

In CTCL subtypes mycosis fungoides (MF) and Sézary syndrome (SS)...

Make progress. Delay progression.

POTELIGEO reduced the risk of disease progression 47% vs vorinostat (median PFS 7.6 months vs 3.1 months, respectively; $P<0.001$)¹



POTELIGEO is indicated for the treatment of adult patients with relapsed or refractory MF or SS after at least one prior systemic therapy.

Important Safety Information

Warnings and Precautions

Dermatologic toxicity: Monitor patients for rash throughout the course of treatment. For patients who experienced dermatologic toxicity in Trial 1, the median time to onset was 15 weeks, with 25% of cases occurring after 31 weeks. Interrupt POTELIGEO for moderate or severe rash (Grades 2 or 3). Permanently discontinue POTELIGEO for life-threatening (Grade 4) rash or for any Stevens-Johnson syndrome (SJS) or toxic epidermal necrolysis (TEN).

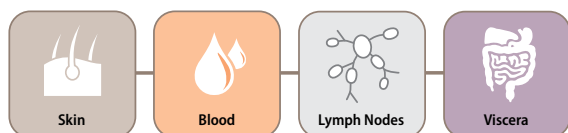
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 **POTELIGEO**[®]
(mogamulizumab-kpkc)
Targeted for Control

CCR4: Important target for MF and SS

- C-C chemokine receptor type 4 (CCR4) is a protein that regulates migration of malignant T-cells^{2,3}
 - Mycosis fungoides (MF) and Sézary syndrome (SS) progression may be driven by migration of malignant T-cells^{2,4}
- CCR4 ligands are highly expressed in MF and SS and drive recruitment of malignant T-cells to skin^{2,5}
- CCR4 and its ligands may be expressed at all stages of MF and SS^{2,5,6}

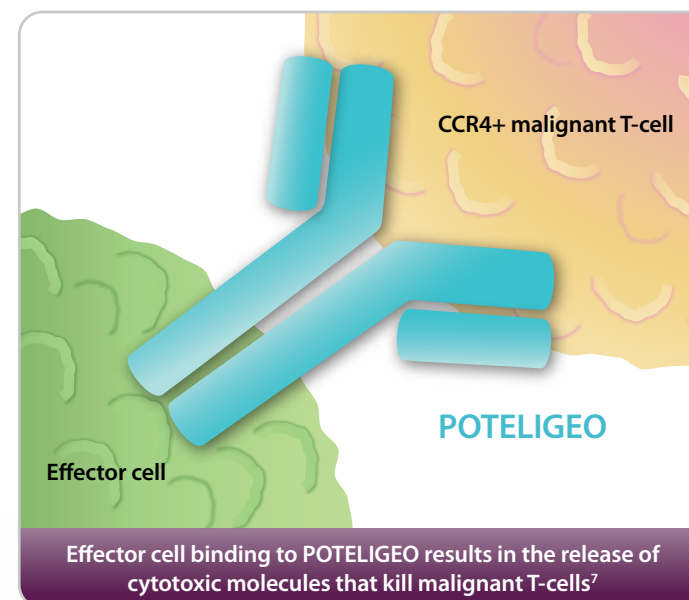
A DISEASE OF MULTIPLE COMPARTMENTS, DRIVEN BY CCR4



Approximately 1 in 3 patients may experience progression beyond skin to other disease compartments (including blood, lymph nodes, and viscera)⁴

POTELIGEO uniquely targets CCR4

- POTELIGEO is a humanized monoclonal antibody (mAb) that selectively targets CCR4+ malignant T-cells for destruction via antibody-dependent cellular cytotoxicity (ADCC)^{1,7}



Important Safety Information (*continued*)

Warnings and Precautions (*continued*)

Infusion reactions: Most infusion reactions occur during or shortly after the first infusion. Infusion reactions can also occur with subsequent infusions. Monitor patients closely for signs and symptoms of infusion reactions and interrupt the infusion for any grade reaction and treat promptly. Permanently discontinue POTELIGEO for any life-threatening (Grade 4) infusion reaction.

The first CCR4-targeting monoclonal antibody for treatment of MF and SS

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POTELIGEO was studied in the largest randomized trial of systemic CTCL therapy



First CTCL trial to use progression-free survival (PFS) as primary endpoint

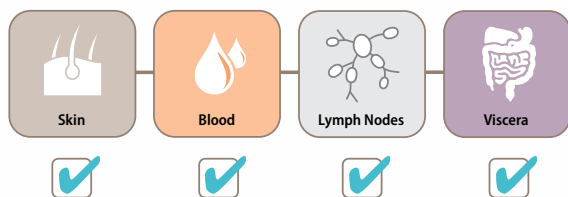
Active comparator: vorinostat

Study description¹

- The MAVORIC clinical trial, the basis for FDA approval, was an open-label, multinational, randomized, phase 3 study
- Patients with previously treated MF or SS were randomized to either POTELIGEO (1 mg/kg administered once weekly for the first 5 infusions, then once every 2 weeks thereafter) or the FDA-approved CTCL treatment, vorinostat (400 mg PO daily)
- Primary endpoint was PFS assessed by the investigator
- Secondary endpoints were overall response rate, duration of response, and response by compartment
- Vorinostat-treated patients with disease progression or unacceptable toxicities were permitted to cross over to POTELIGEO

Efficacy assessed in all 4 disease compartments¹

DISEASE COMPARTMENTS



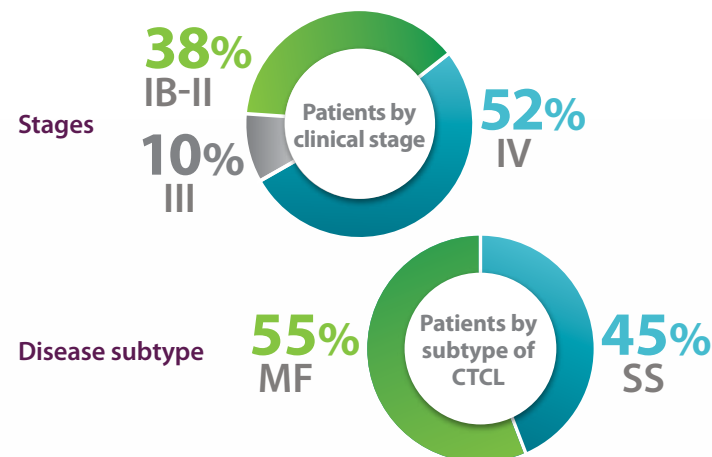
Patients were discontinued from the trial with progression in ANY compartment

Patient disposition

SELECT PATIENT DEMOGRAPHICS (N=372)^{1,8}

Median age (years)	64
Age range (years)	25 to 101
Sex	58% male
Race	
White	70%
African American	13%
Asian	7%
Other/not reported	10%
Prior systemic therapies	3 (median)

PATIENT BASELINE CHARACTERISTICS (N=372)¹



Important Safety Information (continued)

Warnings and Precautions (continued)

Infections: Monitor patients for signs and symptoms of infection and treat promptly.



The first CCR4-targeting monoclonal antibody for treatment of MF and SS

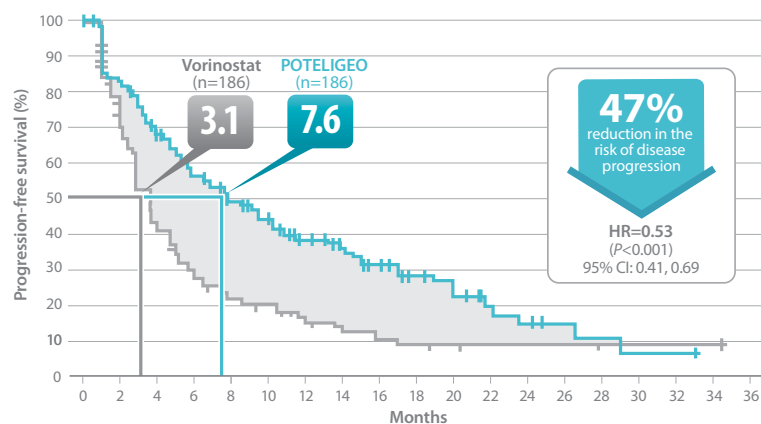
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In the MAAVORIC phase 3 trial...

POTELIGEO more than doubled median progression-free survival (PFS)¹

Primary endpoint: Investigator-assessed PFS

KAPLAN-MEIER CURVE FOR PFS (N=372)



CI=confidence interval; HR=hazard ratio

- Patients with MF or SS stages IB to IV, who had received at least 1 prior systemic therapy, were randomized to either POTELIGEO (1 mg/kg administered once weekly for the first 5 infusions, then every 2 weeks thereafter) or active comparator (vorinostat) dosed per prescribing information

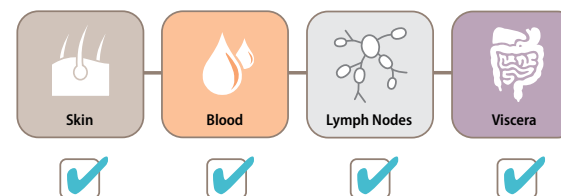
MAAVORIC is the largest randomized trial of systemic CTCL therapy (N=372)

Please see additional Important Safety Information on pages 20-21 and accompanying full Prescribing Information.

PFS was rigorously assessed¹

Patients were discontinued with progression in ANY compartment

DISEASE COMPARTMENTS



Duration of exposure

- Median duration of exposure to POTELIGEO was 5.6 months (range <1 to 45.3 months)
- Median duration of exposure to vorinostat was 2.8 months (range <1 to 34.8 months)
- Patients were treated until evidence of disease progression or unacceptable toxicity—rather than a predetermined number of cycles

Important Safety Information (continued)

Warnings and Precautions (continued)

Autoimmune complications: Interrupt or permanently discontinue POTELIGEO as appropriate for suspected immune-mediated adverse reactions. Consider the benefit/risk of POTELIGEO in patients with a history of autoimmune disease.

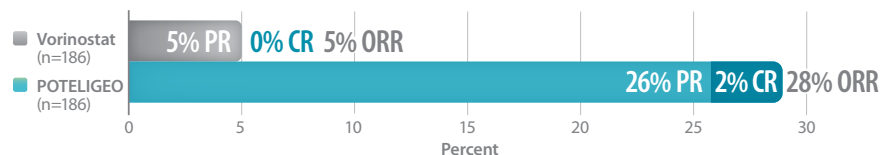
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In the MAVORIC phase 3 trial...

More than 5x as many POTELIGEO patients responded^{1,8}...

Overall response rate ($P < 0.001$)
(Secondary endpoint)

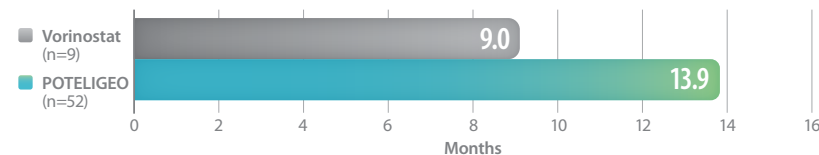


CR=confirmed complete response; ORR=overall response rate; PR=confirmed partial response

- Overall response rate based on global composite response score of all disease compartments
- Median dose intensity was >95% for both treatment arms

...and response lasted 54% longer¹

Duration of response (months, median)
(Secondary endpoint)



Important Safety Information (continued)

Warnings and Precautions (continued)

Complications of allogeneic HSCT after POTELIGEO: Increased risks of transplant complications have been reported in patients who received allogeneic HSCT after POTELIGEO. Follow patients closely for early evidence of transplant-related complications.



Please see additional Important Safety Information on pages 20-21 and accompanying full Prescribing Information.





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In the **MAVORIC phase 3 trial...**

POTELIGEO demonstrated higher response rates in skin, blood, and lymph nodes^{1,a,b,c}

Response by disease compartment

	POTELIGEO	Vorinostat
Secondary endpoint		
 Skin Response rate	42% (n=186)	16% (n=186)
 Blood Response rate	67% (n=124)	18% (n=125)
 Lymph nodes Response rate	15% (n=136)	4% (n=133)
 Viscera Response rate	0% (n=6)	0% (n=4)





^a Response was defined by current international response criteria for MF and SS.⁹

^b Responses in skin and blood must have persisted for ≥4 weeks to be confirmed and were evaluated every 4 weeks during treatment.

^c Responses in lymph nodes and visceral disease and overall responses were evaluated at 4 weeks, then every 8 weeks for the first year and every 16 weeks thereafter.

POTELIGEO demonstrated longer duration of response in skin, blood, and lymph nodes^{8,a,b,c}

Response by disease compartment

	POTELIGEO	Vorinostat
Exploratory subgroup analysis		
 Skin Duration of response	20.6 months (median; n=78)	10.7 months (median; n=29)
 Blood Duration of response	25.5 months (median; n=83)	Not estimable (median; n=23)
 Lymph nodes Duration of response	15 months (median; n=21)	Not estimable (median; n=5)
 Viscera Duration of response	0 months (median; n=0)	0 months (median; n=0)

^a Response was defined by current international response criteria for MF and SS.⁹

^b Responses in skin and blood must have persisted for ≥4 weeks to be confirmed and were evaluated every 4 weeks during treatment.

^c Responses in lymph nodes and visceral disease and overall responses were evaluated at 4 weeks, then every 8 weeks for the first year and every 16 weeks thereafter.

Important Safety Information (continued)

Adverse Reactions

The most common adverse reactions (reported in ≥10% of patients) with POTELIGEO in the clinical trial were rash, including drug eruption (35%), infusion reaction (33%), fatigue (31%), diarrhea (28%), drug eruption (24%), upper respiratory tract infection (22%), musculoskeletal pain (22%), skin infection (19%), pyrexia (17%), edema (16%), nausea (16%), headache (14%), thrombocytopenia (14%), constipation (13%), anemia (12%), mucositis (12%), cough (11%), and hypertension (10%).

The first CCR4-targeting monoclonal antibody for treatment of MF and SS

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In the MAVORIC phase 3 trial...

POTELIGEO demonstrated efficacy in mycosis fungoides (MF) patients^{8,a}

PFS in MF patients

	POTELIGEO	Vorinostat
Exploratory subgroup analysis		
Progression-free survival	5.4 months (median; n=105)	3.1 months (median; n=99)

Response in MF patients

	POTELIGEO	Vorinostat
Exploratory subgroup analysis		
Overall response rate	21% (n=105)	7% (n=99)
Duration of response	13.1 months (median; n=22)	9.1 months (median; n=7)

^a Response was defined by current international response criteria for MF and SS.⁹

POTELIGEO demonstrated efficacy in Sézary syndrome (SS) patients^{8,a}

PFS in SS patients

	POTELIGEO	Vorinostat
Exploratory subgroup analysis		
Progression-free survival	13.3 months (median; n=81)	3.1 months (median; n=87)

Response in SS patients

	POTELIGEO	Vorinostat
Exploratory subgroup analysis		
Overall response rate	37% (n=81)	2% (n=87)
Duration of response	17.3 months (median; n=30)	6.9 months (median; n=2)

^a Response was defined by current international response criteria for MF and SS.⁹

Important Safety Information (continued)

Warnings and Precautions

Dermatologic toxicity: Monitor patients for rash throughout the course of treatment. For patients who experienced dermatologic toxicity in Trial 1, the median time to onset was 15 weeks, with 25% of cases occurring after 31 weeks. Interrupt POTELIGEO for moderate or severe rash (Grades 2 or 3). Permanently discontinue POTELIGEO for life-threatening (Grade 4) rash or for any Stevens-Johnson syndrome (SJS) or toxic epidermal necrolysis (TEN).



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In the MAVORIC phase 3 trial...

Adverse reactions that may require dose adjustments¹

ALL POTELIGEO PATIENTS INCLUDING CROSSOVERS*			
Reaction	All grades	Grade ≥3	Time to onset
Infusion reactions	35% (112/319)	3% (9/319)	About 90% occurred during or shortly after first infusion
Rash (drug eruption)	25% (80/319)	4% (14/319)	15 weeks (median) 25% occurred after 31 weeks

If mild (grade 1) rash occurs, consider topical corticosteroids

If moderate or severe rash occurs, interrupt POTELIGEO and administer at least 2 weeks of topical corticosteroids

Topical steroid use

* Patients initially randomized to vorinostat could cross over to POTELIGEO upon disease progression or unacceptable toxicity.

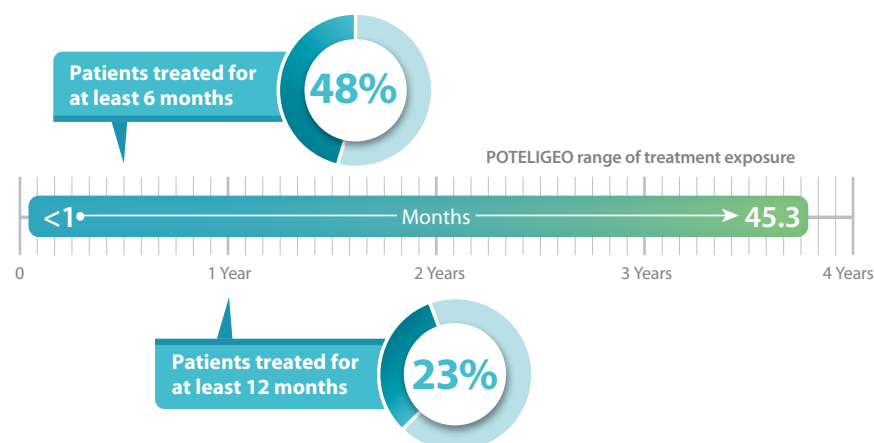
Autoimmune complications

- In MAVORIC, 2% (6/319) of patients required systemic immunosuppressants for immune-mediated reactions. Grade 1 or 2 new onset hypothyroidism occurred in 1% of patients. Grade 3 or higher immune-mediated or possibly immune-mediated reactions reported with POTELIGEO include myositis, myocarditis, polymyositis, hepatitis, pneumonitis, and a variant of Guillain-Barré syndrome
- Interrupt or permanently discontinue POTELIGEO as appropriate for suspected immune-mediated adverse reactions

POTELIGEO patients were treated twice as long...

- Median treatment exposure was 5.6 months for patients treated with POTELIGEO and 2.8 months for patients treated with vorinostat

...with nearly half of patients staying on therapy for at least 6 months¹



Discontinuation

- POTELIGEO was discontinued due to adverse reactions in 18% of patients¹
 - Most frequent was rash (drug eruption) (7%)
- Vorinostat was discontinued due to adverse reactions in 23% of patients⁸
 - 20% of patients crossed over to POTELIGEO due to adverse reactions

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The first CCR4-targeting monoclonal antibody for treatment of MF and SS

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In the MAVORIC phase 3 trial... Adverse reactions^{1,a,b}

In ≥10% of patients with a ≥2% higher incidence
within the POTELIGEO treatment arm

ADVERSE REACTIONS	POTELIGEO IV (n=184)		Vorinostat PO (n=186)	
	All grades (%)	≥grade 3 (%)	All grades (%)	≥grade 3 (%)
Skin and subcutaneous tissue disorders				
Rash, including drug eruption	35	5	11	2
Drug eruption ^c	24	5	<1	0
Procedural complications				
Infusion related reaction ^c	33	2	0	0
Infections				
Upper respiratory tract infection	22	0	16	1
Skin infection	19	3	13	4
Musculoskeletal and connective tissue disorders				
Musculoskeletal pain	22	<1	17	3
General disorders				
Pyrexia	17	<1	7	0
Gastrointestinal				
Mucositis	12	1	6	0

^a Adverse reactions include groupings of individual preferred terms.

^b Includes adverse reactions reported up to 90 days after randomized treatment.

^c Per study protocol, no prophylactic premedication with corticosteroids was permitted, however patients taking low-/intermediate-potency topical steroids or low-dose (≤20 mg) systemic steroids for at least 4 weeks could continue.

Laboratory abnormalities^{1,a}

In ≥10% of patients with a ≥2% higher incidence
within the POTELIGEO treatment arm

LABORATORY TEST	POTELIGEO IV (n=184)		Vorinostat PO (n=186)	
	All grades (%)	≥grade 3 (%)	All grades (%)	≥grade 3 (%)
Chemistry				
Albumin decreased	34	2	27	3
Calcium decreased	30	3	20	2
Uric acid increased	29	29	11	11
Phosphate decreased	27	5	26	5
Magnesium decreased	17	<1	8	<1
Glucose decreased	14	0	8	<1
Calcium increased	12	<1	8	<1
Hematology				
CD4 lymphocytes decreased ^b	63	43	17	8
Lymphocytes decreased	31	16	12	4
White blood cells decreased	33	2	18	2

^a Includes lab abnormalities reported up to 90 days after treatment that were new or worsening in grade or with worsening from baseline unknown.

^b Out of 99 evaluated recipients of POTELIGEO and 36 evaluable recipients of vorinostat.

- No specific laboratory test is required to prescribe POTELIGEO

Please see additional Important Safety Information on
pages 20-21 and accompanying full Prescribing Information.

The first CCR4-targeting monoclonal
antibody for treatment of MF and SS








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Dosing¹

Administer until disease progression or unacceptable toxicity

RECOMMENDED DOSING SCHEDULE

Administer once weekly for the first 5 infusions,
then once every 2 weeks thereafter

	Day of treatment cycle	Dose	Rate of infusion
Cycle 1 (Days 1-28)	Day 1 	1 mg/kg	Administer intravenous infusion over at least 1 hour through a 0.22 micron (or equivalent) in-line filter 
	Day 8 		
	Day 15 		
	Day 22 		
Subsequent cycles (Days 29 and beyond)	Day 1 	1 mg/kg	For mild to severe infusion reaction, temporarily interrupt infusion and treat symptoms. Slow infusion rate by at least 50% when restarting the infusion after symptoms resolve. If reaction occurs and is unmanageable, discontinue infusion
	Day 15 		

RECOMMENDED PREMEDICATIONS

First infusion	Administer premedication with diphenhydramine and acetaminophen prior to the first POTELIGEO infusion
If infusion reaction occurs	Prior to subsequent infusions, administer diphenhydramine and acetaminophen

Use in special populations¹

Pharmacokinetics

- No clinically significant changes in the pharmacokinetics of POTELIGEO were observed based on age, renal impairment, or mild/moderate hepatic impairment

Geriatric use

- In MAVORIC, 51% of patients treated with POTELIGEO were ≥65 years old (range: 25 to 101)
 - No overall differences in effectiveness were observed between these patients and younger patients
- Patients aged ≥65 had numerically greater grade 3 or higher adverse reactions than patients aged <65, but the difference was not statistically significant

51%

Patients
≥65 years old

Important Safety Information (continued)

Warnings and Precautions (continued)

Infusion reactions: Most infusion reactions occur during or shortly after the first infusion. Infusion reactions can also occur with subsequent infusions. Monitor patients closely for signs and symptoms of infusion reactions and interrupt the infusion for any grade reaction and treat promptly. Permanently discontinue POTELIGEO for any life-threatening (Grade 4) infusion reaction.



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Indication

POTELIGEO injection for intravenous infusion is indicated for the treatment of adult patients with relapsed or refractory mycosis fungoides (MF) or Sézary syndrome (SS) after at least one prior systemic therapy.

Important Safety Information

Warnings and Precautions

Dermatologic toxicity: Monitor patients for rash throughout the course of treatment. For patients who experienced dermatologic toxicity in Trial 1, the median time to onset was 15 weeks, with 25% of cases occurring after 31 weeks. Interrupt POTELIGEO for moderate or severe rash (Grades 2 or 3). Permanently discontinue POTELIGEO for life-threatening (Grade 4) rash or for any Stevens-Johnson syndrome (SJS) or toxic epidermal necrolysis (TEN).

Infusion reactions: Most infusion reactions occur during or shortly after the first infusion. Infusion reactions can also occur with subsequent infusions. Monitor patients closely for signs and symptoms of infusion reactions and interrupt the infusion for any grade reaction and treat promptly. Permanently discontinue POTELIGEO for any life-threatening (Grade 4) infusion reaction.

Infections: Monitor patients for signs and symptoms of infection and treat promptly.

Autoimmune complications: Interrupt or permanently discontinue POTELIGEO as appropriate for suspected immune-mediated adverse reactions. Consider the benefit/risk of POTELIGEO in patients with a history of autoimmune disease.

Complications of allogeneic HSCT after POTELIGEO: Increased risks of transplant complications have been reported in patients who received allogeneic HSCT after POTELIGEO. Follow patients closely for early evidence of transplant-related complications.

Adverse Reactions

The most common adverse reactions (reported in $\geq 10\%$ of patients) with POTELIGEO in the clinical trial were rash, including drug eruption (35%), infusion reaction (33%), fatigue (31%), diarrhea (28%), drug eruption (24%), upper respiratory tract infection (22%), musculoskeletal pain (22%), skin infection (19%), pyrexia (17%), edema (16%), nausea (16%), headache (14%), thrombocytopenia (14%), constipation (13%), anemia (12%), mucositis (12%), cough (11%), and hypertension (10%).

You are encouraged to report suspected adverse reactions to Kyowa Kirin, Inc. at 1-844-768-3544 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Please see accompanying full Prescribing Information.

The first CCR4-targeting monoclonal antibody for treatment of MF and SS

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Available support

The Kyowa Kirin Cares program supports patients throughout their POTELIGEO treatment, providing:

- Reimbursement support services
- Copay program (for eligible patients, subject to complete terms and conditions)
- Access to an oncology nurse specialist

To learn more about Kyowa Kirin Cares or to enroll a patient, call **1-833-KKCARES (1-833-552-2737)** or visit **www.KyowaKirinCares.com**.

Most commercially insured patients...



Please see additional Important Safety Information on pages 20-21 and accompanying full Prescribing Information.

References: **1.** POTELIGEO [package insert]. Kyowa Kirin Inc., Bedminster, NJ USA. **2.** Ferenczi K, Fuhlbrigge RC, Pinkus JL, Pinkus GS, Kupper TS. Increased CCR4 expression in cutaneous T cell lymphoma. *J Invest Dermatol.* 2002;119(6):1405-1410. **3.** Wu X-S, Lonsdorf AS, Hwang ST. Cutaneous T cell lymphoma: roles for chemokines and chemokine receptors. *J Invest Dermatol.* 2009;129(5):1115-1119. **4.** Krejsgaard T, Lindahl LM, Mongan NP, et al. Malignant inflammation in cutaneous T-cell lymphoma—a hostile takeover. *Semin Immunopathol.* 2017;39(3):269-282. **5.** Kakinuma T, Sugaya M, Nakamura K, et al. Thymus and activation-regulated chemokine (TARC/CCL17) in mycosis fungoides: serum TARC levels reflect the disease activity of mycosis fungoides. *J Am Acad Dermatol.* 2003;48(1):23-30. **6.** Kallinich T, Muche JM, Qin S, Sterry W, Audring H, Kroczeck RA. Chemokine receptor expression on neoplastic and reactive T cells in the skin at different stages of mycosis fungoides. *J Invest Dermatol.* 2003;121(5):1045-1052. **7.** Duvic M, Evans M, Wong C. Mogamulizumab for the treatment of cutaneous T-cell lymphoma: recent advances and clinical potential. *Ther Adv Hematol.* 2016;7(3):171-174. **8.** Kim YH, Bagot M, Pinter-Brown L, et al. Mogamulizumab versus vorinostat in previously treated cutaneous T-cell lymphoma (MAVORIC): an international, open-label, randomised, controlled phase 3 trial. *Lancet Oncol.* doi:10.1016/S1470-2045(18)30379-6. **9.** Olsen EA, Whittaker S, Kim YH, et al. Clinical end points and response criteria in mycosis fungoides and Sézary syndrome: a consensus statement of the International Society for Cutaneous Lymphomas, the United States Cutaneous Lymphoma Consortium, and the Cutaneous Lymphoma Task Force of the European Organisation for Research and Treatment of Cancer. *J Clin Oncol.* 2011;29(18):2598-2607.

The first CCR4-targeting monoclonal antibody for treatment of MF and SS

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*The first CCR4-targeting
monoclonal antibody for treatment of MF and SS*



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(mogamulizumab-kpkc)

Targeted for Control

In the largest randomized trial of systemic CTCL therapy (N=372)

- Progression-free survival more than doubled (7.6 months vs 3.1 months); risk of disease progression was reduced by 47%¹
- Efficacy was demonstrated in mycosis fungoides (MF) and Sézary syndrome (SS) patients⁸
- More than 5x as many patients responded (28% vs 5%) and duration of response lasted 54% longer (13.9 months vs 9 months)¹
- Higher response rates in skin, blood, and lymph nodes¹
- Most common adverse reactions requiring monitoring were infusion reactions and rash (drug eruption)¹

Available support: **1-833-KKCARES (1-833-552-2737)**
or **www.KyowaKirinCares.com**.

Kyowa KIRIN cares
ACCESS • ASSISTANCE • UNDERSTANDING

Important Safety Information

Warnings and Precautions

Dermatologic toxicity: Monitor patients for rash throughout the course of treatment. For patients who experienced dermatologic toxicity in Trial 1, the median time to onset was 15 weeks, with 25% of cases occurring after 31 weeks. Interrupt POTELIGEO for moderate or severe rash (Grades 2 or 3). Permanently discontinue POTELIGEO for life-threatening (Grade 4) rash or for any any Stevens-Johnson syndrome (SJS) or toxic epidermal necrolysis (TEN).

**Please see additional Important Safety Information on
pages 20-21 and accompanying full Prescribing Information.**

www.poteligeohcp.com

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PM-US-POT-0302 September 2020

Kyowa KIRIN

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use POTELIGEO safely and effectively. See full prescribing information for POTELIGEO.

POTELIGEO® (mogamulizumab-kpkc) injection, for intravenous use

Initial U.S. Approval: 2018

-----INDICATIONS AND USAGE-----

POTELIGEO is a CC chemokine receptor type 4 (CCR4)-directed monoclonal antibody indicated for the treatment of adult patients with relapsed or refractory mycosis fungoides or Sézary syndrome after at least one prior systemic therapy [1].

-----DOSAGE AND ADMINISTRATION-----

1 mg/kg as an intravenous infusion over at least 60 minutes on days 1, 8, 15, and 22 of the first 28-day cycle and on days 1 and 15 of each subsequent cycle [2].

-----DOSAGE FORMS AND STRENGTHS-----

Injection: 20 mg/5 mL (4 mg/mL) solution in a single-dose vial [3].

-----CONTRAINDICATIONS-----

None [4].

-----WARNINGS AND PRECAUTIONS-----

- **Dermatologic Toxicity:** Temporarily interrupt POTELIGEO for moderate or severe skin rashes. Permanently discontinue POTELIGEO for life-threatening rash [5.1].
- **Infusion Reactions:** Temporarily interrupt POTELIGEO for any infusion reaction. Permanently discontinue POTELIGEO for any life-threatening infusion reaction [5.2].
- **Infections:** Monitor and treat promptly [5.3].
- **Autoimmune Complications:** Interrupt or permanently discontinue POTELIGEO as appropriate [5.4].
- **Complications of Allogeneic HSCT after POTELIGEO:** Monitor for severe acute graft-versus-host disease (GVHD) and steroid-refractory GVHD. Transplant-related mortality has occurred. [5.5].

-----ADVERSE REACTIONS-----

The most common adverse reactions (reported in $\geq 20\%$ of patients) were rash, infusion related reactions, fatigue, diarrhea, musculoskeletal pain, and upper respiratory tract infection [6.1].

To report SUSPECTED ADVERSE REACTIONS, contact Kyowa Kirin, Inc. at 1-844-768-3544 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

See 17 for PATIENT COUNSELING INFORMATION and FDA- approved patient labeling.

Revised: 08/2018

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FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

POTELIGEO is indicated for the treatment of adult patients with relapsed or refractory mycosis fungoides (MF) or Sézary syndrome (SS) after at least one prior systemic therapy.

2 DOSAGE AND ADMINISTRATION

2.1 Recommended Dosage

The recommended dose of POTELIGEO is 1 mg/kg administered as an intravenous infusion over at least 60 minutes. Administer on days 1, 8, 15, and 22 of the first 28-day cycle, then on days 1 and 15 of each subsequent 28-day cycle until disease progression or unacceptable toxicity.

Administer POTELIGEO within 2 days of the scheduled dose. If a dose is missed, administer the next dose as soon as possible and resume dosing schedule.

Do not administer POTELIGEO subcutaneously or by rapid intravenous administration.

Recommended Premedications

Administer premedication with diphenhydramine and acetaminophen for the first POTELIGEO infusion.

2.2 Dose Modifications for Toxicity

Dermatologic Toxicity

- Permanently discontinue POTELIGEO for life-threatening (Grade 4) rash or for any Stevens-Johnson syndrome (SJS) or toxic epidermal necrolysis (TEN) [*see Warnings and Precautions (5.1)*]. If SJS or TEN is suspected, stop POTELIGEO and do not resume unless SJS or TEN has been excluded and the cutaneous reaction has resolved to Grade 1 or less.
- If moderate or severe (Grades 2 or 3) rash occurs, interrupt POTELIGEO and administer at least 2 weeks of topical corticosteroids. If rash improves to Grade 1 or less, POTELIGEO may be resumed [*see Warnings and Precautions (5.1)*].
- If mild (Grade 1) rash occurs, consider topical corticosteroids.

Infusion Reactions

- Permanently discontinue POTELIGEO for a life-threatening (Grade 4) infusion reaction [*see Warnings and Precautions (5.2)*].
- Temporarily interrupt the infusion of POTELIGEO for mild to severe (Grades 1 to 3) infusion reactions and treat symptoms. Reduce the infusion rate by at least 50% when restarting the

infusion after symptoms resolve. If reaction recurs and is unmanageable, discontinue infusion. [see *Warnings and Precautions* (5.2)].

- If an infusion reaction occurs, administer premedication (such as diphenhydramine and acetaminophen) for subsequent POTELIGEO infusions.

2.3 Preparation and Administration

Preparation

- Visually inspect drug product solution for particulate matter and discoloration prior to administration. POTELIGEO is a clear to slightly opalescent colorless solution. Discard the vial if cloudiness, discoloration, or particulates are observed.
- Calculate the dose (mg/kg) and number of vials of POTELIGEO needed to prepare the infusion solution based on patient weight.
- Aseptically withdraw the required volume of POTELIGEO into the syringe and transfer into an intravenous (IV) bag containing 0.9% Sodium Chloride Injection, USP. The final concentration of the diluted solution should be between 0.1 mg/mL to 3.0 mg/mL.
- Mix diluted solution by gentle inversion. Do not shake.
- Discard any unused portion left in the vial.

The diluted solution is compatible with polyvinyl chloride (PVC) or polyolefin (PO) infusion bags.

Administration

- Administer infusion solution over at least 60 minutes through an intravenous line containing a sterile, low protein binding, 0.22 micron (or equivalent) in-line filter.
- Do not mix POTELIGEO with other drugs.
- Do not co-administer other drugs through the same intravenous line.

Storage of Diluted Solution

After preparation, infuse the POTELIGEO solution immediately, or store under refrigeration at 2°C to 8°C (36°F to 46°F) for no more than 4 hours from the time of infusion preparation.

Do not freeze. Do not shake.

3 DOSAGE FORMS AND STRENGTHS

Injection: 20 mg/5 mL (4 mg/mL) as a clear to slightly opalescent colorless solution in a single-dose vial.

4 CONTRAINDICATIONS

None.

5 WARNINGS AND PRECAUTIONS

5.1 Dermatologic Toxicity

Fatal and life-threatening skin adverse reactions, including Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN), have occurred in recipients of POTELIGEO. Rash (drug eruption) is one of the most common adverse reactions associated with POTELIGEO. In Trial 1, 25% (80/319) of patients treated with POTELIGEO had an adverse reaction of drug eruption, with 18% of these cases being severe (Grade 3) and 82% of these cases being Grade 1 or 2. Of 528 patients treated with POTELIGEO in clinical trials, Grade 3 skin adverse reactions were reported in 3.6%, Grade 4 skin adverse reactions in <1%, and SJS in <1%.

The onset of drug eruption is variable, and the affected areas and appearance vary. In Trial 1, the median time to onset was 15 weeks, with 25% of cases occurring after 31 weeks. The more common presentations reported included papular or maculopapular rash, lichenoid, spongiotic or granulomatous dermatitis, and morbilliform rash. Other presentations included scaly plaques, pustular eruption, folliculitis, non-specific dermatitis, and psoriasiform dermatitis.

Monitor patients for rash throughout the treatment course. Management of dermatologic toxicity includes topical corticosteroids and interruption or permanent cessation of POTELIGEO [*see Dosage and Administration (2.2)*]. Consider skin biopsy to help distinguish drug eruption from disease progression.

Discontinue POTELIGEO permanently for SJS or TEN or for any life-threatening (Grade 4) reaction. For possible SJS or TEN, interrupt POTELIGEO and do not restart unless SJS or TEN is ruled out and the cutaneous reaction has resolved to Grade 1 or less.

5.2 Infusion Reactions

Fatal and life-threatening infusion reactions have been reported in patients treated with POTELIGEO. In Trial 1, infusion reactions occurred in 35% (112/319) of patients treated with POTELIGEO, with 8% of these reactions being severe (Grade 3). Most reactions (approximately 90%) occur during or shortly after the first infusion. Infusion reactions can also occur with subsequent infusions. The most commonly reported signs include chills, nausea, fever, tachycardia, rigors, headache, and vomiting.

Consider premedication (such as diphenhydramine and acetaminophen) for the first infusion of POTELIGEO in all patients. Whether premedication reduces the risk or severity of these reactions is not established. In Trial 1, infusion reactions occurred in 42% of patients without premedication and 32% of patients with premedication. Monitor patients closely for signs and symptoms of infusion reactions and interrupt the infusion for any grade reaction and treat promptly [*see Dosage and Administration (2.2)*].

5.3 Infections

Fatal and life-threatening infections have occurred in patients treated with POTELIGEO, including sepsis, pneumonia, and skin infection. In Trial 1, 18% (34/184) of patients randomized to POTELIGEO had Grade 3 or higher infection or an infection-related serious adverse reaction. Monitor patients for signs and symptoms of infection and treat promptly.

5.4 Autoimmune Complications

Fatal and life-threatening immune-mediated complications have been reported in recipients of POTELIGEO. Grade 3 or higher immune-mediated or possibly immune-mediated reactions have included myositis, myocarditis, polymyositis, hepatitis, pneumonitis, and a variant of Guillain-Barré syndrome. Use of systemic immunosuppressants for immune-mediated reactions was reported in 1.9% (6/319) of recipients of POTELIGEO in Trial 1, including for a case of Grade 2 polymyalgia rheumatica. New-onset hypothyroidism (Grade 1 or 2) was reported in 1.3% of patients and managed with observation or levothyroxine. Interrupt or permanently discontinue POTELIGEO as appropriate for suspected immune-mediated adverse reactions. Consider the benefit/risk of POTELIGEO in patients with a history of autoimmune disease.

5.5 Complications of Allogeneic Hematopoietic Stem Cell Transplantation (HSCT) after POTELIGEO

Increased risks of transplant complications have been reported in patients who receive allogeneic HSCT after POTELIGEO including severe (Grade 3 or 4) acute graft-versus-host disease (GVHD), steroid-refractory GVHD, and transplant-related death. Among recipients of pre-transplantation POTELIGEO, a higher risk of transplant complications has been reported if POTELIGEO is given within a shorter time frame (approximately 50 days) before HSCT. Follow patients closely for early evidence of transplant-related complications.

6 ADVERSE REACTIONS

The following serious adverse reactions are discussed in greater detail in other sections of the labeling:

- Dermatologic Toxicity [*see Warnings and Precautions (5.1)*].
- Infusion Reactions [*see Warnings and Precautions (5.2)*].
- Infections [*see Warnings and Precautions (5.3)*].
- Autoimmune Complications [*see Warnings and Precautions (5.4)*].
- Complications of Allogeneic HSCT after POTELIGEO [*see Warnings and Precautions (5.5)*].

6.1 Clinical Trial Experience

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

Trial 1

The data described below reflect exposure to POTELIGEO in a randomized, open-label, actively controlled clinical trial for adult patients with MF or SS who received at least one prior systemic therapy [see *Clinical Studies* (14)]. Of 370 patients treated, 184 (57% with MF, 43% with SS) received POTELIGEO as randomized treatment and 186 (53% with MF, 47% with SS) received vorinostat. In the vorinostat arm, 135 patients (73%) subsequently crossed over to POTELIGEO for a total of 319 patients treated with POTELIGEO.

POTELIGEO was administered at 1 mg/kg intravenously over at least 60 minutes on days 1, 8, 15, and 22 of the first 28-day cycle and on days 1 and 15 of subsequent 28-day cycles. Premedication (diphenhydramine, acetaminophen) was optional and administered to 65% of randomized patients for the first infusion. The comparator group received vorinostat 400 mg orally once daily, given continuously in 28-day cycles. Treatment continued until unacceptable toxicity or progressive disease.

The median age was 64 years (range, 25 to 101 years), 58% of patients were male, 70% were white, and 99% had an Eastern Cooperative Oncology Group (ECOG) performance status of 0 or 1. Patients had a median of 3 prior systemic therapies. The trial required an absolute neutrophil count (ANC) $\geq 1500/\mu\text{L}$ ($\geq 1000/\mu\text{L}$ if bone marrow was involved), platelet count $\geq 100,000/\mu\text{L}$ ($\geq 75,000/\mu\text{L}$ if bone marrow was involved), creatinine clearance > 50 mL/min or serum creatinine ≤ 1.5 mg/dL, and hepatic transaminases ≤ 2.5 times upper limit of normal (ULN) (≤ 5 times ULN if lymphomatous liver infiltration). Patients with active autoimmune disease, active infection, autologous HSCT within 90 days, or prior allogeneic HSCT were excluded.

During randomized treatment, the median duration of exposure to POTELIGEO was 5.6 months, with 48% (89/184) of patients with at least 6 months of exposure and 23% (43/184) with at least 12 months of exposure. The median duration of exposure to vorinostat was 2.8 months, with 22% (41/186) of patients with at least 6 months of exposure.

Fatal adverse reactions within 90 days of the last dose occurred in 2.2% (7/319) of patients who received POTELIGEO as randomized or crossover treatment.

Serious adverse reactions were reported in 36% (66/184) of patients randomized to POTELIGEO and most often involved infection (16% of patients; 30/184). Serious adverse reactions reported in $> 2\%$ of patients randomized to POTELIGEO were pneumonia (5%), sepsis (4%), pyrexia (4%), and skin infection (3%); other serious adverse reactions, each reported in 2% of patients, included hepatitis, pneumonitis, rash, infusion related reaction, lower respiratory tract infection, and renal insufficiency. POTELIGEO was discontinued for adverse reactions in 18% of randomized patients, most often due to rash or drug eruption (7.1%).

Common Adverse Reactions

The most common adverse reactions (reported in $\geq 20\%$ of patients randomized to POTELIGEO) were rash (including drug eruption), infusion related reactions, fatigue, diarrhea, upper respiratory tract infection and musculoskeletal pain. Other common adverse reactions (reported in $\geq 10\%$ of patients randomized to POTELIGEO) included skin infection, pyrexia, nausea, edema, thrombocytopenia, headache, constipation, mucositis, anemia, cough and hypertension. Table 1 summarizes common adverse reactions having a $\geq 2\%$ higher incidence with POTELIGEO than with vorinostat in Trial 1.

Table 1: Common Adverse Reactions ($\geq 10\%$) with $\geq 2\%$ Higher Incidence in the POTELIGEO Arm

Adverse Reactions by Body System ^{a, b}	POTELIGEO (N=184)		Vorinostat (N=186)	
	All Grades (%)	\geq Grade 3 (%)	All Grades (%)	\geq Grade 3 (%)
Skin and Subcutaneous Tissue Disorders				
Rash, Including Drug Eruption	35	5	11	2
Drug Eruption	24	5	<1	0
Procedural Complications				
Infusion Related Reaction	33	2	0	0
Infections				
Upper Respiratory Tract Infection	22	0	16	1
Skin Infection	19	3	13	4
Musculoskeletal and Connective Tissue Disorders				
Musculoskeletal Pain	22	<1	17	3
General Disorders				
Pyrexia	17	<1	7	0
Gastrointestinal				
Mucositis	12	1	6	0

^a Adverse reactions include groupings of individual preferred terms.

^b Includes adverse reactions reported up to 90 days after randomized treatment.

Rash/Drug Eruption includes: dermatitis (allergic, atopic, bullous, contact, exfoliative, infected), drug eruption, palmoplantar keratoderma, rash (generalized, macular, maculopapular, papular, pruritic, pustular), skin reaction, toxic skin eruption

Upper Respiratory Tract Infection includes: laryngitis viral, nasopharyngitis, pharyngitis, rhinitis, sinusitis, upper respiratory tract infection, viral upper respiratory tract infection

Skin Infection includes: cellulitis, dermatitis infected, erysipelas, impetigo, infected skin ulcer, periorbital cellulitis, skin bacterial infection, skin infection, staphylococcal skin infection

Musculoskeletal Pain includes: back pain, bone pain, musculoskeletal chest pain, musculoskeletal pain, myalgia, neck pain, pain in extremity

Mucositis includes: aphthous stomatitis, mouth ulceration, mucosal inflammation, oral discomfort, oral pain, oropharyngeal pain, stomatitis

Other Common Adverse Reactions in $\geq 10\%$ of POTELIGEO Arm ^{a, b}

- **General disorders:** fatigue (31%), edema (16%)
- **Gastrointestinal disorders:** diarrhea (28%), nausea (16%), constipation (13%)
- **Blood and lymphatic system disorders:** thrombocytopenia (14%), anemia (12%)
- **Nervous system disorders:** headache (14%)
- **Vascular disorders:** hypertension (10%)
- **Respiratory disorders:** cough (11%)

Adverse Reactions in $\geq 5\%$ but $< 10\%$ of POTELIGEO Arm^{a, b}

- **Infections:** candidiasis (9%), urinary tract infection (9%), folliculitis (8%), pneumonia (6%), otitis (5%), herpesvirus infection (5%)
- **Investigations:** renal insufficiency (9%), hyperglycemia (9%), hyperuricemia (8%), weight increase (8%), weight decrease (6%), hypomagnesemia (6%)
- **Psychiatric disorders:** insomnia (9%), depression (7%)
- **Skin and subcutaneous disorders:** xerosis (8%), alopecia (7%)
- **Nervous system disorders:** dizziness (8%), peripheral neuropathy (7%)
- **Metabolism and nutrition disorders:** decreased appetite (8%)
- **Respiratory disorders:** dyspnea (7%)
- **General disorders:** chills (7%)
- **Gastrointestinal disorders:** vomiting (7%), abdominal pain (5%)
- **Injury, poisoning and procedural complications:** fall (6%)
- **Musculoskeletal disorders:** muscle spasms (5%)
- **Cardiovascular disorders:** arrhythmia (5%)
- **Eye disorders:** conjunctivitis (5%)

Selected Other Adverse Reactions^{a, b}

- Tumor lysis syndrome ($< 1\%$)
- Myocardial ischemia or infarction ($< 1\%$)
- Cardiac failure ($< 1\%$)

^a Includes grouped terms

^b From 184 patients randomized to POTELIGEO

Table 2 summarizes common treatment-emergent laboratory abnormalities having a $\geq 2\%$ higher incidence with POTELIGEO than with vorinostat.

Table 2: Common New or Worsening Laboratory Abnormalities ($\geq 10\%$) with $\geq 2\%$ Higher Incidence in the POTELIGEO Arm

Laboratory Test ^a	POTELIGEO (N=184)		Vorinostat (N=186)	
	All Grades (%)	\geq Grade 3 (%)	All Grades (%)	\geq Grade 3 (%)
Chemistry				
Albumin Decreased	34	2	27	3
Calcium Decreased	30	3	20	2
Uric Acid Increased	29	29	11	11
Phosphate Decreased	27	5	26	5
Magnesium Decreased	17	< 1	8	< 1
Glucose Decreased	14	0	8	< 1
Calcium Increased	12	< 1	8	< 1
Hematology				
CD4 Lymphocytes Decreased ^b	63	43	17	8
Lymphocytes Decreased	31	16	12	4
White Blood Cells Decreased	33	2	18	2

^a Includes laboratory abnormalities, reported up to 90 days after treatment, that are new or worsening in grade or with worsening from baseline unknown.

^b Out of 99 evaluable recipients of POTELIGEO and 36 evaluable recipients of vorinostat.

Other common treatment-emergent laboratory abnormalities in the POTELIGEO arm included hyperglycemia (52%; 4% Grade 3-4), anemia (35%; 2% Grade 3-4), thrombocytopenia (29%, none Grade 3-4), aspartate transaminase (AST) increased (25%; 2% Grade 3-4), alanine transaminase (ALT) increased (18%; 1% Grade 3-4), alkaline phosphatase increased (17%; 0% Grade 3-4), and neutropenia (10%; 2% Grade 3-4). Grade 4 treatment-emergent laboratory abnormalities observed in $\geq 1\%$ of the POTELIGEO arm included lymphopenia (5%), leukopenia (1%), and hypophosphatemia (1%).

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 incidence of antibodies to POTELIGEO with the incidences of antibodies in other studies or to other products may be misleading.

Among 258 patients treated with POTELIGEO in Trial 1, 10 (3.9%) tested positive for treatment-emergent (treatment-induced or treatment-boostered) anti-mogamulizumab-kpkc antibodies by an electrochemiluminescent assay. There were no positive neutralizing antibody responses.

6.3 Postmarketing Safety Information

The following adverse reactions have been identified during post-approval use of POTELIGEO. 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.

- Infections: Hepatitis B virus reactivation
- Cardiac disorders: Stress cardiomyopathy

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

There are no available data on POTELIGEO use in pregnant women to inform a drug-associated risk of major birth defects and miscarriage. In an animal reproduction study, administration of mogamulizumab-kpkc to pregnant cynomolgus monkeys from the start of organogenesis through delivery did not show a potential for adverse developmental outcomes at maternal systemic exposures 27 times the exposure in patients at the recommended dose, based on AUC (*see Data*).

In general, IgG molecules are known to cross the placental barrier and in the monkey reproduction study mogamulizumab-kpkc was detected in fetal plasma. Therefore, POTELIGEO has the potential to be transmitted from the mother to the developing fetus. POTELIGEO is not recommended during pregnancy or in women of childbearing potential not using contraception.

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risks of major birth defects and miscarriage in clinically recognized pregnancies are 2-4% and 15-20%, respectively.

Data

Animal Data

The effects of mogamulizumab-kpkc on embryo-fetal development were evaluated in 12 pregnant cynomolgus monkeys that received mogamulizumab-kpkc once weekly by intravenous administration from the start of organogenesis through delivery at an exposure level 27 times higher than the clinical dose. Mogamulizumab-kpkc administration did not show a potential for embryo-fetal lethality, teratogenicity, or fetal growth retardation and did not result in spontaneous abortion or increased fetal death. In surviving fetuses (10 of 12 compared with 11 of 12 in the control group) of cynomolgus monkeys treated with mogamulizumab-kpkc, a decrease in CCR4-expressing lymphocytes due to the pharmacological activity of mogamulizumab-kpkc was noted; there were no apparent mogamulizumab-kpkc -related external, visceral, or skeletal abnormalities.

8.2 Lactation

Risk Summary

There is no information regarding the presence of POTELIGEO in human milk, the effects on the breastfed child, or the effects on milk production. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for POTELIGEO and any potential adverse effects on the breastfed child from POTELIGEO or from the underlying maternal condition.

8.3 Females and Males of Reproductive Potential

POTELIGEO is not recommended during pregnancy or in women of childbearing potential not using contraception.

Pregnancy Testing

For females of reproductive potential, verify pregnancy status prior to initiating POTELIGEO.

Contraception

Advise females of reproductive potential to use effective contraception during treatment with POTELIGEO and for at least 3 months following the last dose of POTELIGEO.

8.4 Pediatric use

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

8.5 Geriatric use

Of 319 patients with MF or SS who received POTELIGEO in Trial 1, 162 (51%) were ≥ 65 years. No overall differences in effectiveness were observed between these patients and younger patients. In patients aged ≥ 65 , Grade 3 or higher adverse reactions were reported in 45% and serious adverse reactions in 36%, whereas in patients aged < 65 , Grade 3 or higher adverse reactions were reported in 36% and serious adverse reactions in 29%.

11 DESCRIPTION

Mogamulizumab-kpkc is a recombinant humanized monoclonal antibody that targets CC chemokine receptor 4 (CCR4)-expressing cells. Mogamulizumab-kpkc is an IgG1 kappa immunoglobulin that has a calculated molecular mass of approximately 149 kDa.

Mogamulizumab-kpkc is produced by recombinant DNA technology in Chinese hamster ovary cells.

POTELIGEO (mogamulizumab-kpkc) injection is a sterile, ready-to-use, preservative-free, clear to slightly opalescent colorless solution in a single-dose vial for dilution prior to intravenous infusion. Each vial contains 20 mg of mogamulizumab-kpkc in 5 mL of solution. Each mL of solution contains 4 mg of mogamulizumab-kpkc and is formulated in: citric acid monohydrate (0.44 mg), glycine (22.5 mg), polysorbate 80 (0.2 mg), and Water for Injection, USP. May contain hydrochloric acid/sodium hydroxide to adjust pH to 5.5.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Mogamulizumab-kpkc is a defucosylated, humanized IgG1 kappa monoclonal antibody that binds to CCR4, a G protein-coupled receptor for CC chemokines that is involved in the trafficking of lymphocytes to various organs. Non-clinical in vitro studies demonstrate mogamulizumab-kpkc binding targets a cell for antibody-dependent cellular cytotoxicity (ADCC) resulting in depletion of the target cells. CCR4 is expressed on the surface of some T-cell malignancies and is expressed on regulatory T-cells (Treg) and a subset of Th2 T-cells.

12.2 Pharmacodynamics

Mogamulizumab-kpkc exposure-response relationships and the time course of pharmacodynamics response are unknown.

12.3 Pharmacokinetics

Mogamulizumab-kpkc pharmacokinetics (PK) was evaluated in patients with T-cell malignancies. Parameters are presented as the geometric mean [% coefficient of variation (%CV)] unless otherwise specified. Mogamulizumab-kpkc concentrations increased proportionally with dose over the dose range of 0.01 to 1.0 mg/kg (0.01 to 1 times the approved recommended dosage).

Following repeated dosing of the approved recommended dosage, steady state concentrations were reached after 8 doses (12 weeks), and the systemic accumulation was 1.6-fold. At steady state, the peak concentration ($C_{\max,ss}$) is 32 (68%) $\mu\text{g/mL}$, the trough concentration ($C_{\min,ss}$) is 11 (239%) $\mu\text{g/mL}$, and AUC_{ss} is 5577 (125%) $\mu\text{g}\cdot\text{hr/mL}$.

Distribution

The central volume of distribution is 3.6 L (20%).

Elimination

The terminal half-life is 17 days (66%), and the clearance is 12 mL/h (84%).

Specific Populations:

No clinically significant changes in the PK of mogamulizumab-kpkc were observed based on age (range: 22 to 101 years), sex, ethnicity, renal impairment (creatinine clearance <90 mL/min, estimated by Cockcroft-Gault), mild (total bilirubin \leq ULN and AST $<$ ULN, or total bilirubin <1 to 1.5 times ULN and any AST) or moderate (total bilirubin >1.5 to 3 times ULN and any AST) hepatic impairment, disease subtype (MF or SS), degree of CCR4 expression, or ECOG status. The effect of severe hepatic impairment (total bilirubin >3 times ULN and any AST) on mogamulizumab-kpkc PK is unknown.

Drug Interaction Studies

No drug interaction studies have been conducted with POTELIGEO.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, and Impairment of Fertility

No carcinogenicity or genotoxicity studies have been conducted with POTELIGEO.

No specific studies have been conducted to evaluate potential effects of POTELIGEO on fertility. No mogamulizumab-kpkc -related toxic effects in the male and female reproductive organs were observed in sexually mature monkeys in repeat-dose toxicology studies up to 26 weeks in duration.

14 CLINICAL STUDIES

Trial 1

A randomized, open-label, multicenter trial (Study 0761-010; NCT01728805) evaluated the efficacy of POTELIGEO in adult patients with MF or SS after at least one prior systemic

therapy. The trial randomized 372 patients 1:1 to either POTELIGEO (186 patients; 56% with MF, 44% with SS) or vorinostat (186 patients; 53% with MF, 47% with SS). The trial included patients regardless of tumor CCR4 expression status and excluded patients with histologic transformation, prior allogeneic HSCT, autologous HSCT within 90 days, active autoimmune disease, or active infection. The trial required patients to have ANC $\geq 1500/\mu\text{L}$ ($\geq 1000/\mu\text{L}$ if bone marrow was involved), platelet count $\geq 100,000/\mu\text{L}$ ($\geq 75,000/\mu\text{L}$ if bone marrow was involved), creatinine clearance >50 mL/min or serum creatinine ≤ 1.5 mg/dL and hepatic transaminases ≤ 2.5 times ULN (≤ 5 times ULN if lymphomatous liver infiltration).

The dose of POTELIGEO was 1 mg/kg administered intravenously over at least 60 minutes on days 1, 8, 15, and 22 of the first 28-day cycle and on days 1 and 15 of each subsequent cycle. Vorinostat was dosed at 400 mg orally once daily, continuously for 28-day cycles. Treatment continued until disease progression or unacceptable toxicity. Vorinostat-treated patients with disease progression or unacceptable toxicities were permitted to cross over to POTELIGEO.

The median age was 64 years (range: 25 to 101), 58% of patients were male, and 70% were white. At study baseline, 38% had stage IB-II disease, 10% stage III, and 52% stage IV. The median number of prior systemic therapies was 3. In the POTELIGEO arm, baseline CCR4 expression status by immunohistochemistry was available in 140 patients (75%), of whom all had CCR4 detected on $\geq 1\%$ of lymphocytes on skin biopsy, and 134/140 (96%) had CCR4 detected on $\geq 10\%$ of the lymphocytes. CCR4 expression status was similar in the vorinostat arm.

During randomized treatment, the median duration of exposure to POTELIGEO was 5.6 months (range: <1 to 45.3 months), with 48% of patients with at least 6 months of exposure and 23% with at least 12 months of exposure. The median duration of exposure to vorinostat was 2.8 months (range: <1 to 34.8 months), with 22% of patients with at least 6 months of exposure.

Efficacy was based on investigator-assessed progression-free survival (PFS), which was defined as the time from the date of randomization until documented progression of disease or death. Other efficacy measures included overall response rate (ORR) based on global composite response criteria that combine measures from each disease compartment (skin, blood, lymph nodes and viscera). Responses required confirmation at two successive disease assessments, which included the modified Severity Weighted Assessment Tool, skin photographs, central flow cytometry, and computed tomography.

The trial demonstrated that POTELIGEO significantly prolonged PFS compared to vorinostat (Table 3). The Kaplan-Meier curve for PFS by Investigator is shown in Figure 1. The estimated median follow-up for investigator-assessed PFS was 13 months in the POTELIGEO arm and 10.4 months in the vorinostat arm. By independent review committee assessment, the estimated median PFS was 6.7 months (95% CI, 5.6 to 9.4) in the POTELIGEO arm and 3.8 months (95% CI, 3.0 to 4.7) in the vorinostat arm (hazard ratio 0.64; 95% CI: 0.49, 0.84).

Figure 1 Kaplan-Meier Curve for Progression-Free Survival per Investigator

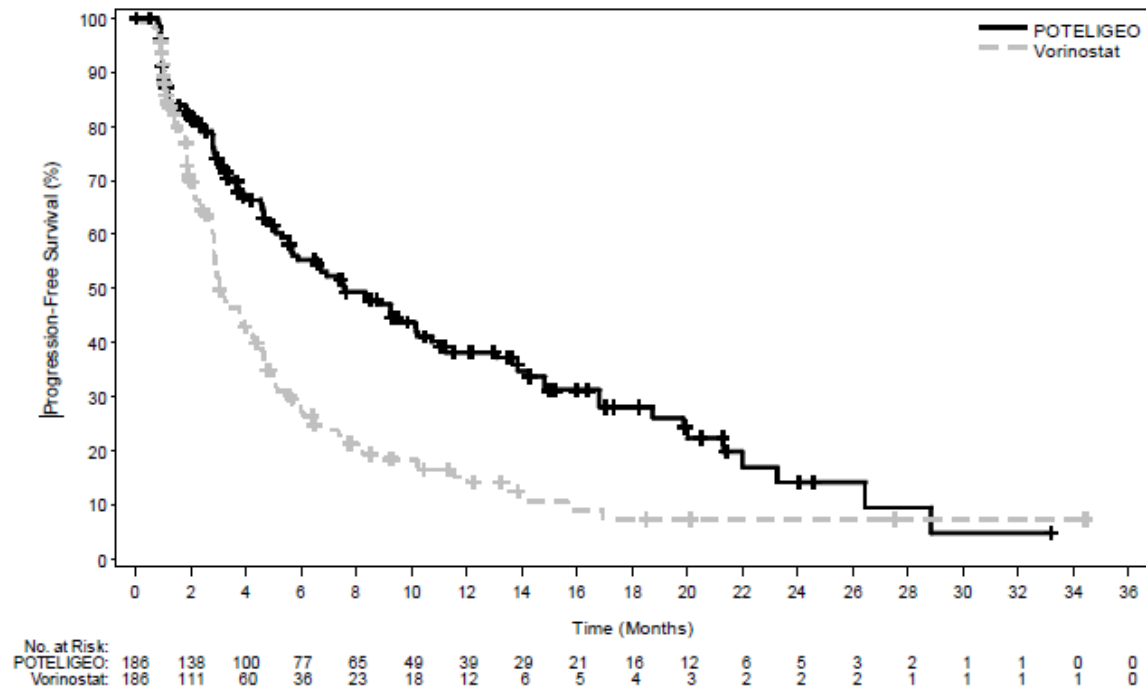


Table 3 also summarizes investigator-assessed confirmed response rates, overall and by disease compartment. The trial demonstrated improvement in ORR with POTELIGEO.

Table 3 Efficacy of Randomized Treatment (Trial 1)

Outcome per Investigator	POTELIGEO N=186	Vorinostat N=186
PFS		
Number of events, n	110	131
Progressive disease	104	128
Death	6	3
Median PFS (95% CI) (months) ^a	7.6 (5.6, 10.2)	3.1 (2.8, 4.0)
Hazard ratio (95% CI)	0.53 (0.41, 0.69)	
Log rank p-value	<.001	
Overall response rate (confirmed CR + PR), n (%) ^{b, c}	52 (28)	9 (5)
95% CI	(22, 35)	(2, 9)
P-value ^d	<.001	
Duration of overall response (months)		
Median (95% CI) ^a	13.9 (9.3, 18.9)	9.0 (4.6, NE)
Confirmed best overall response ^b		
CR, n (%)	4 (2)	0 (0)
95% CI	(1, 5)	(0, 2)
PR, n (%)	47 (25)	9 (5)
95% CI	(20, 33)	(2, 9)

Response by compartment (confirmed CR + PR) ^c		
Blood	n=124	n=125
Response rate, n (%)	83 (67)	23 (18)
95% CI	(58, 75)	(12, 26)
Skin	n=186	n=186
Response rate, n (%)	78 (42)	29 (16)
95% CI	(35, 49)	(11, 22)
Lymph nodes	n=136	n=133
Response rate, n (%)	21 (15)	5 (4)
95% CI	(10, 23)	(1, 9)
Viscera	n=6	n=4
Response rate, n (%)	0 (0)	0 (0)
95% CI	(0, 46)	(0, 60)

^a Kaplan-Meier estimate.

^b Based on Global Composite Response score.

^c Responses in blood and skin must have persisted for at least 4 weeks to be considered confirmed and were evaluated every 4 weeks for the first year. Responses in lymph nodes, visceral disease and overall were evaluated every 8 weeks for the first year.

^d From Cochran-Mantel-Haenszel test adjusted for disease type, stage, and region.

CI=confidence interval; CR=complete response; NE=not estimable; PR=partial response

16 HOW SUPPLIED/STORAGE AND HANDLING

POTELIGEO (mogamulizumab-kpkc) injection is a sterile, preservative-free, clear to slightly opalescent colorless solution supplied in a carton containing one 20 mg/5 mL (4 mg/mL), single-dose glass vial (NDC 42747-761-01).

Store vials under refrigeration at 2°C to 8°C (36°F to 46°F) in original package to protect from light until time of use. Do not freeze. Do not shake.

17 PATIENT COUNSELING INFORMATION

Advise the patient to read the FDA-approved patient labeling (Patient Information).

Inform patients of the risk of the following adverse reactions that may require additional treatment and/or withholding or discontinuation of POTELIGEO including:

- **Dermatological Toxicity:** Advise patients to contact their healthcare provider immediately for new or worsening skin rash [*see Warnings and Precautions (5.1)*]. Advise patients that the rash can happen at any time while receiving POTELIGEO.
- **Infusion Reactions:** Advise patients to contact their healthcare provider immediately for signs or symptoms of infusion reactions [*see Warnings and Precautions (5.2)*].
- **Infections:** Advise patients to contact their health care provider for fever or other evidence of infection [*see Warnings and Precautions (5.3)*].

- Autoimmune Complications: Advise patients to notify their healthcare provider of any history of autoimmune disease [*see Warnings and Precautions (5.4)*].
- Complications of Allogeneic HSCT after POTELIGEO: Advise patients of potential risk of post-transplant complications [*see Warnings and Precautions (5.5)*].
- Females of Reproductive Potential: Advise use of effective contraception during treatment with POTELIGEO and for at least 3 months following the last dose of POTELIGEO [*see Use in Specific Populations (8.3)*].

POTELIGEO[®] (mogamulizumab-kpkc)

Manufactured by:

Kyowa Kirin, Inc.

Bedminster, NJ 07921

US License No. 2077