Drug Monograph

Drug/Drug Class:	**Ilumya™ (tildrakizumab-asmn) injection/ Targeted Immunomodulators**
Prepared for:	MO HealthNet
Prepared by:	Conduent

☒ **New Criteria** ☐ **Revision of Existing Criteria**

Executive Summary

Purpose:	The purpose of this monograph is to provide a review of new therapy to determine whether the reviewed drug should be made available on an open access basis to prescribers, require a clinical edit or require prior authorization for use.
Dosage Forms & Manufacturer:	Ilumya™ is available in a single-dose prefilled syringe containing 100 mg tildrakizumab per ml. Manufactured by: Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Whitehouse Station, NJ 08889
Summary of Findings:	The safety and efficacy of Ilumya™ was assessed in two randomized, double-blind, multicenter studies in patients with moderate to severe plaque psoriasis. Patient receiving Ilumya™ 100mg subcutaneous injection at Week, 0, 4, and every 12 weeks thereafter had significant improvement over placebo at week 12 with a 75% reduction in Psoriasis Area and Severity Index score (PASI 75) and Physician Global Assessment score (PGA) of minimal to clear.
Status Recommendation:	☐ Prior Authorization (PA) Required ☐ Open Access ☐ Clinical Edit ☒ PDL
Type of PA Criteria:	☐ Increased Risk of ADE ☒ Under Solicitation ☐ Appropriate Indications ☐ No PA Required

Purpose

The purpose of this monograph is to provide a review of new therapy to determine whether the reviewed drug should be considered a prior authorization drug, a clinical edit drug or an open access drug. While prescription expenditures are increasing at double-digit rates, payers are evaluating ways to control these costs by influencing prescriber behavior and guide appropriate medication usage. This review will assist in the achievement of qualitative and economic goals related to health care resource utilization. Restricting the use of certain medications can reduce costs by requiring documentation of appropriate indications for use, and where appropriate, encourage the use of less expensive agents within a drug class.

Introduction [2,3]

Psoriasis is characterized by well demarcated, erythematous plaques and papules with a silver scale. This chronic, inflammatory skin disease affects approximately 3% of the world population with 80 to 90% of cases being plaque psoriasis, and 20% of those being moderate to severe cases.

Dosage Form [1,3]

Ilumya™ is available in a single-dose prefilled syringe containing 100 mg tildrakizumab per ml.

Manufacturer [1]

Manufactured by: Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Whitehouse Station, NJ 08889

Indication(s) [1,3]

Ilumya™ is an interleukin-23 antagonist indicated for the treatment of adults with moderate-to-severe plaque psoriasis who are candidates for systemic therapy or phototherapy.

Clinical Efficacy [1,3] (mechanism of action/pharmacology, comparative efficacy)

Ilumya™ is a humanized IgG1/k monoclonal antibody that selectively binds to the p19 subunit of IL-23 and inhibits its interaction with the IL-23 receptor. IL-23 is a naturally occurring cytokine that is involved in the inflammatory and immune responses. Inhibits the release of proinflammatory cytokines and chemokines.

Pharmacokinetics:

	Ilumya™
Bioavailability	73-80%, peak concentration ~ 6 days
Volume of Distribution	10.8 L
Metabolism	Unknown
Elimination	Systemic clearance 0.32 L/day
Half-life	~23 days

Efficacy and Safety of Ilumya™

STUDY DESIGN	Two Randomized, double-blind, multicenter trials(N=926)

INCLUSION CRITERIA	Adult patients had a Physician Global Assessment score of ≥ 3 on a 5 point scale of overall disease severity, Psoriasis Area and Severity Index (PASI) score of ≥ 12, minimum body surface area involvement of 10%
EXCLUSION CRITERIA	Patients with guttate, erythrodermic, or pustular psoriasis
TREATMENT REGIMEN	Patients were randomized to either Ilumya™ 100mg at week 0, 4, and every 12 weeks after up to 64 weeks (N=616) or placebo (N=310). The co-primary endpoints were the proportion of patients who achieved at least a 75% reduction in the PASI composite score; and the proportion of patients with a PGA of 0 or 1 and at least a 2point improvement at week 12.
RESULTS	Significant improvement of Ilumya™ over placebo was shown at week 12 with a 75% reduction the PASI 75 and PGA of clear or minimal.
SAFETY	Not specified.

Contraindications (1)

- Previous serious hypersensitivity reaction to tidrakizumab or to any of the excipients.

Warnings and Precautions (1,3)

- Hypersensitivity: If a serious allergic reaction occurs, discontinue Ilumya™ immediately and initiate appropriate therapy.
- Infections: Ilumya™ may increase the risk of infection. Instruct patients to seek medical advice if signs or symptoms of clinically important chronic or acute infection occur. If a serious infection develops, consider discontinuing Ilumya™ until the infection resolves.
- Tuberculosis (TB): Evaluate for TB prior to initiating treatment.

Adverse Effects (1)

Most common, ≥ 1%	**Ilumya™ 100mg (N=705) N %**	**Placebo (N=355) N %**
Upper Respiratory Infections[a]	98(14)	41(12)
Injection site reactions[b]	24(3)	7(2)
Diarrhea	13(2)	5(1)

a Upper respiratory infections include nasopharyngitis, upper respiratory tract infection, viral upper respiratory tract infection, and pharyngitis.

b Injection site reactions include injection site urticaria, pruritus, pain, reaction, erythema, inflammation, edema, swelling, bruising, hematoma, and hemorrhage.

Drug Interactions (1)

- Live Vaccines

Dosage and Administration (1,3)

The recommended dose of Ilumya™ is 100 mg/ml (pre-filled syringe) subcutaneously at weeks 0, 4, and every 12 weeks thereafter. If a dose is missed, administer the dose as soon as possible and continue on the regularly scheduled interval. Ilumya™ should only be administered by a healthcare provider.

Cost

Generic Name	Brand Name	Manufacturer	Dose	Cost/Dose
tidrakizumab-asmn	Ilumya™	Merck	100 mg prefilled syringe	$13,043.90**

** Maximum Allowable Cost

Conclusion (1,3)

Ilumya™ is an injectable interleukin-23 (IL-23) antagonist for the treatment of adult patients with moderate to severe plaque psoriasis. In two studies, significant improvement of Ilumya™ over placebo was shown at week 12 with a 75% reduction the PASI 75 and PGA of clear or minimal. All patients need to be monitored and evaluated for tuberculosis prior to Ilumya™ therapy. Most common side effects are upper respiratory infections, injection site reactions, and diarrhea. There are multiple drug therapies available to treat moderate to severe plaque psoriasis, but Ilumya™ will compete directly with Tremfya™, another IL-23 inhibitor. Therapy with Ilumya™ should be reserved for adult patients who are candidates for systemic therapy and who cannot be treated effectively with topical therapies.

Recommendation

This drug is being considered for inclusion in the state specific Preferred Drug List (PDL).

References

1) Product Information: Ilumya™ (tildrakizumab-asmn) Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Whitehouse Station, NJ 08889 3/2018.
2) Feldman, SR. Treatment of Psoriasis in Adults. Post TW, ed. UpToDate. Waltham, MA: UpToDate Inc. http://www.uptodate.com (Accessed on November 7, 2018.)
3) IPD Analytics Rx Insights_New Drug Approval Review_Ilumya_03 2018.pdf

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