized 1:1 to receive either:

- YERVOY 1 mg/kg over 30 minutes by intravenous infusion every 6 weeks and nivolumab 3 mg/kg over 30 minutes by intravenous infusion every 2 weeks for up to 2 years, or

- cisplatin 75 mg/m^2 and pemetrexed 500 mg/m^2, or carboplatin 5 AUC and pemetrexed 500 mg/m^2 administered every 3 weeks for 6 cycles.

Stratification factors for randomization were tumor histology (epithelioid vs. sarcomatoid or mixed histology subtypes) and sex (male vs. female). Study treatment continued for up to 2 years, or until disease progression or unacceptable toxicity. Patients who discontinued combination therapy because of an adverse reaction attributed to YERVOY were permitted to continue nivolumab as a single agent. Treatment could continue beyond disease progression if a patient was clinically stable and was considered to be deriving clinical benefit by the investigator. Tumor assessments were performed every 6 weeks from the first dose of study treatment for the first 12 months, then every 12 weeks until disease progression or study treatment was discontinued. The primary efficacy outcome measure was OS. Additional efficacy outcome measures included PFS, ORR, and duration of response as assessed by BICR utilizing modified RECIST criteria.

A total of 605 patients were randomized to receive either YERVOY in combination with nivolumab (n=303) or chemotherapy (n=302). The median age was 69 years (range: 25 to 89), with 72% of patients ≥65 years and 26% ≥75 years; 85% were White, 11% were Asian, and 77% were male. Baseline ECOG performance status was 0 (40%) or 1 (60%), 35% had Stage III and 51% had Stage IV disease, 75% had epithelioid and 25% had non-epithelioid histology, 75% had tumors with PD-L1 expression ≥1%, and 22% had tumors with PD-L1 expression <1%.

The trial demonstrated a statistically significant improvement in OS for patients randomized to YERVOY in combination with nivolumab compared to chemotherapy. Efficacy results from the prespecified interim analysis are presented in Table 22 and Figure 5. Table 23 summarises efficacy results of OS, PFS, and ORR by histology in prespecified subgroup analyses.

Table 22: Efficacy Results - CHECKMATE-743

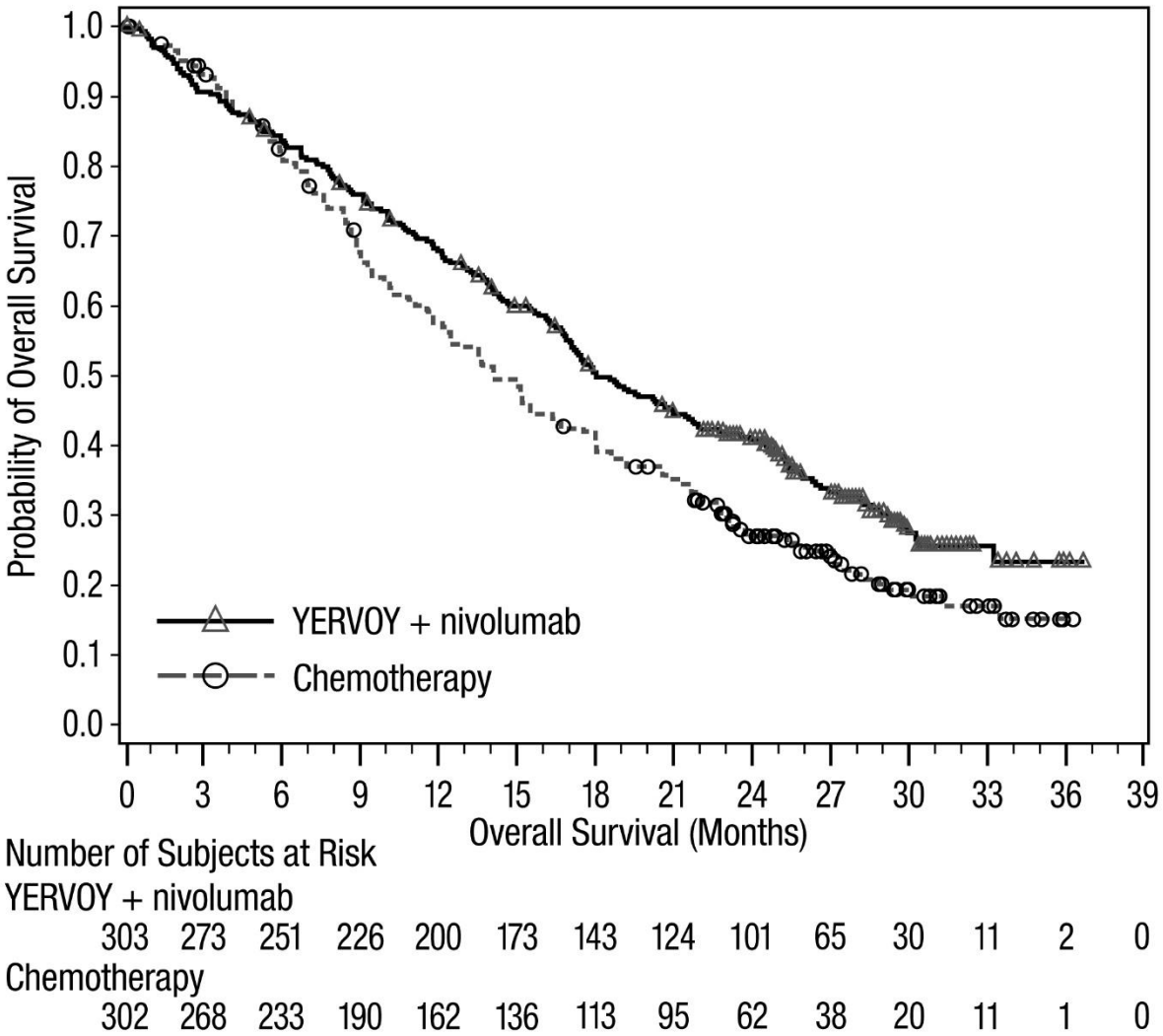
	YERVOY and Nivolumab (n=303)	**Chemotherapy (n=302)**
Overall Survival[a]		
Events (%)	200 (66)	219 (73)
Median (months)[b] (95% CI)	18.1 (16.8, 21.5)	14.1 (12.5, 16.2)
Hazard ratio (95% CI)[c]	0.74 (0.61, 0.89)	
Stratified log-rank p-value[d]	0.002	
Progression-free Survival		
Events (%)	218 (72)	209 (69)
Hazard ratio (95% CI)[c]	1.0 (0.82, 1.21)	
Median (months)[b] (95% CI)	6.8 (5.6, 7.4)	7.2 (6.9, 8.1)
Overall Response Rate[e]	40%	43%
(95% CI)	(34, 45)	(37, 49)

Table 22: Efficacy Results - CHECKMATE-743

	YERVOY and Nivolumab (n=303)	Chemotherapy (n=302)
Duration of Response		
Median (months)[a] (95% CI)	11.0 (8.1, 16.5)	6.7 (5.3, 7.1)

[a] At the time of the interim analysis, 419 deaths (89% of the deaths needed for the final analysis) had occurred.
[b] Kaplan-Meier estimate.
[c] Stratified Cox proportional hazard model.
[d] p-value is compared with the allocated alpha of 0.0345 for this interim analysis.
[e] Based on confirmed response by BICR.

Figure 5: Overall Survival - CHECKMATE-743



In a prespecified exploratory analysis based on histology, in the subgroup of patients with epithelioid histology, the hazard ratio (HR) for OS was 0.85 (95% CI: 0.68, 1.06), with median

OS of 18.7 months in the YERVOY and nivolumab arm and 16.2 months in the chemotherapy arm. In the subgroup of patients with non-epithelioid histology, the HR for OS was 0.46 (95% CI: 0.31, 0.70), with median OS of 16.9 months in the YERVOY and nivolumab arm and 8.8 months in the chemotherapy arm.

Table 23: Efficacy results by tumour PD-L1 expression (CA209743)

	PD-L1 < 1% (n = 135)		PD-L1 ≥ 1% (n = 451)	
	ipilimumab + nivolumab (n = 57)	chemotherapy (n = 78)	ipilimumab + nivolumab (n = 232)	chemotherapy (n = 219)
Overall survival				
Events	40	58	150	157
Hazard ratio (95% CI)[a]	0.94 (0.62, 1.40)		0.69 (0.55, 0.87)	
Median (months) (95% CI)[b]	17.3 (10.1, 24.3)	16.5 (13.4, 20.5)	18.0 (16.8, 21.5)	13.3 (11.6, 15.4)
Rate (95% CI) at 24 months	38.7 (25.9, 51.3)	24.6 (15.5, 35.0)	40.8 (34.3, 47.2)	28.3 (22.1, 34.7)
Progression-free survival				
Hazard ratio (95% CI)[a]	1.79 (1.21, 2.64)		0.81 (0.64, 1.01)	
Median (months) (95% CI)[b]	4.1 (2.7, 5.6)	8.3 (7.0, 11.1)	7.0 (5.8, 8.5)	7.1 (6.2, 7.6)
Overall response rate (95% CI)[c]	21.1% (11.4, 33.9)	38.5% (27.7, 50.2)	43.5% (37.1, 50.2)	44.3% (37.6, 51.1)

[a] Hazard ratio based on unstratified Cox proportional hazards model.
[b] Median computed using Kaplan-Meier method.
[c] Confidence interval based on the Clopper and Pearson method.

16 HOW SUPPLIED/STORAGE AND HANDLING

YERVOY (ipilimumab) injection is a sterile, preservative-free, clear to slightly opalescent, colorless to pale-yellow liquid that may contain light (few) particulates. YERVOY is available as follows:

Carton Contents
One 50 mg vial (5 mg/mL), single-dose vial
One 200 mg vial (5 mg/mL), single-dose vial

Store YERVOY under refrigeration at 2°C to 8°C. Protect YERVOY from light by storing in the original carton until time of use. Do not freeze or shake.

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

MANUFACTURER

Bristol-Myers Squibb Company

Princeton, New Jersey, 08543, USA

LICENSE HOLDER

Bristol-Myers Squibb Israel Ltd.18 Aharon Bart St., PO BOX 3361, Kiryat Arye, Petah Tikva 4951448

REGISTRATION NUMBER

~~Yervoy~~ 147-62-33522~~-00~~

Revised in ~~March~~ December 2021 according to MOHs guidelines.

עלון לצרכן לפי תקנות הרוקחים (תכשירים) התשמ"ו – 1986
התרופה משווקת על פי מרשם רופא בלבד

ייַרבוי 5 מ"ג/מ"ל
תמיסה מרוכזת להכנת תמיסה לעירוי תוך ורידי

החומר הפעיל וריכוזו:
איפילימומאב 5 מ"ג/מ"ל
ipilimumab 5 mg/ml

לרשימת החומרים הבלתי-פעילים והאלרגניים, אנא ראה פרק 2 סעיף "מידע חשוב על חלק מהמרכיבים של התרופה" ופרק 6 "מידע נוסף".

קרא בעיון את העלון עד סופו בטרם תשתמש בתרופה. עלון זה מכיל מידע תמציתי על התרופה. אם יש לך שאלות נוספות, פנה אל הרופא או אל הרוקח.
אם הרופא המטפל רשם לך ייַרבוי בטיפול משולב יחד עם ~~אופדיבו (Opdivo)~~ניבולומאב (nivolumab), ~~המכיל את החומר הפעיל ניבולומאב (nivolumab),~~ קרא בעיון גם את העלון לצרכן המצורף ~~לאופדיבו~~לניבולומאב (nivolumab).
תרופה זו נרשמה לטיפול במחלתך. אל תעביר אותה לאחרים. היא עלולה להזיק להם אפילו אם נראה לך כי מחלתם דומה.
עלון זה איננו מהווה תחליף לשיחה עם הרופא המטפל שלך לגבי מצבך הרפואי או הטיפול שלך.

כרטיס וחוברת מידע בטיחותי למטופל

בנוסף לעלון, לתכשיר ייַרבוי קיים כרטיס מידע בטיחותי למטופל.
כרטיס זה מכיל מידע בטיחותי חשוב שעליך לדעת לפני התחלת הטיפול ובמהלך הטיפול בייַרבוי ולפעול על פיו. יש לעיין בכרטיס ובעלון לצרכן בטרם תחילת השימוש בתכשיר. יש לשמור את הכרטיס לעיון נוסף במידת הצורך.

אם הרופא המטפל רשם לך ייַרבוי בטיפול משולב יחד עם אופדיבו (ניבולומאב), קיימים כרטיס וחוברת מידע בטיחותי למטופל עבור הטיפול המשולב. הכרטיס והחוברת מכילים מידע בטיחותי חשוב שעליך לדעת לפני התחלת הטיפול ובמהלך הטיפול בייַרבוי בשילוב עם אופדיבו, ולפעול על פיהם. יש לעיין בחומרים אלו ובעלון לצרכן בטרם תחילת השימוש בתכשיר. יש לשמור את הכרטיס והחוברת לעיון נוסף במידת הצורך.

1. למה מיועדת התרופה?

1. **סרטן עור מסוג מלנומה בלתי נתיחה או גרורתית**
ייַרבוי כטיפול יחיד או בשילוב עם ניבולומאב (nivolumab) מיועדת לטיפול במלנומה מתקדמת (~~שאינה ניתנת להסרה בניתוח~~לא נתיחה או גרורתית)
   - ~~כטיפול משולב עם ניבולומאבבמלנומה מתקדמת (שאינה ניתנת להסרה בניתוח או גרורתית).~~
2. **סרטן תאי כליה מתקדם** (~~הנקרא~~advanced renal cell carcinoma)
ייַרבוי בשילוב~~כטיפול משולב~~ עם ניבולומאב (nivolumab) מיועדת לטיפול קו ראשון -במטופלים עם~~חולי~~ סרטן תאי כליה מתקדם, בדרגת סיכון בינונית או גבוהה, ~~שלא טופלו בעבר~~.
3. **סרטן גרורתי של המעי הגס או החלחולת ~~המבטא MSI-H או dMMR במבוגרים וילדים מגיל 12 ומעלה~~**
ייַרבוי ~~ניתנת~~ בשילוב ~~כטיפול משולב~~ עם ניבולומאב (nivolumab) מיועדת לטיפול במבוגרים וילדים מגיל 12 ומעלה עם סרטן גרורתי של המעי הגס או החלחולת המבטא dMMR (mismatch repair deficient) או MSI-H (microsatellite instability-high), ~~במצב של מחלה~~ שמחלתם ~~מתקדמת~~ התקדמה לאחר טיפול בפלואורופירימידין, אוקסליפלטין ואירינוטקאן.
4. **סרטן ריאות גרורתי מסוג תאים שאינם קטנים** (non-small cell lung cancer)
ייַרבוי בשילוב ~~כטיפול משולב~~ עם ניבולומאב (nivolumab) ושני מחזורי טיפול של משלב כימותרפי~~ה~~ המכיל~~ה~~ פלטינום ~~ותרופה כימותרפית נוספת~~ (platinum-doublet chemotherapy), מיועדת כטיפול

קו ראשון במטופלים מבוגרים עם סרטן ריאות גרורתי או חוזר מסוג תאים שאינם קטנים וללא שינויים גנומיים ב- EGFR או ALK בגידול.

5. **סרטן כבד** (Hepatocellular carcinoma)
ייבריו ~~כשיפול משולב~~בשילוב עם ניבולומאב (nivolumab) מיועדת לטיפול בסרטן כבד עם פגיעה כבדית קלה (Child-Pugh A), במטופלים אשר ~~ש~~טופלו בעבר עם סוראפניב (sorafenib).

6. **מזותליומה ממאירה של הפלאורה** (malignant pleural mesothelioma) - סרטן של תאי מזותל המרכיבים את קרום האדר (מעטפת הריאה).
ייבריו בשילוב עם ניבולומאב (nivolumab) מיועדת לטיפול קו ראשון במבוגרים עם מזותליומה ממאירה לא נתיחה של הפלאורה.

קבוצה תרפויטית: אנטי-ניאופלסטי.

2. לפני ה**שימוש בתרופה:**

אין להשתמש בתרופה אם:

- אתה רגיש (אלרגי) לחומר הפעיל (איפילימומאב) או לכל אחד מהמרכיבים הנוספים אשר מכילה התרופה (ראה פרק 6).

אזהרות מיוחדות הנוגעות לשימוש בתרופה:
לפני הטיפול בייבריו, ספר לרופא על כל המצבים הרפואיים שלך, כולל אם:

- הינך סובל מבעיות הקשורות במערכת החיסון כגון דלקת כיבית של המעי הגס, מחלת קרוהן או זאבת (לופוס).
- עברת השתלת איברים
- עברת או ~~מתוכנן~~ שאתה עומד לעבור השתלת תאי גזע מתורם (השתלה אלוגנאית allogeneic)
- הינך סובל ממצב המשפיע על מערכת העצבים, כגון חולשת שרירים חמורה ~~מיאסטניה גרביס~~ (מיאסתניה גרביס ~~חולשת שרירים חמורה~~) או תסמונת גיליאן-בארה (Guillain-Barré syndrome)
- הינך בהיריון או מתכנן להיכנס להיריון – ראי סעיף "היריון והנקה"
- הינך מניקה או שבכוונתך להניק – ראי סעיף "הריון והנקה"

ילדים ומתבגרים:
יירבוי מיועדת לילדים ומתבגרים מעל לגיל 12 עבור סרטן גרורתי של המעי הגס או החלחולת המבטאים MSI-H או dMMR, מאחר שבטיחות ויעילות השימוש הוכחו להתוויות אלו.

בדיקות ומעקב:
הרופא המטפל יערוך לך בדיקות דם לפני ובמהלך הטיפול בייבריו.

אינטראקציות/תגובות בין-תרופתיות:
אם אתה לוקח או אם לקחת לאחרונה תרופות אחרות, כולל תרופות ללא מרשם, ויטמינים, תוספי תזונה ותוספים צמחיים, ספר על כך לרופא או לרוקח.

היריון והנקה:
יירבוי עלולה להזיק לעובר.

נשים היכולות להרות:
הרופא המטפל יערוך לך בדיקת היריון לפני תחילת הטיפול בייבריו.
- עלייך להשתמש באמצעי-מניעה יעיל במהלך הטיפול ובמשך 3 חודשים לאחר מתן המנה האחרונה של יירבוי. שוחחי עם הרופא על אמצעי המניעה בהם את יכולה להשתמש בפרק זמן זה.
- דווחי לרופא המטפל באופן מיידי אם נכנסת להיריון או אם הינך חושבת שאת בהיריון במהלך הטיפול בייבריו.

הנקה:
- דווחי לרופא המטפל אם הינך מניקה או מתכננת להניק. לא ידוע אם יירבוי יכולה לעבור לחלב אם.
- אל תניקי במהלך הטיפול בייבריו וכן במשך 3 חודשים לאחר המנה האחרונה של יירבוי.

נהיגה ושימוש במכונות:
אל תנהג, תדווש או תפעיל מכונות לאחר שקיבלת יירבוי, אלא אם אתה בטוח שאתה מרגיש טוב. תחושת עייפות או חולשה הינה תופעת לוואי שכיחה מאוד של יירבוי. זה יכול להשפיע על יכולתך לנהוג, לדווש או להפעיל מכונות.
באשר לילדים, יש להזהירם מרכיבה על אופניים או ממשחקים בקרבת הכביש וכדומה.

מידע חשוב על חלק מהמרכיבים של התרופה:
יירבוי מכילה נתרן.
אם אתה ניזון מתזונה דלת-נתרן (דלת-מלח), יידע את הרופא לפני מתן התרופה.

התרופה מכילה 23 מ"ג נתרן (מרכיב עיקרי במלח בישול/מלח שולחן) בכל בקבוקון של 10 מ"ל. כמות זו הינה שוות ערך ל-1.15% מהצריכה התזונתית היומית המירבית המומלצת של נתרן למבוגר.

התרופה מכילה 92 מ"ג נתרן (מרכיב עיקרי במלח בישול/מלח שולחן) בכל בקבוקון של 40 מ"ל. כמות זו הינה שוות ערך ל-4.60% מהצריכה התזונתית היומית המירבית המומלצת של נתרן למבוגר.

3. כיצד תשתמש בתרופה?

יש להשתמש בתכשיר תמיד לפי הוראות הרופא.
עליך לבדוק עם הרופא או הרוקח אם אינך בטוח בנוגע למינון ואופן הטיפול בתכשיר.
המינון ומשך הטיפול ייקבעו על ידי הרופא בלבד.

אין לעבור על המנה המומלצת.

הטיפול ביירבוי ניתן על ידי צוות רפואי
- כאשר יירבוי ניתנת כטיפול יחיד היא ניתנת ישירות לווריד באמצעות צינורית תוך ורידית במשך 90 דקות.
- כאשר יירבוי ניתנת בשילוב עם ~~אופדיבו~~ ניבולומאב (nivolumab) ~~,~~ (למעט עבור טיפול במלנומה בלתי-נתיחה או גרורתית), ניבולומאב (nivolumab) ~~אופדיבו~~ ניתנת ישירות לווריד באמצעות צינורית תוך ורידית במשך 30 דקות. לאחר מכן ובאותו היום יירבוי ניתנת גם כן ישירות לווריד באמצעות צינורית תוך ורידית במשך 30 דקות ~~או 90 דקות~~.
- עבור טיפול במלנומה מתקדמת (בלתי-נתיחה או גרורתית), כאשר יירבוי ניתנת בשילוב עם ניבולומאב (nivolumab), ניבולומאב ניתנת ישירות לווריד באמצעות צינורית תוך ורידית במשך 30 דקות. לאחר מכן ובאותו היום יירבוי ניתנת גם כן ישירות לווריד באמצעות צינורית תוך ורידית במשך 90 דקות.
- יירבוי בשילוב עם ~~אופדיבו~~ ניבולומאב (~~ניבולומאב~~nivolumab) ניתנת בדרך כלל כל 3 שבועות, ובסה"כ ב-4 מנות טיפול. לאחר מכן, ~~אופדיבו~~ ניבולומאב תינתן לבד בדרך כלל כל ~~2~~ שבועיים או כל 4 שבועות.
  - עבור טיפול בסרטן ריאות גרורתי מסוג תאים שאינם קטנים (non-small cell lung cancer) שהתפשט לחלקים אחרים בגופך, יירבוי ניתנת כל 6 שבועות ~~ואופדיבו~~ וניבולומאב (~~ניבולומאב~~nivolumab) ניתנת כל 3 שבועות למשך ~~עד 2~~ שנתיים לכל היותר. תזדקק גם למתן של טיפול כימותרפי כל 3 שבועות למשך שני מחזורי טיפול.
  - עבור טיפול במזותליומה ממאירה של הפלאורה (Malignant Pleural Mesothelioma), שאינה ניתנת להסרה ע"י ניתוח, יירבוי ניתנת כל 6 שבועות וניבולומאב (nivolumab) ניתנת כל שבועיים או כל 3 שבועות, לפי החלטת הרופא המטפל. בכל מקרה, הטיפול ניתן למשך שנתיים לכל היותר.
- הרופא המטפל יחליט לכמה טיפולים הינך זקוק.
- הרופא המטפל יערוך בדיקות דם לפני התחלת הטיפול עם יירבוי, וכן במהלכו.
- אם אינך יכול להגיע לטיפול שנקבע לך, צור קשר עם הרופא המטפל בהקדם האפשרי על מנת לקבוע מועד חדש לטיפול.

אם נטלת מנת יתר או אם בטעות בלע ילד מן התרופה, פנה מיד לרופא או לחדר מיון של בית חולים והבא אריזת התרופה איתך.

יש להתמיד בטיפול כפי שהומלץ על-ידי הרופא.

אין ליטול תרופות בחושך! בדוק התווית והמנה בכל פעם שהינך נוטל תרופה. הרכב משקפיים אם הינך זקוק להם.

אם יש לך שאלות נוספות בנוגע לשימוש בתרופה, היוועץ ברופא או ברוקח.

4. תופעות לוואי

כמו בכל תרופה, השימוש ביירבוי עלול לגרום לתופעות לוואי בחלק מהמשתמשים. אל תיבהל למקרא רשימת תופעות הלוואי. ייתכן שלא תסבול מאף אחת מהן.

יירבוי עלולה לגרום לתופעות לוואי רציניות:

יירבוי הינה תרופה העשויה לטפל בסוגי סרטן מסוימים על-ידי שפעול מערכת החיסון. יירבויי עלולה לגרום למערכת החיסון לתקוף רקמות ואיברים בריאים בכל איזור בגוף ולהשפיע על אופן תפקודם. בעיות אלה עלולות, לעיתים, להפוך לחמורות או מסכנות חיים ולהביא למוות. ייתכן שתחווה יותר מבעיה אחת מבעיות אלה באותו הזמן. בעיות אלה עלולות להופיע בכל שלב בזמן הטיפול או אף לאחר סיום הטיפול. חלק מהבעיות הללו עלולות להתרחש בתדירות גבוהה יותר כשיירבוי ניתנת בשילוב עם ~~אופדיבו~~ניבולומאב (~~ניבולומאב~~)(nivolumab).

פנה מיד לרופא המטפל אם הנך חווה סימנים או תסמינים חדשים כלשהם או אם ישנה החמרה בסימנים או בתסמינים, כולל:

בעיות במעיים.
- שלשול (צואה רכה) או תנועות מעיים בתדירות גבוהה מן הרגיל
- צואה שחורה, דמויית-זפת, דביקה, או עם דם או ריר
- כאב חמור או רגישות חמורה באזור הבטן

בעיות בכבד.
- הצהבה של העור או של לובן העין
- בחילה או הקאה חמורות
- כאב בצד ימין של הבטן
- שתן בצבע כהה (גוון של תה)
- נטייה לדימום או לחבורות בקלות יתרה מהרגיל

בעיות בעור.
- פריחה
- גרד
- הופעת שלפוחיות או קילוף בעור
- כיבים כואבים בחלל הפה או באף, בגרון או באיזור איברי-המין

בעיות בבלוטות שמייצרות הורמונים.
- כאבי ראש שאינם חולפים או כאבי ראש לא אופייניים
- רגישות בעיניים לאור
- בעיות עיניים
- קצב לב מהיר
- הזעה מוגברת
- עייפות קיצונית
- עלייה במשקל או איבוד משקל
- תחושת רעב או צימאון מוגברת מהרגיל
- מתן שתן בתדירות גבוהה מהרגיל
- נשירת שיער
- תחושת קור
- עצירות
- שינוי בקול לקול עמוק ונמוך יותר
- סחרחורת או עילפון
- שינויים במצב הרוח או שינויי התנהגות, כגון ירידה בחשק המיני, עצבנות או שכחה

בעיות בריאות.
- הופעת שיעול או החמרה בשיעול
- קוצר נשימה
- כאב בחזה

בעיות בכליות.
- ירידה בכמות השתן
- הופעת דם בשתן
- נפיחות בקרסוליים
- איבוד תיאבון

בעיות בעיניים.

- ראייה מטושטשת, ראייה כפולה או בעיות ראייה אחרות
- כאב או אדמומיות בעין

בעיות עלולות להופיע גם באיברים ורקמות אחרים. אלו לא כל הסימנים והתסמינים של בעיות במערכת החיסון העלולות להופיע בשימוש עם יירבוי. פנה מיד לרופא המטפל עם הופעת סימנים או תסמינים חדשים כלשהם או אם יש החמרה בסימנים או בתסמינים.

- כאב בחזה, קצב לב לא סדיר, קוצר נשימה או נפיחות בקרסוליים
- בלבול, ישנוניות, בעיות זיכרון, שינויים במצב הרוח או שינויי התנהגות, קשיון בצוואר, בעיות בשיווי-המשקל, עקצוצים או חוסר תחושה בזרועות או ברגליים
- ראייה כפולה, ראייה מטושטשת, רגישות לאור, כאב עיניים, שינויים בראייה
- כאבי שרירים או חולשה שאינם חולפים או חמורים, התכווציות שרירים
- ספירה נמוכה של תאי דם אדומים, חבורות

קבלת טיפול רפואי מיידי עשויה לעזור במניעת החמרה של בעיות אלו.
הרופא המטפל יבדוק אותך לבעיות אלו במהלך הטיפול ביירבוי. ייתכן שהרופא יטפל בך עם תרופות קורטיקוסטרואידיות או תחליפי הורמונים. אם תופעות הלוואי חמורות, הרופא המטפל עשוי לעכב או להפסיק לגמרי את הטיפול ביירבוי.

תופעות לוואי חמורות אשר קשורות למתן העירוי
דווח לרופא המטפל או לאחות מיידית, אם אתה חש באחד מהתסמינים המופיעים מטה בזמן קבלת עירוי של יירבוי:

- צמרמורות או רעד
- גרד או פריחה
- הסמקה
- קשיי נשימה או צפצופים
- סחרחורת
- תחושת עילפון
- חום
- כאב בגב או בצוואר

סיבוכים, כולל מחלת השתל כנגד המאכסן (Graft-versus-host disease (GVHD)), במטופלים שעברו השתלת מח עצם (תאי גזע), בה מקור השתל הוא מתורם (השתלה אלוגנאית). סיבוכים אלו עלולים להיות חמורים ולהוביל למוות. הסיבוכים עלולים להופיע אם עברת השתלה לפני או אחרי הטיפול ביירבוי. הרופא המטפל יבצע מעקב אחר סיבוכים אלו.

<u>תופעות לוואי נוספות:</u>

<u>תופעות לוואי בזמן טיפול ביירבוי כטיפול יחיד</u>

תופעות לוואי שכיחות מאוד (very common)**, תופעות שמופיעות ביותר ממשתמש אחד מעשרה:**

- תחושת עייפות
- שלשול
- בחילה
- גרד
- פריחה
- הקאה
- חום
- ירידה בתיאבון
- כאב בשרירים, בעצמות ובמפרקים
- שיעול, שיעול עם ליחה
- קוצר נשימה, קוצר נשימה במאמץ
- זיהום בדרכי הנשימה העליונות

תופעות לוואי שכיחות (common)**, תופעות שמופיעות ב-10-1 משתמשים מתוך 100:**

- אורטיקריה (סרפדת)
- ~~כאב ראש~~
- ירידה במשקל
- דלקת של המעי הגס (קוליטיס)

- ויטיליגו (בהקת) – מחלה בה מופיעים כתמים בהירים על העור
- רמות נמוכות של הורמון התירואיד [היפותירואידיזם (תת-פעילות בלוטת התריס)] שיכולות לגרום לעייפות ולעלייה במשקל
- רמות גבוהות של הורמון התירואיד [היפרתירואידיזם (פעילות יתר של בלוטת התריס)] שיכולות לגרום לקצב לב מהיר, להזעה ולאיבוד משקל
- לחץ דם גבוה

תופעות לוואי שאינן שכיחות (uncommon)**, תופעות שמופיעות ב-1-10 משתמשים מתוך 1,000:**

- כיב במעי הגס
- דלקת של הוושט
- קשיי נשימה בשל נוזלים בריאות (תסמונת נשימתית חריפה)
- אי ספיקת כליות
- תגובה כתוצאה מעירוי

תופעות לוואי בזמן טיפול משולב של יירבוי עם ניבולומאב (nivolumab)

תופעות לוואי שכיחות מאוד (very common)**, תופעות שמופיעות ביותר ממשתמש אחד מעשרה:**

- תחושת עייפות
- חום
- נפיחות (בצקת)
- פריחה
- גרד , גרד מפושט
- יובש בעור ~~יבש~~
- שלשול
- בחילה
- הקאה
- כאב בטן
- עצירות
- דלקת של המעי הגס (קוליטיס)
- בטן נפוחה כתוצאה מהצטברות נוזלים (מיימת)
- יובש בפה
- קשיי עיכול
- פצעים או כיבים בחלל בפה (סטומטיטיס)
- כאב בשרירים, בעצמות ובמפרקים
- שיעול, שיעול עם ליחה
- קוצר נשימה, קוצר נשימה במאמץ
- דלקת ברקמות ~~הריאות~~ הריאה (פנאומוניטיס) המאופיינת בנשימה המלווה בשיעול וקשיי נשימה, קוצר נשימה ושיעול
- דלקת ריאות
- ירידה בתיאבון
- כאב ראש
- סחרחורת
- שפעת
- מחלה דמויית-שפעת
- חולשה, הרגשה כללית לא טובה
- צמרמורת
- לחץ דם נמוך
- רמות נמוכות של הורמון התירואיד [היפותירואידיזם (תת-פעילות בלוטת התריס)] שיכולות לגרום לעייפות ולעלייה במשקל
- רמות גבוהות של הורמון התירואיד [היפרתירואידיזם (פעילות יתר של בלוטת התריס)] שיכולות לגרום לקצב לב מהיר, להזעה ולאיבוד משקל
- אי ספיקת בלוטות יותרת הכליה (אדרנל) (ירידה ברמת ההורמונים המופרשים על ידי בלוטות יותרת הכליה שממוקמות מעל הכליות)
- ירידה במשקל
- נדודי שינה
- זיהום בדרכי הנשימה העליונות
- תוצאות לא תקינות של בדיקות מעבדה

תופעות לוואי שכיחות (common), תופעות שמופיעות ב-1-10 משתמשים מתוך 100:

- ~~זיהום בדרכי הנשימה העליונות~~
- ~~סוכרת~~ רמה גבוהה של סוכר בדם (היפרגליקמיה)
- ~~דלקת של המעי הגס (קוליטיס)~~
- ~~עלייה ברמת קריאטין פוספוקינאז בדם~~
- ~~דלקת ריאות~~
- דלקת בלוטת יותרת המוח (היפופיזיטיס)
- התייבשות
- ~~אי ספיקה נשימתית (קשיי נשימה קיצוניים)~~
- פגיעה כלייתית חריפה
- ~~בעיות בכבד~~אירוע כבדי
- דימום מדליות הווושט
- הצטברות נוזל בחלל האדר העוטף את הריאות (תפליט פלאורלי)-אשר עלולה לגרום לקוצר נשימה, וכן לעיתים לכאב בחזה ולחום
- תסחיף ריאתי (קריש דם בריאות)
- ויטיליגו (בהקת) – מחלה בה מופיעים כתמים בהירים על העור
- לחץ דם גבוה
- התנקבות במעי
- שרירים כואבים, חולשת שרירים שלא כתוצאה מאימון (מיופתיה-)
- תסמונת שגרן (Sjogren's syndrome), מחלה שבה מערכת החיסון תוקפת בעיקר בלוטות דמעות ורוק
- דלקת מפרקים כרונית שבדרך כלל מערבת את מפרקי עמוד השדרה (ספונדילוארתרופתיה)
- דלקת שרירים (מיוזיטיס)
- דלקת עצבית (neuritis)
- שיתוק בעצב הפיבולארי ברגל המאופיין בכאבים בשוק, ירידה בתחושה או חוסר תחושה, חולשת שרירים, ובמקרים חמורים כף רגל שמוטה או צליעה אופיינית (peroneal nerve palsy)
- מוות כתוצאה מתופעות לוואי
- תגובות הקשורות לעירוי

תופעות לוואי שאינן שכיחות (uncommon), תופעות שמופיעות ב-1-10 משתמשים מתוך 1,000:

- דלקת של המוח (אנצפליטיס)
- דלקת של שריר הגורמת לנמק
- כאב ואדמומיות בעין - דלקת הענביה (אובאיטיס)

תופעות לוואי בזמן טיפול משולב של יירבוי עם ~~אופדיבו~~ ניבולומאב (~~ניבולומאב~~nivolumab) וכימותרפיה

תופעות לוואי שכיחות מאוד (very common), תופעות שמופיעות ביותר ממשתמש אחד מעשרה:

- תחושת עייפות
- חום
- כאב בשרירים, בעצמות ובמפרקים
- בחילה
- שלשול
- עצירות
- הקאה
- כאב בטן
- פריחה
- גרד, כולל גרד מפושט
- נשירת שיער
- ירידה בתיאבון
- שיעול
- קוצר נשימה
- רמות נמוכות של הורמון התירואיד [היפותירואידיזם (תת-פעילות בלוטת התריס)] שיכולות לגרום לעייפות ולעלייה במשקל
- כאב ראש
- סחרחורת
- תוצאות לא תקינות של בדיקות מעבדה

תופעות לוואי שכיחות (common), תופעות שמופיעות ב-1-10 משתמשים מתוך 100:

- דלקת ריאות
- חום כתוצאה מרמה נמוכה של תאי דם לבנים מסוג נויטרופילים ~~המביאה לחום~~(חום נויטרופני)
- פגיעה כלייתית חריפה
- דלקת ברקמות ~~הריאות~~הריאה (פנאומוניטיס) המאופיינת בנשימה המלווה בשיעול וקשיי נשימה, קוצר נשימה ושיעול
- אי ספיקה נשימתית (קשיי נשימה קיצוניים)
- מוות כתוצאה מתופעות לוואי

לטיפול משולב של יירבוי עם ~~אופדיבו~~ניבולומאב (~~ניבולומאב~~nivolumab) ראה גם עלון לצרכן של ניבולומאב.

אלה לא כל תופעות הלוואי האפשריות של יירבוי.
למידע רפואי בנוגע לתופעות לוואי, פנה לרופא המטפל.

אם הופיעה תופעת לוואי, אם אחת מתופעות הלוואי מחמירה או כאשר אתה סובל מתופעת לוואי שלא צוינה בעלון, עליך להתייעץ עם הרופא.

ניתן לדווח על תופעות לוואי למשרד הבריאות באמצעות לחיצה על הקישור "דיווח על תופעות לוואי עקב טיפול תרופתי" שנמצא בדף הבית של אתר משרד הבריאות (www.health.gov.il) המפנה לטופס המקוון לדיווח על תופעות לוואי, או ע"י כניסה לקישור:
https://sideeffects.health.gov.il

5. איך לאחסן את התרופה?

- מנע הרעלה! תרופה זו וכל תרופה אחרת יש לשמור במקום סגור מחוץ להישג ידם וטווח ראייתם של ילדים ו/או תינוקות ועל ידי כך תמנע הרעלה. אל תגרום להקאה ללא הוראה מפורשת מהרופא!
- אין להשתמש בתרופה אחרי תאריך התפוגה (exp. date) המופיע על גבי האריזה. תאריך התפוגה מתייחס ליום האחרון של אותו חודש.
- **תנאי אחסון:** יש לשמור בקירור ב-2°C-8°C. יש להגן מפני אור ע"י אחסון הבקבוקון באריזה המקורית עד לזמן השימוש.
- אין להקפיא או לנער.

- לאחר ההכנה, ניתן לאחסן את התמיסה לעירוי:
בקירור בטמפרטורה של 2°C-8°C, לפרק זמן של עד 24 שעות מרגע ההכנה ועד מתן העירוי.

6. מידע נוסף:

נוסף על החומר הפעיל, התרופה מכילה גם:
Mannitol; sodium chloride; tris hydrochloride; polysorbate 80; pentetic acid (DTPA); sodium hydroxide; hydrochloric acid and water for injection

כיצד נראית התרופה ומה תוכן האריזה:
נוזל צלול עד ~~מבריק~~חלבי במקצת וחסר צבע עד גוון צהבהב במקצת. הנוזל עשוי להכיל חלקיקים קלים (מעטים).
יירבוי זמינה בבקבוקון לשימוש חד-פעמי של 10 מ"ל (50 מ"ג) ובבקבוקון לשימוש חד-פעמי של 40 מ"ל (200 מ"ג).

היצרן וכתובתו: חברת בריסטול-מאיירס סקוויב, פרינסטון, ניו ג'רסי, 08543, ארה"ב.

בעל הרישום וכתובתו: בריסטול-מאיירס סקוויב (ישראל) בע"מ, רח' אהרון ברט 18, ת.ד. 3361, קריית אריה, פתח תקווה 4951448.

מספר רישום התרופה בפנקס התרופות הממלכתי במשרד הבריאות:
147-62-33522

נערך ~~ביוני~~ בדצמבר 2021 בהתאם להנחיות משרד הבריאות.

לשם הפשטות ולהקלת הקריאה, עלון זה נוסח בלשון זכר. על אף זאת, התרופה מיועדת לבני שני המינים.

מידע לצוות הרפואי
معلومات للطاقم الطبي
Information for Healthcare professionals:

Preparation and Administration

- Do not shake product.
- Visually inspect for particulate matter and discoloration prior to administration. Discard vial if solution is cloudy, there is pronounced discoloration (solution may have pale-yellow color), or there is foreign particulate matter other than translucent-to-white, amorphous particles.

Preparation of Solution

- Allow the vial(s) to stand at room temperature for approximately 5 minutes prior to preparation of infusion.
- Withdraw the required volume of YERVOY and transfer into an intravenous bag.
- Dilute with 0.9% Sodium Chloride Injection, USP or 5% Dextrose Injection, USP to a final concentration ranging from 1 mg/mL to 2 mg/mL. Mix diluted solution by gentle inversion.
- After preparation, store the diluted solution under refrigeration at 2°C to 8°C for no more than 24 hours from the time of preparation to the time of infusion.
- Discard partially used or empty vials of YERVOY.

Administration

- Do not co-administer other drugs through the same intravenous line.
- Flush the intravenous line with 0.9% Sodium Chloride Injection, USP or 5% Dextrose Injection, USP after each dose.
- Administer diluted solution over 30 minutes or 90 minutes depending on the dose, through an intravenous line containing a sterile, non-pyrogenic, low-protein-binding in-line filter.
- When administered in combination with nivolumab, infuse nivolumab first followed by YERVOY on the same day. When administered with nivolumab and platinum-doublet chemotherapy, infuse nivolumab first followed by YERVOY and then platinum-doublet chemotherapy on the same day. Use separate infusion bags and filters for each infusion.