# 010 ONO PHARMACEUTICAL CO.,LTD.



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# New Cohorts from CheckMate -012 Assess Optimal Dosing of Opdivo+Yervoy

# in the First-Line Treatment of Patients with Advanced Non-Small Cell Lung Cancer

(PRINCETON, NJ, September 7, 2015) – Bristol-Myers Squibb Company (NYSE: BMY) announced updated results from the Opdivo (nivolumab)+Yervoy (ipilimumab) arms in CheckMate -012, a multi-arm Phase 1b trial evaluating Opdivo in patients with chemotherapy-naïve advanced non-small cell lung cancer (NSCLC).

In USA, Opdivo was approved under accelerated approval for the treatment of unresectable or metastatic melanoma and disease progression following Yervoy and, if BRAF V600 mutation positive, a BRAF inhibitor in December 2014 and approved for the treatment of metastatic squamous NSCLC with progression on or after platinum-based chemotherapy in March 2015. In EU, Opdivo was approved for the treatment of advanced (unresectable or metastatic) melanoma in adults regardless of BRAF status in June 2015. European Commission approved Nivolumab BMS for the treatment of locally advanced or metastatic squamous NSCLC after prior chemotherapy in July 2015.

Also, BMS has a robust clinical development program in a variety of tumor types overseas, including: Renal Cell Carcinoma (RCC), Head and Neck Cancer, Blood Cancer, Glioblastoma, Colorectal Cancer, Pancreatic Cancer, Gastric Cancer, Hepatocellular Carcinoma, Triple-Negative Breast Cancer, Small-Cell Lung Cancer, Urothelial Cancer. In Japan, ONO launched it for the treatment of unresectable melanoma in September 2014. Also, ONO is conducting clinical development programs including RCC, NSCLC, Head and Neck Cancer, Gastric Cancer, Esophageal Cancer, Hepatocellular Carcinoma, Hodgkin Lymphoma, Urothelial Cancer and Glioblastoma.

Attached from the following page is the press release made by BMS for your information.

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New Cohorts from CheckMate -012 Assess Optimal Dosing of *Opdivo+Yervoy* in the First-Line Treatment of Patients with Advanced Non-Small Cell Lung Cancer

New dosing schedules of Opdivo+Yervoy showed encouraging efficacy with highest objective response rate for the regimens observed using Opdivo 3 mg and Yervoy 1 mg (31% to 39%)

**Opdivo+Yervoy** dosing schedules showed an acceptable tolerability profile with 10% or fewer subjects discontinuing for grade 3-4 adverse events

Clinical activity observed in both PD-L1 expressors and non-expressors with greater activity in the PD-L1 expressors, representing approximately 70% of this first-line patient population

(PRINCETON, NJ, September 7, 2015) – <u>Bristol-Myers Squibb Company</u> (NYSE: BMY) today announced updated results from the *Opdivo* (nivolumab)+*Yervoy* (ipilimumab) arms in CheckMate -012, a multi-arm Phase 1b trial evaluating *Opdivo* in patients with chemotherapy-naïve advanced non-small cell lung cancer (NSCLC). In this study, *Opdivo* was administered as monotherapy or as part of a combination with other agents, including *Yervoy*, at different doses and schedules. Results from other cohorts in CheckMate -012 have been previously-reported. These updated results include findings from the administration of four new dosing schedules of *Opdivo+Yervoy* (n=148), which resulted in confirmed objective response rates (ORR) ranging from 13% to 39% depending on the administered regimen. Median duration of response was not reached in any of these arms with a median follow-up of 6.2 months to 16.6 months, and median progression-free survival (PFS) ranged from 4.9 to 10.6 months.

The types of treatment-related serious adverse events (SAEs) reported in these cohorts for CheckMate -012 were consistent with other previously-reported *Opdivo+Yervoy* cohorts of this trial. The new dosing schedules in this study resulted in less toxicity than previously-reported dosing schedules, and were characterized by low frequency of treatment-related adverse events (AEs) leading to discontinuation (3% to 10%) and no treatment-related deaths. These data will be presented today at the 16<sup>th</sup> World Conference on Lung Cancer (WCLC) (Abstract #786).

"Clinical results from *Opdivo+Yervoy* have already been reported in previously untreated metastatic melanoma, showing the potential of dual immune checkpoint blockade targeting both PD-1 and CTLA-4," said Naiyer Rizvi, M.D., director of Thoracic Oncology and Immunotherapeutics for the Division of Hematology and Oncology at Columbia University Medical Center. "The preliminary results from this trial in advanced non-small cell lung cancer similarly push the envelope of benefit with an immunotherapy combination strategy in the first-line treatment of advanced non-small cell lung cancer which warrants further studies." Non-small cell lung cancer accounts for approximately 85% of all lung cancer cases. Five year survival rates vary globally depending on the stage and type of lung cancer.

"The results we are reporting today for *Opdivo+Yervoy* in non-small cell lung cancer are very promising as they further expand our scientific rationale and clinical data for combining Immuno-Oncology agents," said Michael Giordano, senior vice president, head of Development, Oncology. "Overall survival data for *Opdivo* in the second-line treatment of squamous non-small cell lung cancer marked great progress in Immuno-Oncology; yet an unmet need remains for first-line treatments that offer durable, long-term survival and greater tolerability. We are hopeful that as we continue to advance Phase 3 clinical research of *Opdivo*-based combinations in the first-line setting that we will be able to offer lung cancer patients an option that fills this unmet need."

#### About CheckMate -012

CheckMate -012 is a multi-arm Phase 1b trial evaluating the safety and tolerability of *Opdivo* in patients with chemotherapy-naïve advanced NSCLC, as either a monotherapy or in combination with other agents, including *Yervoy*, at different doses and schedules. The results presented at WCLC include 148 squamous (SQ) and non-SQ patients who received *Opdivo+Yervoy* at one of the following new dosing schedules. Across the studied regimens and doses, *Opdivo+Yervoy* showed confirmed ORR ranging from 13% to 39% while median PFS ranged from 4.9 months to 10.6 months.

Efficacy and safety results from the new dosing schedules of *Opdivo+Yervoy* evaluated in CheckMate -012 are below.

	N1 + I1 * Q3W (N = 31)	N1 Q2W + I1* Q6W (N = 40)	N3 Q2W + I1** Q12W (N = 38)	N3 Q2W + I1** Q6W (N = 39)
Confirmed ORR, %	13 (4, 30)	25 (13, 41)	39 (24, 57)	31 (17, 48)
(95% CI)				
Partial Response	13	25	39	31
Unconfirmed	3	3	5	8
Partial Response				
Unconfimed +	16	28	44	39
Confirmed				
PFS rate at 24	55 (36, 71)	NC	63 (44, 76)	NC
weeks, % (95% CI)				
Median PFS,	10.6 (2.1, 16.3)	4.9 (2.8)	8.0 (4.2)	8.3 (2.6)
months (95% CI)				
Grade 3-4				
<b>Treatment-related</b>	29	35	29	28
AEs, %				
Grade 3-4				
treatment-related	10	0	2	10
AEs leading to	10	8	3	10
discontinuation, %				

\* Nivolumab 1mg/kg+ ipilimumab 1mg/kg; \*\* Nivolumab 3mg/kg+ ipilimumab 1mg/kg

CheckMate -012 also evaluated the efficacy of *Opdivo+Yervoy* by PD-L1 expression. Of 148 patients enrolled, 71% had tumor samples evaluable for PD-L1 expression. Clinical activity was observed in both PD-L1 expressors and non-expressors, with greater activity in PD-L1 expressors, representing approximately 70% of the studied population. See table below for efficacy results per PD-L1 expression.

	N1 + I1* Q3W (N = 31)	N1 Q2W + I1* Q6W (N = 40)	N3 Q2W + I1** Q12W (N = 38)	N3 Q2W + I1** Q6W (N = 39)		
≥1% PD-L1 expression						
ORR, % (n/N)	8	24	48	48		
	(1/12)	(5/21)	(10/21)	(11/23)		
mPFS, wks	11.5	21.1	34.6	NR		
(95% CI)	(7.1, )	(11.4, )	(15.9, 35.3)	(15.4, )		
PFS rate at 24	42	40	74	65		
wks, % (95% CI)	(15, 67)	(18, 61)	(48, 88)	(42, 81)		
<1% PD-L1 expression						
ORR, % (n/N)	15	14	22	0		
	(2/13)	(1/7)	(2/9)	(0/7)		
mPFS, wks	34.0	NR	23.1	10.3		
(95% CI)	(8.9, )	(10.1, )	(4.0, )	(7.4, 12.7)		
PFS rate at 24	57	NC	39	0		
wks, % (95% CI)	(25, 80)	INC.	(9, 69)	0		

\* Nivolumab 1mg/kg+ ipilimumab 1mg/kg; \*\* Nivolumab 3mg/kg+ ipilimumab 1mg/kg

The safety profile of *Opdivo+Yervoy* in this trial was consistent with previously-reported studies. There were low frequency of treatment-related grade 3-4 AEs leading to discontinuation (3%–10%) and no treatment-related deaths. Discontinuation rates were comparable to the *Opdivo* monotherapy arm of this study.

Data from these dosing schedules, along with previously reported data from CheckMate -012, informed the ongoing Phase 3 trial comparing *Opdivo* or *Opdivo*+*Yervoy* versus platinum doublet chemotherapy in chemotherapy-naïve patients with advanced NSCLC (CheckMate -227).

#### About Opdivo and Yervoy

Cancer cells may exploit "regulatory" pathways, such as checkpoint pathways, to hide from the immune system and shield the tumor from immune attack. *Opdivo* and *Yervoy* are both monoclonal antibodies and immune checkpoint inhibitors that target separate, distinct checkpoint pathways. Inhibition of these immune checkpoint pathways is thought to result in enhanced T-cell function greater than the effects of either antibody alone.

Bristol-Myers Squibb has a broad, global development program to study *Opdivo* in multiple tumor types consisting of more than 50 trials – as monotherapy or in combination with other therapies – in which more than 8,000 patients have been enrolled worldwide.

*Opdivo* became the first PD-1 immune checkpoint inhibitor to receive regulatory approval anywhere in the world on July 4, 2014 when Ono Pharmaceutical Co. announced that it received manufacturing and marketing approval in Japan for the treatment of patients with unresectable melanoma. In the U.S., the Food and Drug Administration (FDA) granted its first approval for *Opdivo* for the treatment of patients with unresectable or metastatic melanoma and disease progression following *Yervoy* and, if BRAF V600 mutation positive, a BRAF inhibitor. On March 4, 2015, *Opdivo* received its second FDA approval for the treatment of patients with metastatic squamous (SQ) non-small cell lung cancer (NSCLC) with progression on or after platinum-based chemotherapy. On July 20, the European Commission approved Nivolumab BMS for the treatment of locally advanced or metastatic SQ NSCLC after prior chemotherapy.

On March 25, 2011, the FDA approved *Yervoy* 3 mg/kg monotherapy for patients with unresectable or metastatic melanoma. *Yervoy* is now approved in more than 40 countries.

## Indication and Important Safety Information for OPDIVO<sup>®</sup> (nivolumab)

## INDICATION

OPDIVO<sup>®</sup> (nivolumab) is indicated for the treatment of patients with metastatic squamous non-small cell lung cancer (NSCLC) with progression on or after platinum-based chemotherapy.

#### **IMPORTANT SAFETY INFORMATION**

#### **Immune-Mediated Pneumonitis**

Severe pneumonitis or interstitial lung disease, including fatal cases, occurred with OPDIVO treatment. Across the clinical trial experience in 691 patients with solid tumors, fatal immune-mediated pneumonitis occurred in 0.7% (5/691) of patients receiving OPDIVO; no cases occurred in Trial 3. In Trial 3, immune-mediated pneumonitis occurred in 6% (7/117) of patients receiving OPDIVO including five Grade 3 and two Grade 2 cases. Monitor patients for signs and symptoms of pneumonitis. Administer corticosteroids for Grade 2 or greater pneumonitis. Permanently discontinue OPDIVO for Grade 3 or 4 and withhold OPDIVO until resolution for Grade 2.

#### **Immune-Mediated Colitis**

• In Trial 3, diarrhea occurred in 21% (24/117) of patients receiving OPDIVO. Grade 3 immunemediated colitis occurred in 0.9% (1/117) of patients. Monitor patients for immune-mediated colitis. Administer corticosteroids for Grade 2 (of more than 5 days duration), 3, or 4 colitis. Withhold OPDIVO for Grade 2 or 3. Permanently discontinue OPDIVO for Grade 4 colitis or recurrent colitis upon restarting OPDIVO.

## **Immune-Mediated Hepatitis**

• In Trial 3, the incidences of increased liver test values were AST (16%), alkaline phosphatase (14%), ALT (12%), and total bilirubin (2.7%). Monitor patients for abnormal liver tests prior to and periodically during treatment. Administer corticosteroids for Grade 2 or greater transaminase elevations. Withhold OPDIVO for Grade 2 and permanently discontinue OPDIVO for Grade 3 or 4 immune-mediated hepatitis.

## **Immune-Mediated Nephritis and Renal Dysfunction**

• In Trial 3, the incidence of elevated creatinine was 22%. Immune-mediated renal dysfunction (Grade 2) occurred in 0.9% (1/117) of patients. Monitor patients for elevated serum creatinine prior to and periodically during treatment. For Grade 2 or 3 serum creatinine elevation, withhold OPDIVO and administer corticosteroids; if worsening or no improvement occurs, permanently discontinue OPDIVO. Administer corticosteroids for Grade 4 serum creatinine elevation and permanently discontinue OPDIVO.

# Immune-Mediated Hypothyroidism and Hyperthyroidism

• In Trial 3, hypothyroidism occurred in 4.3% (5/117) of patients receiving OPDIVO. Hyperthyroidism occurred in 1.7% (2/117) of patients including one Grade 2 case. Monitor thyroid function prior to and periodically during treatment. Administer hormone replacement therapy for hypothyroidism. Initiate medical management for control of hyperthyroidism.

## **Other Immune-Mediated Adverse Reactions**

• The following clinically significant immune-mediated adverse reactions occurred in <2% of OPDIVO-treated patients: adrenal insufficiency, uveitis, pancreatitis, facial and abducens nerve paresis, demyeliniation, autoimmune neuropathy, motor dysfunction and vasculitis. Across clinical trials of OPDIVO administered at doses 3 mg/kg and 10 mg/kg, additional clinically significant, immune-mediated adverse reactions were identified: hypophysitis, diabetic ketoacidosis, hypopituitarism, Guillain-Barré syndrome, and myasthenic syndrome. Based on the severity of adverse reaction, withhold OPDIVO, administer high-dose corticosteroids, and, if appropriate, initiate hormone- replacement therapy.

# **Embryofetal Toxicity**

• Based on its mechanism of action, OPDIVO can cause fetal harm when administered to a pregnant woman. Advise pregnant women of the potential risk to a fetus. Advise females of reproductive potential to use effective contraception during treatment with OPDIVO and for at least 5 months after the last dose of OPDIVO.

# Lactation

• It is not known whether OPDIVO is present in human milk. Because many drugs, including antibodies, are excreted in human milk and because of the potential for serious adverse reactions in nursing infants from OPDIVO, advise women to discontinue breastfeeding during treatment.

## **Serious Adverse Reactions**

• In Trial 3, serious adverse reactions occurred in 59% of patients receiving OPDIVO. The most frequent serious adverse drug reactions reported in ≥2% of patients were dyspnea, pneumonia, chronic obstructive pulmonary disease exacerbation, pneumonitis, hypercalcemia, pleural effusion, hemoptysis, and pain.

## **Common Adverse Reactions**

• The most common adverse reactions (≥20%) reported with OPDIVO in Trial 3 were fatigue (50%), dyspnea (38%), musculoskeletal pain (36%), decreased appetite (35%), cough (32%), nausea (29%), and constipation (24%).

Please see U.S. Full Prescribing Information for OPDIVO at <u>www.bms.com</u>.

## **YERVOY Important Safety Information**

## WARNING: IMMUNE-MEDIATED ADVERSE REACTIONS

YERVOY can result in severe and fatal immune-mediated adverse reactions due to T-cell activation and proliferation. These immune-mediated reactions may involve any organ system; however, the most common severe immune-mediated adverse reactions are enterocolitis, hepatitis, dermatitis (including toxic epidermal necrolysis), neuropathy, and endocrinopathy. The majority of these immune-mediated reactions initially manifested during treatment; however, a minority occurred weeks to months after discontinuation of YERVOY.

Assess patients for signs and symptoms of enterocolitis, dermatitis, neuropathy, and endocrinopathy and evaluate clinical chemistries including liver function tests (LFTs) and thyroid function tests at baseline and before each dose.

Permanently discontinue YERVOY and initiate systemic high-dose corticosteroid therapy for severe immune-mediated reactions.

#### **Recommended Dose Modifications**

Withhold dose for any moderate immune-mediated adverse reactions or for symptomatic endocrinopathy until return to baseline, improvement to mild severity, or complete resolution, and patient is receiving <7.5 mg prednisone or equivalent per day.

Permanently discontinue YERVOY for any of the following:

- Persistent moderate adverse reactions or inability to reduce corticosteroid dose to 7.5 mg prednisone or equivalent per day
- Failure to complete full treatment course within 16 weeks from administration of first dose
- Severe or life-threatening adverse reactions, including any of the following:

- Colitis with abdominal pain, fever, ileus, or peritoneal signs; increase in stool frequency (≥7 over baseline), stool incontinence, need for intravenous hydration for >24 hours, gastrointestinal hemorrhage, and gastrointestinal perforation
- AST or ALT  $>5 \times$  the upper limit of normal (ULN) or total bilirubin  $>3 \times$  the ULN
- Stevens-Johnson syndrome, toxic epidermal necrolysis, or rash complicated by fullthickness dermal ulceration or necrotic, bullous, or hemorrhagic manifestations
- o Severe motor or sensory neuropathy, Guillain-Barré syndrome, or myasthenia gravis
- Severe immune-mediated reactions involving any organ system
- Immune-mediated ocular disease which is unresponsive to topical immunosuppressive therapy

## **Immune-mediated Enterocolitis:**

- In the pivotal Phase 3 study in YERVOY-treated patients, severe, life-threatening, or fatal (diarrhea of ≥7 stools above baseline, fever, ileus, peritoneal signs; Grade 3-5) immunemediated enterocolitis occurred in 34 (7%) and moderate (diarrhea with up to 6 stools above baseline, abdominal pain, mucus or blood in stool; Grade 2) enterocolitis occurred in 28 (5%) patients
- Across all YERVOY-treated patients (n=511), 5 (1%) developed intestinal perforation, 4 (0.8%) died as a result of complications, and 26 (5%) were hospitalized for severe enterocolitis
- Infliximab was administered to 5 of 62 (8%) patients with moderate, severe, or life-threatening immune-mediated enterocolitis following inadequate response to corticosteroids
- Monitor patients for signs and symptoms of enterocolitis (such as diarrhea, abdominal pain, mucus or blood in stool, with or without fever) and of bowel perforation (such as peritoneal signs and ileus). In symptomatic patients, rule out infectious etiologies and consider endoscopic evaluation for persistent or severe symptoms
- Permanently discontinue YERVOY in patients with severe enterocolitis and initiate systemic corticosteroids (1-2 mg/kg/day of prednisone or equivalent). Upon improvement to ≤Grade 1, initiate corticosteroid taper and continue over at least 1 month. In clinical trials, rapid corticosteroid tapering resulted in recurrence or worsening symptoms of enterocolitis in some patients
- Withhold YERVOY for moderate enterocolitis; administer anti-diarrheal treatment and, if persistent for >1 week, initiate systemic corticosteroids (0.5 mg/kg/day prednisone or equivalent)

#### **Immune-mediated Hepatitis:**

- In the pivotal Phase 3 study in YERVOY-treated patients, severe, life-threatening, or fatal hepatotoxicity (AST or ALT elevations >5x the ULN or total bilirubin elevations >3x the ULN; Grade 3–5) occurred in 8 (2%) patients, with fatal hepatic failure in 0.2% and hospitalization in 0.4%
- 13 (2.5%) additional YERVOY-treated patients experienced moderate hepatotoxicity manifested by LFT abnormalities (AST or ALT elevations >2.5x but ≤5x the ULN or total bilirubin elevation >1.5x but ≤3x the ULN; Grade 2)
- Monitor LFTs (hepatic transaminase and bilirubin levels) and assess patients for signs and symptoms of hepatotoxicity before each dose of YERVOY. In patients with hepatotoxicity, rule out infectious or malignant causes and increase frequency of LFT monitoring until resolution
- Permanently discontinue YERVOY in patients with Grade 3-5 hepatotoxicity and administer systemic corticosteroids (1-2 mg/kg/day of prednisone or equivalent). When LFTs show sustained improvement or return to baseline, initiate corticosteroid tapering and continue over 1 month. Across the clinical development program for YERVOY, mycophenolate treatment has

been administered in patients with persistent severe hepatitis despite high-dose corticosteroids

- Withhold YERVOY in patients with Grade 2 hepatotoxicity
- 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 BID or 720 mg BID)

## **Immune-mediated Dermatitis:**

- In the pivotal Phase 3 study in YERVOY-treated patients, severe, life-threatening, or fatal immune-mediated dermatitis (e.g., Stevens-Johnson syndrome, toxic epidermal necrolysis, or rash complicated by full thickness dermal ulceration, or necrotic, bullous, or hemorrhagic manifestations; Grade 3–5) occurred in 13 (2.5%) patients
  - $\circ$  1 (0.2%) patient died as a result of toxic epidermal necrolysis
  - 1 additional patient required hospitalization for severe dermatitis
- There were 63 (12%) YERVOY-treated patients with moderate (Grade 2) dermatitis
- Monitor patients for signs and symptoms of dermatitis such as rash and pruritus. Unless an alternate etiology has been identified, signs or symptoms of dermatitis should be considered immune-mediated
- Permanently discontinue YERVOY in patients with severe, life-threatening, or fatal immunemediated dermatitis (Grade 3-5). Administer systemic corticosteroids (1-2 mg/kg/day of prednisone or equivalent). When dermatitis is controlled, corticosteroid tapering should occur over a period of at least 1 month. Withhold YERVOY in patients with moderate to severe signs and symptoms
- Treat mild to moderate dermatitis (e.g., localized rash and pruritus) symptomatically. Administer topical or systemic corticosteroids if there is no improvement within 1 week

## **Immune-mediated Neuropathies:**

- In the pivotal Phase 3 study in YERVOY-treated patients, 1 case of fatal Guillain-Barré syndrome and 1 case of severe (Grade 3) peripheral motor neuropathy were reported
- Across the clinical development program of YERVOY, myasthenia gravis and additional cases of Guillain-Barré syndrome have been reported
- Monitor for symptoms of motor or sensory neuropathy such as unilateral or bilateral weakness, sensory alterations, or paresthesia. Permanently discontinue YERVOY in patients with severe neuropathy (interfering with daily activities) such as Guillain-Barré–like syndromes
- Institute medical intervention as appropriate for management of severe neuropathy. Consider initiation of systemic corticosteroids (1-2 mg/kg/day of prednisone or equivalent) for severe neuropathies. Withhold YERVOY in patients with moderate neuropathy (not interfering with daily activities)

#### **Immune-mediated Endocrinopathies:**

- In the pivotal Phase 3 study in YERVOY- treated patients, severe to life-threatening immunemediated endocrinopathies (requiring hospitalization, urgent medical intervention, or interfering with activities of daily living; Grade 3-4) occurred in 9 (1.8%) patients
  - All 9 patients had hypopituitarism, and some had additional concomitant endocrinopathies such as adrenal insufficiency, hypogonadism, and hypothyroidism
  - o 6 of the 9 patients were hospitalized for severe endocrinopathies
- Moderate endocrinopathy (requiring hormone replacement or medical intervention; Grade 2) occurred in 12 (2.3%) YERVOY-treated patients and consisted of hypothyroidism, adrenal insufficiency, hypopituitarism, and 1 case each of hyperthyroidism and Cushing's syndrome

- Median time to onset of moderate to severe immune-mediated endocrinopathy was 11 weeks and ranged up to 19.3 weeks after the initiation of YERVOY
- Monitor patients for clinical signs and symptoms of hypophysitis, adrenal insufficiency (including adrenal crisis), and hyper- or hypothyroidism
  - Patients may present with fatigue, headache, mental status changes, abdominal pain, unusual bowel habits, and hypotension, or nonspecific symptoms which may resemble other causes such as brain metastasis or underlying disease. Unless an alternate etiology has been identified, signs or symptoms should be considered immune-mediated
  - Monitor thyroid function tests and clinical chemistries at the start of treatment, before each dose, and as clinically indicated based on symptoms. In a limited number of patients, hypophysitis was diagnosed by imaging studies through enlargement of the pituitary gland
- Withhold YERVOY in symptomatic patients. Initiate systemic corticosteroids (1-2 mg/kg/day of prednisone or equivalent) and initiate appropriate hormone replacement therapy. Long-term hormone replacement therapy may be necessary

# Other Immune-mediated Adverse Reactions, Including Ocular Manifestations:

- In the pivotal Phase 3 study in YERVOY-treated patients, clinically significant immunemediated adverse reactions seen in <1% were: nephritis, pneumonitis, meningitis, pericarditis, uveitis, iritis, and hemolytic anemia
- Across the clinical development program for YERVOY, likely immune-mediated adverse reactions also reported with <1% incidence were: myocarditis, angiopathy, temporal arteritis, vasculitis, polymyalgia rheumatica, conjunctivitis, blepharitis, episcleritis, scleritis, leukocytoclastic vasculitis, erythema multiforme, psoriasis, pancreatitis, arthritis, autoimmune thyroiditis, sarcoidosis, neurosensory hypoacusis, autoimmune central neuropathy (encephalitis), myositis, polymyositis, and ocular myositis
- Permanently discontinue YERVOY for clinically significant or severe immune-mediated adverse reactions. Initiate systemic corticosteroids (1-2 mg/kg/day of prednisone or equivalent) for severe immune-mediated adverse reactions
- Administer corticosteroid eye drops for uveitis, iritis, or episcleritis. Permanently discontinue YERVOY for immune-mediated ocular disease unresponsive to local immunosuppressive therapy

# Pregnancy & Nursing:

- YERVOY is classified as pregnancy category C. There are no adequate and well-controlled studies of YERVOY in pregnant women. Use YERVOY during pregnancy only if the potential benefit justifies the potential risk to the fetus
- Human IgG1 is known to cross the placental barrier and YERVOY is an IgG1; therefore, YERVOY has the potential to be transmitted from the mother to the developing fetus
- It is not known whether YERVOY is secreted in human milk. Because many drugs are secreted in human milk and because of the potential for serious adverse reactions in nursing infants from YERVOY, a decision should be made whether to discontinue nursing or to discontinue YERVOY

## **Common Adverse Reactions:**

• The most common adverse reactions (≥5%) in patients who received YERVOY at 3 mg/kg were fatigue (41%), diarrhea (32%), pruritus (31%), rash (29%), and colitis (8%)

Please see Full Prescribing Information, including **Boxed WARNING regarding immune-mediated adverse reactions,** available at <u>www.bms.com</u>.

Yervoy is a registered trademark of Bristol-Myers Squibb Company.

#### Immuno-Oncology at Bristol-Myers Squibb

Surgery, radiation, cytotoxic or targeted therapies have represented the mainstay of cancer treatment over the last several decades, but long-term survival and a positive quality of life have remained elusive for many patients with advanced disease.

To address this unmet medical need, Bristol-Myers Squibb is leading research in an innovative field of cancer research and treatment known as Immuno-Oncology, which involves agents whose primary mechanism is to work directly with the body's immune system to fight cancer. The company is exploring a variety of compounds and immunotherapeutic approaches for patients with different types of cancer, including researching the potential of combining Immuno-Oncology agents that target different pathways in the treatment of cancer.

Bristol-Myers Squibb is committed to advancing the science of Immuno-Oncology, with the goal of changing survival expectations and the way patients live with cancer.

#### About the Bristol-Myers Squibb and Ono Pharmaceutical Collaboration

In 2011, through a collaboration agreement with Ono Pharmaceutical Co., Bristol-Myers Squibb expanded its territorial rights to develop and commercialize *Opdivo* globally except in Japan, South Korea and Taiwan, where Ono had retained all rights to the compound at the time. On July 23, 2014, Bristol-Myers Squibb and Ono Pharmaceutical further expanded the companies' strategic collaboration agreement to jointly develop and commercialize multiple immunotherapies – as single agents and combination regimens – for patients with cancer in Japan, South Korea and Taiwan.

#### **About Bristol-Myers Squibb**

Bristol-Myers Squibb is a global biopharmaceutical company whose mission is to discover, develop and deliver innovative medicines that help patients prevail over serious diseases. For more information about Bristol-Myers Squibb, visit <u>www.bms.com</u>, or follow us on Twitter at <u>http://twitter.com/bmsnews</u>.

#### **Bristol-Myers Squibb Forward-Looking Statement**

This press release contains "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995 regarding the research, development and commercialization of pharmaceutical products. Such forward-looking statements are based on current expectations and involve inherent risks and uncertainties, including factors that could delay, divert or change any of them, and could cause actual outcomes and results to differ materially from current expectations. No forwardlooking statement can be guaranteed. Among other risks, there can be no guarantee that the combination treatment of Opdivo and Yervoy will receive regulatory approval. Forward-looking statements in this press release should be evaluated together with the many uncertainties that affect Bristol-Myers Squibb's business, particularly those identified in the cautionary factors discussion in Bristol-Myers Squibb's Annual Report on Form 10-K for the year ended December 31, 2014 in our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Bristol-Myers Squibb undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

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