

PRODUCT MONOGRAPH
INCLUDING PATIENT MEDICATION INFORMATION

PrBIMZELX®

bimekizumab injection

160 mg/mL Solution for Injection, Subcutaneous Use

Interleukin-17A/F-directed Antibody

ATC code: L04AC21

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Sections or subsections that are not applicable at the time of authorization are not listed.

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PART I: HEALTH PROFESSIONAL INFORMATION

1 INDICATIONS

Bimzelx (bimekizumab injection) is indicated for the treatment of moderate to severe plaque psoriasis (PsO) in adult patients who are candidates for systemic therapy or phototherapy.

1.1 Pediatrics

Pediatrics (<18 years of age): No data are available to Health Canada; therefore, Health Canada has not authorized an indication for pediatric use.

1.2 Geriatrics

Geriatrics (≥ 65 years of age): Limited data are available to Health Canada regarding this age group. Of the 1789 patients with plaque psoriasis exposed to Bimzelx in Phase II and Phase III clinical trials, 153 (8.6%) were 65 years or older and 18 (1.0%) patients were 75 years or older (see 7.1.4 WARNINGS AND PRECAUTIONS, Special Populations, [Geriatrics](#)).

2 CONTRAINDICATIONS

Bimzelx (bimekizumab injection) is contraindicated in patients who are hypersensitive to this drug or to any ingredient in the formulation, including any non-medicinal ingredient, or component of the container. For a complete listing, see [6 DOSAGE FORMS, STRENGTHS, COMPOSITION AND PACKAGING](#).

4 DOSAGE AND ADMINISTRATION

4.1 Dosing Considerations

After proper training in subcutaneous injection technique, patients may self-inject if their physician determines that it is appropriate and with medical follow-up as necessary. Patients should be instructed to inject the full amount of Bimzelx according to the [Instructions for Use](#).

Each pre-filled syringe or autoinjector is for single-use only, and contains 1 mL of 160 mg of bimekizumab. Patients should be instructed to inject two separate 160 mg single-dose pre-filled syringes or autoinjectors for the full 320 mg dose.

4.2 Recommended Dose and Dosage Adjustment

The recommended dose of Bimzelx (bimekizumab injection) for adult patients with plaque psoriasis is 320 mg (given as 2 subcutaneous injections of 160 mg each) every 4 weeks for the first 16 weeks, and every 8 weeks thereafter.

At the prescriber's discretion, discontinuation of treatment may be considered in patients who have shown no improvement after 16 weeks of treatment.

For patients with a body weight ≥ 120 kg and who did not achieve a complete skin response, a dose of 320 mg every 4 weeks after Week 16 may be considered (see [10 CLINICAL PHARMACOLOGY, Pharmacokinetics, Special Populations and Conditions, Obesity](#)).

Pediatrics (< 18 years of age): The safety and efficacy of Bimzelx in children and adolescents below the age of 18 years has not been established. Bimzelx is not indicated for use in pediatric patients.

Geriatrics (≥ 65 years of age): No dose adjustment is required based on population PK modeling (see 10 CLINICAL PHARMACOLOGY, Pharmacokinetics, Special Populations and Conditions, [Geriatrics](#)).

Renal or Hepatic Impairment: Bimzelx has not been directly studied in these patient populations (see 10 CLINICAL PHARMACOLOGY, Pharmacokinetics, Special Populations and Conditions, [Hepatic Insufficiency](#) and [Renal Insufficiency](#)).

4.4 Administration

Bimzelx is administered by subcutaneous injection. Suitable areas for injection include thigh, abdomen and upper arm. Injection sites should be rotated, and injections should not be given into psoriasis plaques or areas where the skin is tender, bruised, erythematous, or indurated. Patients should self-administer in the thigh and abdomen only.

4.5 Missed Dose

If a dose is missed, it should be administered as soon as possible. Thereafter, dosing should be resumed at the regular schedule (i.e. 4 or 8 weeks later). Do not administer two doses at the same time to make up for a missed dose.

5 OVERDOSAGE

Single doses of 640 mg intravenously or 640 mg subcutaneously, followed by 320 mg subcutaneously every two weeks for five doses have been administered in clinical studies without dose-limiting toxicity. In the event of overdose, it is recommended that the patient be monitored for any signs and symptoms of adverse reactions and appropriate symptomatic treatment be instituted immediately.

For management of a suspected drug overdose, contact your regional poison control centre.

6 DOSAGE FORMS, STRENGTHS, COMPOSITION AND PACKAGING

To help ensure the traceability of biologic products, including biosimilars, health professionals should recognise the importance of recording both the brand name and the non-proprietary (active ingredient) name as well as other product-specific identifiers such as the Drug Identification Number (DIN) and the batch/lot number of the product supplied.

Table 1: Dosage Forms, Strengths, Composition and Packaging

Route of Administration	Dosage Form / Strength/Composition	Non-medicinal Ingredients
Subcutaneous use	Solution for injection / 160 mg/mL / pre-filled syringe	Acetic acid, glycine, Polysorbate 80, sodium acetate trihydrate, water for injection
Subcutaneous use	Solution for injection / 160 mg/mL / autoinjector	Acetic acid, glycine, Polysorbate 80, sodium acetate trihydrate, water for injection

Bimzelx (bimekizumab injection) is available in the following forms:

Bimzelx160 mg solution for injections in pre-filled syringe

One mL pre-filled syringe (type I glass) with a fluoropolymer-laminated bromobutyl rubber stopper, staked 27G, $\frac{1}{2}$ " thin wall needle, and a polypropylene rigid needle shield assembled in a passive safety device. Available in a pack size of 1 pre-filled syringe and a pack size of 2 pre-filled syringes.

Bimzelx160 mg solution for injections in autoinjector

One mL autoinjector containing a pre-filled syringe (type I glass) with a fluoropolymer-laminated bromobutyl rubber stopper, staked 27G, $\frac{1}{2}$ " thin wall needle, and a polypropylene rigid needle shield. Available in a pack size of 1 autoinjector and a pack size of 2 autoinjectors.

No components of the pre-filled syringe or autoinjector are made with natural rubber latex.

7 WARNINGS AND PRECAUTIONS

Gastrointestinal

Inflammatory bowel disease

Cases of new or exacerbations of inflammatory bowel disease (Ulcerative Colitis and Crohn's Disease) were observed during Bimzelx treatment in clinical studies. Bimzelx is not recommended in patients with inflammatory bowel disease. If a patient develops signs and symptoms of inflammatory bowel disease or experiences an exacerbation of pre-existing inflammatory bowel disease, Bimzelx should be discontinued and appropriate medical management should be initiated.

Immune

Hypersensitivity

Serious hypersensitivity reactions were observed in clinical trials.

As with all therapeutic proteins including Bimzelx, there is a potential for anaphylaxis. If an anaphylactic or other serious allergic reaction occurs, immediately discontinue the administration of Bimzelx and initiate appropriate medical treatment. Inform

patients/caregivers of the signs and symptoms of anaphylaxis and hypersensitivity reactions, and instruct them to seek immediate medical care if signs and symptoms occur.

Vaccinations

Prior to initiating therapy with Bimzelx, consider completion of all age appropriate immunizations according to current immunization guidelines.

Live vaccines should be avoided in patients treated with Bimzelx.

Patients treated with Bimzelx may receive inactivated or non-live vaccinations. Healthy individuals who received a single 320 mg dose of Bimzelx two weeks prior to vaccination with an inactivated seasonal influenza vaccine had similar antibody responses compared to individuals who did not receive Bimzelx prior to vaccination.

Infections

Bimzelx has the potential to increase the risk of infections. Higher rates of infections such as upper respiratory tract infections and oral candidiasis were observed in patients receiving Bimzelx compared with placebo (see 8 ADVERSE REACTIONS, [Infections](#)).

Caution should be exercised when considering the use of Bimzelx in patients with a chronic infection or a history of recurrent infection, as patients with active infections, serious infections, or a history of opportunistic, recurrent or chronic infections were excluded from Bimzelx clinical trials. Treatment with Bimzelx should not be initiated in patients with any clinically important active infection until the infection resolves or is adequately treated.

Patients treated with Bimzelx should be instructed to seek medical advice if signs or symptoms of clinically important chronic or acute infection occur. If a patient develops a clinically important infection or is not responding to standard therapy, the patient should be closely monitored and Bimzelx should not be administered until the infection resolves.

Pre-treatment evaluation for tuberculosis (TB)

Prior to initiating treatment with Bimzelx, patients should be evaluated for TB infection. Bimzelx should not be given to patients with active TB. Patients receiving Bimzelx should be monitored for signs and symptoms of active TB. Anti-TB therapy should be considered prior to initiating Bimzelx in patients with a past history of latent or active TB in whom an adequate course of treatment cannot be confirmed. No cases of active tuberculosis were reported from clinical studies.

Reproductive Health: Female and Male Potential

- Fertility**

The effect of Bimzelx on human fertility has not been evaluated.

7.1 Special Populations

7.1.1 Pregnant Women

There is very limited data on the use of Bimzelx in pregnant women. The effect of Bimzelx on pregnancy is unknown. Human IgG1 is known to cross the placental barrier; therefore, bimekizumab may be transferred from the mother to the fetus. In a pre- and postnatal development study conducted in pregnant monkeys, bimekizumab biodistributed to the fetus, but did not demonstrate teratogenicity. Male offspring exposed to bimekizumab *in utero* showed reduced neutrophil counts and reduced IgG response to antigen challenge, with transient discoloration of the lips (see [16 NON-CLINICAL TOXICOLOGY](#)). Animal studies are not always predictive of human response; therefore, it is unknown whether Bimzelx can cause fetal harm when administered to a pregnant woman. Women of childbearing potential should use adequate contraception while using Bimzelx and for at least 4 months after the last Bimzelx dose.

7.1.2 Breast-feeding

There are no data on the presence of Bimzelx in human milk, the effects on the breastfed infant, or the effects on human milk production. Because human immunoglobulin G (IgG) is secreted into human milk, precaution should be exercised.

7.1.3 Pediatrics

No data are available to Health Canada; therefore, Health Canada has not authorized an indication for pediatric use.

7.1.4 Geriatrics

Limited data are available regarding this age group. In the placebo-controlled period of Phase III clinical studies in plaque psoriasis, a higher incidence of oral candidiasis (18.2% versus 6.3%), and dermatitis and eczema (7.3% versus 2.8%) was observed in patients over 65 years of age compared to younger patients (see [1 INDICATIONS](#), [1.2 Geriatrics](#) and [4 DOSAGE AND ADMINISTRATION](#), [4.2 Recommended Dose and Dosage Adjustment](#), [Geriatrics](#)).

8 ADVERSE REACTIONS

8.1 Adverse Reaction Overview

During the 16-week placebo-controlled period in Phase III studies in plaque psoriasis (BE VIVID and BE READY), the most frequently reported adverse drug reactions (ADRs) with Bimzelx (bimekizumab injection) 320 mg every 4 weeks (Q4W) were upper respiratory tract infections (14.5%, most frequently nasopharyngitis) and oral candidiasis (7.3%). The proportion of patients who discontinued treatment due to adverse events was 1.6% with Bimzelx versus 3.6% with placebo. Serious adverse events were reported for 1.6% of patients with Bimzelx versus 2.4% with placebo.

8.2 Clinical Trial Adverse Reactions

Clinical trials are conducted under very specific conditions. The adverse reaction rates observed in the clinical trials; therefore, may not reflect the rates observed in practice and should not be compared to the rates in the clinical trials of another drug. Adverse reaction information from clinical trials may be useful in identifying and approximating rates of adverse drug reactions in real-world use.

A total of 1789 patients have been treated with Bimzelx in blinded and open-label clinical studies in plaque psoriasis representing 1830.4 patient-years of exposure. Of these, 1073 patients were exposed to Bimzelx for at least one year.

Data from placebo- and active-controlled studies were pooled to evaluate safety of Bimzelx 320 mg Q4W for up to 16 weeks. [Table 2](#) summarizes the adverse events (regardless of causality) reported in at least 1% of all patients receiving Bimzelx, and greater than the placebo group.

Table 2: Adverse Events (regardless of causality) Reported in ≥ 1% of Patients with Plaque Psoriasis through Week 16 in the Bimzelx Treatment Group, and More Frequently than in the Placebo Group

	Bimzelx 320 mg Q4W N = 670 n (%) ¹	Placebo N = 169 n (%) ¹	Ustekinumab N = 163 n (%) ²	Adalimumab N = 159 n (%) ³
Infections and infestations				
Oral Candidiasis	49 (7.3)	0	0	0
Oropharyngeal candidiasis	8 (1.2)	0	0	0
Upper respiratory tract infections*	97 (14.5)	23 (13.6)	22 (13.5)	44 (27.7)
Folliculitis	8 (1.2)	0	0	2 (1.3)
Gastroenteritis	8 (1.2)	0	0	4 (2.5)
Tinea infections**	14 (2.1)	0	0	1 (0.6)
Oral herpes	7 (1.0)	0	2 (1.2)	1 (0.6)
Nervous System disorders				
Headache	22 (3.3)	0	7 (4.3)	5 (3.1)
Respiratory, thoracic and mediastinal disorders				
Cough	8 (1.2)	1 (0.6)	2 (1.2)	1 (0.6)
Skin and subcutaneous tissue disorders				
Acne	8 (1.2)	0	0	1 (0.6)

	Bimzelx 320 mg Q4W N = 670 n (%)¹	Placebo N = 169 n (%)¹	Ustekinumab N = 163 n (%)²	Adalimumab N = 159 n (%)³
Dry skin	8 (1.2)	0	1 (0.6)	1 (0.6)
Pruritus generalized	11 (1.6)	2 (1.2)	2 (1.2)	0
General disorders and administration site conditions				
Injection site reactions***	19 (2.8)	2 (1.2)	2 (1.2)	2 (1.3)
Fatigue	7 (1.0)	0	0	2 (1.3)
Gastrointestinal disorders				
Toothache	8 (1.2)	0	0	2 (1.3)
Vascular disorders				
Hypertension	11 (1.6)	2 (1.2)	5 (3.1)	10 (6.3)

¹ Based on pooled data from placebo-controlled period from BE VIVID and BE READY through Week 16

² Based on comparator treatment arm from BE VIVID through Week 16

³ Based on comparator treatment arm from BE SURE through Week 16

* Includes nasopharyngitis, pharyngitis, upper respiratory tract infection, rhinitis, tonsillitis, sinusitis, and peritonsillar abscess.

**Includes tinea pedis, tinea cruris, tinea versicolour, body tinea, and tinea infection.

***Includes injection site erythema, injection site reaction, injection site oedema, injection site pain, injection site bruising, and injection site swelling.

Infections

During the placebo-controlled period of Phase III clinical studies in plaque psoriasis, infections were reported in 36% of patients treated with Bimzelx for up to 16 weeks compared with 23% of patients treated with placebo. Serious infections occurred in 0.3% of patients treated with Bimzelx and 0% treated with placebo.

Over the entire treatment period of Phase III studies in plaque psoriasis, infections were reported in 63% of patients treated with Bimzelx (120.4 per 100 patient-years). The majority of infections were nonserious and mild to moderate upper respiratory tract infections and oral candidiasis. Serious infections were reported in 1.5% of patients treated with Bimzelx (1.6 per 100 patient-years).

Fungal infections

During the placebo-controlled period of Phase III clinical studies in plaque psoriasis, fungal infections were reported in 12.7% of patients treated with Bimzelx for up to 16 weeks compared with 1.2% of patients treated with placebo.

Over the entire treatment period of Phase III studies in plaque psoriasis, fungal infections (mainly oral and oropharyngeal candidiasis) were reported in 23.6% of patients treated with Bimzelx (28.7 per 100 patient-years). More than 98% of all reported cases over the entire treatment period were non-serious, mild or moderate in severity, and did not require treatment discontinuation. Fungal events, including candidiasis and tinea infections, were

reported as resolved in 88.5% of cases. In the vast majority of patients (94.6%) the event resolved without Bimzelx interruption or withdrawal. On an annual basis, recurrence (2 or more infections) was observed in 8.8% of patients treated with Bimzelx.

Neutropenia

Neutropenia was observed with Bimzelx in Phase III clinical studies in plaque psoriasis. In the 16 weeks placebo-controlled period neutropenia grade 3/4 were observed at the same frequency of 0.6% in patients receiving Bimzelx or placebo. Over the entire treatment period of Phase III studies, neutropenia grade 3/4 were observed in 1% of patients treated with Bimzelx. Most cases were transient and did not require treatment discontinuation. No serious infections were associated with neutropenia.

Immunogenicity

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

Approximately 45% (116/257) of plaque psoriasis patients treated with Bimzelx up to 56 weeks at the recommended dosing regimen (320 mg every 4 weeks up to Week 16 and 320 mg every 8 weeks thereafter) developed anti-drug antibodies. Of the patients who developed anti-drug antibodies, approximately 34% (40/116) had antibodies that were classified as neutralizing, which represents 16% (40/257) of all patients treated with Bimzelx. The PK of bimekizumab was impacted in the presence of anti-drug antibodies. Patients with a positive anti-drug antibody status and missing or negative neutralizing antibody status had a 5% higher CL/F than patients with negative anti-drug antibody status, while patients with anti-drug antibody - positive status and neutralizing antibody-positive status had a 16% higher CL/F. However, anti-drug antibodies or neutralizing antibodies were not associated with any apparent changes in clinical response or safety profile.

Adverse Reactions Through Weeks 52 and 56

The safety profile of Bimzelx in the Maintenance Period of the Phase III pivotal trials was generally consistent with the safety profile during the Initial Treatment Period. Malignancies (excluding nonmelanoma skin cancer) were observed during treatment with Bimzelx in clinical trials (0.4/100 participant-years), though causality is not established.

8.3 Less Common Clinical Trial Adverse Reactions

Adverse reactions that occurred in less than 1% of patients treated with Bimzelx¹ in the placebo-controlled period were:

Blood and lymphatic system disorders: neutropenia

Infections and infestations: herpes simplex, otitis externa, otitis media, conjunctivitis, bronchitis

Skin and subcutaneous tissue disorders: eczema, dermatitis contact, dyshidrotic eczema, intertrigo, dermatitis

¹ list derived from events that were deemed reasonably drug-related or causal

8.4 Abnormal Laboratory Findings: Hematologic, Clinical Chemistry and Other Quantitative Data

Not applicable.

9 DRUG INTERACTIONS

9.4 Drug-Drug Interactions

No direct drug-drug interaction studies have been performed in humans.

The formation of some CYP450 enzymes is suppressed by increased levels of cytokines during chronic inflammation. Thus, anti-inflammatory treatments, such as with the IL-17A and IL-17F inhibitor Bimzelx (bimekizumab injection), may result in normalization of CYP450 levels, resulting in a lower exposure of co-medications metabolized by CYP450. Therefore, a clinically relevant effect on CYP450 substrates with a narrow therapeutic index, in which the dose is individually adjusted (e.g. warfarin) cannot be excluded. On initiation of Bimzelx therapy in patients being treated with these types of medicinal products, therapeutic monitoring should be considered.

9.5 Drug-Food Interactions

Interactions with food have not been established.

9.6 Drug-Herb Interactions

Interactions with herbal products have not been established.

9.7 Drug-Laboratory Test Interactions

Interactions with laboratory tests have not been established.

10 CLINICAL PHARMACOLOGY

10.1 Mechanism of Action

Bimekizumab is a humanized IgG1/κ monoclonal antibody. It has two identical antigen binding regions that bind and neutralize IL-17A, IL-17F and IL-17AF cytokines, blocking their interaction with the IL-17RA/IL-17RC receptor complex. Levels of IL-17A and IL-17F are elevated in several immune mediated inflammatory diseases. *In vitro*, dual neutralization of both IL-17A and IL-17F with bimekizumab suppresses the expression of inflammation related genes and proteins to a greater extent than inhibition of IL-17A alone.

10.2 Pharmacodynamics

No formal pharmacodynamic studies have been conducted with bimekizumab.

10.3 Pharmacokinetics

Bimekizumab exhibited dose-proportional pharmacokinetics in patients with plaque psoriasis over a dose range from 64 mg to 480 mg following multiple subcutaneous administrations.

A summary of AUC, C_{max} , T_{max} and C_{trough} at steady-state in patients with moderate to severe plaque psoriasis for the 320mg Q4W and 320mg Q8W regimens is provided in [Table 3](#).

Table 3: Summary of Steady-State Bimekizumab Pharmacokinetic Parameters in Patients with Moderate to Severe Plaque Psoriasis based on population pharmacokinetic analysis^a

	AUC_{ss}^b ($\mu\text{g}\cdot\text{day}/\text{mL}$) Median [2.5,97.5] ^c	$C_{max,ss}$ ($\mu\text{g}/\text{mL}$) Median [2.5,97.5] ^c	$T_{max,ss}$ (day) Median [2.5,97.5] ^c	$C_{trough,ss}$ ($\mu\text{g}/\text{mL}$) Median [2.5,97.5] ^c
320 mg Q4W	878 [383, 1970]	43.3 [20.3, 91.0]	3.28 [3.06, 3.42]	19.7 [6.94, 50.1]
320 mg Q8W	846 [366, 1870]	29.5 [14.4, 59.8]	3.67 [3.29, 3.94]	5.36 [1.23, 16.1]

AUC_{ss}: Area under the Curve in a dosing interval at steady-state; $C_{max,ss}$: maximum concentration; $C_{trough,ss}$: trough concentration at steady state; $T_{max,ss}$: time to maximum concentration; Q4W: every 4 weeks; Q8W: every 8 weeks

^aThe typical body weight of patients with plaque psoriasis in the population pharmacokinetic analysis was 90kg

^bThe dosing interval was 28 days for the Q4W regimen and 56 days for the Q8W regimen

^c2.5th and 97.5th percentiles.

Absorption

Population pharmacokinetic analysis showed that bimekizumab was absorbed with an average absolute bioavailability of 70.1% in healthy volunteers.

Based on population pharmacokinetic analysis in plaque psoriasis patients with a typical body weight of 90kg, following a single subcutaneous dose of 320 mg, bimekizumab reached a median peak plasma concentration of 25 $\mu\text{g}/\text{ml}$, between 3 and 4 days post dose.

The median peak and trough concentration at steady-state following subcutaneous administration of 320 mg every 4 weeks are 43 $\mu\text{g}/\text{ml}$ and 20 $\mu\text{g}/\text{ml}$ respectively based on population pharmacokinetic analysis. Steady-state exposure is reached after approximately 16 weeks and exhibited a 1.7-fold increase in bimekizumab C_{max} and AUC following repeated four weekly dosing compared to a single dose.

After switching from the 320 mg every 4 weeks dosing regimen to the 320 mg every 8 weeks dosing regimen at Week 16, steady-state is achieved approximately 16 weeks after the switch, based on population pharmacokinetic analysis. Median peak and trough plasma concentrations are 30 $\mu\text{g}/\text{ml}$ and 5 $\mu\text{g}/\text{ml}$ respectively at steady-state during every 8 week dosing.

Distribution:

Based on population pharmacokinetic analysis, the median (coefficient of variation %) volume of distribution (V/F) at steady state was 11.2 (30.5%) L in plaque psoriasis patients.

Metabolism:

Bimekizumab is a monoclonal antibody and is expected to be degraded into small peptides and amino acids via catabolic pathways in the same manner as endogenous immunoglobulins.

Elimination

Based on population pharmacokinetic analyses, the median (coefficient of variation %) apparent clearance (CL/F) of bimekizumab was 0.337 L/day (32.7%) and the mean terminal elimination half-life of bimekizumab was 23 days in patients with plaque psoriasis.

Positive anti-drug antibody status and missing or negative neutralizing antibody status had a 5% higher CL/F than study participants with negative anti-drug antibody status, while study participants with anti-drug antibody -positive status and neutralizing antibody-positive status had a 16% higher CL/F. However, anti-drug antibody and neutralizing antibody status had no impact on efficacy and no clinically relevant impact on safety.

Special Populations and Conditions

- **Pediatrics:** The pharmacokinetics of bimekizumab in pediatric patients has not been evaluated.
- **Geriatrics:** Based on population pharmacokinetic analysis with a limited number of elderly patients ($n = 110$ for age ≥ 65 years), bimekizumab clearance was similar across the age range. No dose adjustment is required.
- **Sex:** Population pharmacokinetic modelling indicated females have 9% faster apparent clearance (CL/F) compared to males but this has no clinically meaningful effect on bimekizumab exposure. No dose adjustment is required.
- **Ethnic Origin:** No clinically meaningful differences in bimekizumab exposure were observed in Japanese subjects compared to Caucasian subjects in a clinical pharmacokinetic study. No dose adjustment is required.
- **Hepatic Insufficiency:** No specific studies have been conducted to determine the effect of hepatic impairment on the pharmacokinetics of bimekizumab.
- **Renal Insufficiency:** No specific studies have been conducted to determine the effect of renal impairment on the pharmacokinetics of bimekizumab.
- **Obesity:** Population pharmacokinetic modelling indicated that exposure decreased as body weight increased. The average bimekizumab plasma concentration in adult patients weighing ≥ 120 kg was predicted to be at least 30% lower than in adult patients weighing 90 kg. Dose adjustment may be appropriate in some patients weighing ≥ 120 kg (see **4 DOSAGE AND ADMINISTRATION**).

11 STORAGE, STABILITY AND DISPOSAL

Store in a refrigerator (2°C to 8°C, or 34°F to 46°F).

Do not freeze.

Store Bimzelx (bimekizumab injection) in the original carton in order to protect from light.

If necessary, Bimzelx may be stored at room temperature up to 25°C / 77°F, protected from light, for a maximum of 25 days, within the expiration of the product. Do not store above 25°C / 77°F. Discard the product if it is not used within 25 days of storage at room temperature.

The date of removal may be recorded in the date field provided on the carton.

Do not put pre-filled syringes or autoinjectors back in the refrigerator once they have reached room temperature.

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

12 SPECIAL HANDLING INSTRUCTIONS

Not applicable.

PART II: SCIENTIFIC INFORMATION

13 PHARMACEUTICAL INFORMATION

Drug Substance

Proper name:	Bimekizumab
Chemical name:	Immunoglobulin G1, anti-IL17A and anti-IL17F
Molecular formula and molecular mass:	Bimekizumab is an engineered, humanized, full-length IgG1 monoclonal antibody. The theoretical molecular mass of bimekizumab is approximately 150 kDa.
Structural formula:	Bimekizumab is an antibody that contains two heavy chains of the gamma-1 subclass and two light chains of the human kappa subclass. Each heavy chain contains 455 amino acids and each light chain contains 214 amino acids. The chains are linked by disulfide bonds. Each heavy chain contains an N-linked glycan and clipped C-terminal lysine.
Physicochemical properties:	Bimekizumab injection is a liquid, clear to slightly opalescent and pale brown-yellow solution, with a pH of 5.1.
Pharmaceutical standard:	No international standard is used. The reference standard for Bimzelx is derived from a bimekizumab drug substance batch at 160mg/mL

Product Characteristics:

Bimzelx contains bimekizumab, a recombinant humanized full-length monoclonal antibody of the IgG1 sub-class, expressed in a genetically engineered Chinese Hamster Ovary cell line. It binds to human IL-17A and IL-17F and blocks cellular activation induced by these cytokines. The antibody consists of 2 heavy chains composed of 455 amino acid residues each, and 2 light chains composed of 214 amino acid residues each, and has a molecular weight of approximately 150 kDa. Bimekizumab injection is a sterile, preservative-free, clear to slightly opalescent and pale brown-yellow solution for subcutaneous use, with a pH of 5.1.

Each pre-filled syringe or autoinjector delivers 1 mL of solution containing 160 mg of bimekizumab.

14 CLINICAL TRIALS

14.1 Trial Design and Study Demographics

The safety and efficacy of Bimzelx (bimekizumab injection) was evaluated in 1480 patients with moderate to severe plaque psoriasis in three Phase III multicenter, randomized, placebo and/or active comparator -controlled studies. Patients were at least 18 years of age, had a Psoriasis Area and Severity Index (PASI) score ≥ 12 and Body Surface Area (BSA) affected by

PSO ≥10%, an Investigators Global Assessment (IGA) score ≥3 on a 5-point scale and were candidates for systemic psoriasis therapy and/or phototherapy. The efficacy and safety of Bimzelx were evaluated versus placebo and ustekinumab (BE VIVID), versus placebo (BE READY), and versus adalimumab (BE SURE).

A summary of trial design and patient demographics for the three clinical trials is provided in [Table 4](#).

Table 4: Summary of Patient Demographics for Clinical Trials in Plaque Psoriasis

Study #	Trial design	Dosage, route of administration and duration ^a	Study subjects (n)	Mean age (Range) Years	Sex %
BE VIVID	Phase III, randomized, double blind, placebo- and active-controlled, parallel-group study	BKZ: 320 mg SC Q4W for 52 weeks UST: 45 mg or 90 mg SC at Weeks 0 and 4; then Q12W for 52 weeks PBO: for 16 weeks then BKZ 320 mg SC Q4W for 36 weeks	Adult patients with moderate to severe plaque psoriasis BKZ: 321 UST: 163 PBO: 83	46.1 (18-81)	Male: 71.6 Female: 28.4
BE READY	Phase III, randomized, double blind, PBO-controlled study	BKZ: 320 mg SC Q4W for 16 weeks, then 40 weeks BKZ 320 mg SC Q4W or BKZ 320 mg SC Q8W or PBO PBO: for 16 weeks, then PBO for 40 weeks or BKZ 320 mg SC Q4W for 12 weeks	Adult patients with moderate to severe plaque psoriasis BKZ: 349 PBO: 86	44.3 (18-81)	Male: 72.0 Female: 28.0

Study #	Trial design	Dosage, route of administration and duration ^a	Study subjects (n)	Mean age (Range) Years	Sex %
BE SURE	Phase III, randomized, double blind, active-controlled, parallel-group study	BKZ: 320 mg SC Q4W for 56 weeks or BKZ 320 mg SC Q4W for 16 weeks then BKZ 320 mg Q8W for 40 weeks ADA: 80 mg SC at week 0; then 40 mg SC Q2W for 24 weeks starting at week 1, followed by BKZ 320 mg SC Q4W for 32 weeks	Adult patients with moderate to severe plaque psoriasis BKZ 320mg Q4W: 158 BKZ 320mg Q4W/Q8W: 161 ADA: 159	44.9 (18-83)	Male: 68.6 Female: 31.4

BKZ = Bimzelx; PBO = Placebo; UST = ustekinumab; ADA = adalimumab; SC = subcutaneous; Q2W = every two weeks;

Q4W = every 4 weeks; Q8W = every 8 weeks; Q12W = every 12 weeks

^aDetailed information on dosage, route of administration and duration of these clinical trials are provided below.

The BE VIVID study evaluated 567 patients for 52 weeks where patients were randomized to receive either Bimzelx 320 mg every 4 weeks, ustekinumab (45 mg or 90 mg, depending on patient weight, at baseline and Week 4 and then every 12 weeks), or placebo for an initial 16 weeks followed by Bimzelx 320 mg every 4 weeks.

The BE READY study evaluated 435 patients for 56 weeks. Patients were randomized to receive Bimzelx 320 mg every 4 weeks or placebo. At Week 16, patients who achieved a PASI 90 response entered the 40-week randomized withdrawal period. Patients initially randomized to Bimzelx 320 mg every 4 weeks were re-randomized to either Bimzelx 320 mg every 4 weeks or Bimzelx 320 mg every 8 weeks or placebo (i.e. withdrawal of Bimzelx). Patients initially randomized to placebo continued to receive placebo provided they were PASI 90 responders. Patients who did not achieve a PASI 90 response at Week 16 entered an open-label escape arm and received Bimzelx 320 mg every 4 weeks for 12 weeks. Patients who relapsed (did not achieve PASI 75 response) during the randomized withdrawal period also entered the 12-week escape arm.

The BE SURE study evaluated 478 patients for 56 weeks. Patients were randomized to receive either Bimzelx 320 mg every 4 weeks through Week 56, Bimzelx 320 mg every 4 weeks through Week 16 followed by Bimzelx 320 mg every 8 weeks through Week 56, or adalimumab as per labeling recommendation through Week 24 followed by Bimzelx 320 mg every 4 weeks through Week 56.

Baseline characteristics were consistent across all three studies. Among those, the median baseline BSA was 20%, the median baseline PASI score was 18 and the baseline IGA score was severe in 33% of patients. A total of 27% of study subjects had a history of psoriatic arthritis, and a total of 93% patients had scalp involvement. The median baseline scores for Patient

Symptoms Diary (PSD) pain, itch and scaling items ranged between 6 and 7 on a 0-10 points scale and the median baseline Dermatology Life Quality Index (DLQI) total score was 9.

Across all three studies, 38% of patients had received a prior biologic therapy, 23% had received at least one anti-IL17 agent (primary anti-IL17 agent failures were excluded) and 13% had received at least one TNF-antagonist. Twenty-two percent were naïve to any systemic therapy (including non-biologic and biologic) and 39% of patients had received prior phototherapy or chemotherapy.

The efficacy of Bimzelx was evaluated with respect to impact on skin disease overall, specific body locations (scalp, nails and hand and foot), patient reported symptoms and impact on quality of life. The three studies assessed the changes from baseline to Week 16 in the two co-primary endpoints:

- the proportion of patients who achieved at least a 90% reduction from baseline PASI (PASI 90)
- the proportion of patients who achieved an IGA score of “clear or almost clear” (IGA 0/1), with at least two points improvement from baseline.

PASI 100 response at Week 16 and PASI 75 response at Week 4 were key secondary endpoints in all three studies. IGA 0 at Week 16 was an additional key secondary endpoint in BE VIVID and BE READY.

14.2 Study Results

Skin disease overall

Treatment with Bimzelx resulted in significant improvement in the measures of disease activity compared to placebo, ustekinumab or adalimumab at Week 16. The key efficacy results are shown in [Table 5](#).

Table 5: Summary of Clinical Responses at Week 16 in BE VIVID, BE READY and BE SURE

	BE VIVID			BE READY		BE SURE	
	Placebo (N= 83) n (%)	Bimzelx 320 mg Q4W (N= 321) n (%)	Ustekinumab (N=163) n (%)	Placebo (N= 86) n (%)	Bimzelx 320 mg Q4W (N= 349) n (%)	Bimzelx 320 mg Q4W (N= 319) n (%)	Adalimumab (N= 159) n (%)
PASI 90 Week 16	4 (4.8)	273 (85.0) ^{a, b}	81 (49.7)	1 (1.2)	317 (90.8) ^a	275 (86.2) ^a	75 (47.2)
IGA 0/1 Week 16	4 (4.8)	270 (84.1) ^{a, b}	87 (53.4)	1 (1.2)	323 (92.6) ^a	272 (85.3) ^a	91 (57.2)
PASI 100 Week 16	0 (0.0)	188 (58.6) ^a	34 (20.9)	1 (1.2)	238 (68.2) ^a	194 (60.8) ^a	38 (23.9)

	BE VIVID			BE READY		BE SURE	
	Placebo (N= 83) n (%)	Bimzelx 320 mg Q4W (N= 321) n (%)	Ustekinumab (N=163) n (%)	Placebo (N= 86) n (%)	Bimzelx 320 mg Q4W (N= 349) n (%)	Bimzelx 320 mg Q4W (N= 319) n (%)	Adalimumab (N= 159) n (%)
IGA 0 Week 16	0 (0.0)	188 (58.6) ^a	36 (22.1)	1 (1.2)	243 (69.6) ^a	-	-

Q4W - every 4 weeks. Non-Responder Imputation (NRI) is used.

IGA 0/1 response was defined as Clear (0) or Almost Clear (1) with at least a 2-category improvement from Baseline at Week 16. IGA 0 response was defined as Clear (0) with at least a 2-category improvement from Baseline at Week 16.

All comparisons were based on the stratified Cochran-Mantel-Haenszel (CMH) test where region and prior biologic exposure were used as stratification variables. All tests were performed at a 2-sided alpha level of 0.05 and p-values were based on the CMH test using the general association. A fixed sequence testing procedure to account for multiplicity and control the familywise Type I error rate was pre-specified in each study.

^a) p<0.001 versus placebo (BE VIVID and BE READY), versus adalimumab (BE SURE), included in pre-specified testing procedure.

^b) p<0.001 versus ustekinumab (BE VIVID), included in pre-specified testing procedure.

In BE VIVID, after one dose, by Week 4, 76.9% of patients treated with Bimzelx achieved a PASI 75 response compared to 2.4% and 15.3% for placebo and ustekinumab-treated patients, respectively. As early as Week 2, PASI 90 response rate was higher for Bimzelx compared to placebo and ustekinumab. At Week 52 in Bimzelx Q4W patients, PASI 90 and IGA 0/1 response rates were sustained at 81.6% and 77.9% respectively.

In BE SURE, by Week 4, 76.5% of patients treated with Bimzelx achieved a PASI 75 response compared to 31.4% with adalimumab. In patients receiving Bimzelx, Week 16 PASI 90 and IGA0/1 response rates were sustained through Week 56. For patients receiving Q8W during maintenance, PASI 90 and IGA 0/1 response rates were 82.6% and 83.2% respectively at Week 56. For patients receiving Q4W maintenance treatment, PASI 90 and IGA 0/1 response rates were 84.8% and 82.3%, respectively.

In BE READY, by Week 4, 75.9% of patients treated with Bimzelx achieved a PASI 75 response compared to 1.2% with placebo. In the Randomized-Withdrawal Period, for patients who achieved PASI 90 response at Week 16 and received Bimzelx Q8W maintenance treatment, 91.0% and 90.0% maintained PASI 90 and IGA0/1 response at Week 56, respectively. While in patients who achieved PASI 90 response at Week 16 and received Bimzelx Q4W maintenance treatment, 85.8% and 86.8% maintained PASI 90 and IGA0/1 response at Week 56, respectively.

Maintenance of responses at Week 52 in Bimzelx responders at Week 16

In an integrated analysis of BE VIVID, BE READY and BE SURE, among PASI 100 responders at Week 16, 88.5% of the patients who switched to Bimzelx 320 mg every 8 weeks had PASI 100 at Week 52. Similarly, among PASI 90 responders or IGA 0/1 responders at Week 16, 90.3% and 91.5% of the patients who switched to Bimzelx 320 mg every 8 weeks had PASI 90 and IGA 0/1 respectively at Week 52.

Health-related Quality of Life / Patient Reported Outcomes

Patient symptoms were assessed using a Patient Symptoms Diary (PSD). PSD response is defined as a change from baseline to Week 16 ≥ to a pre-specified threshold.

In BE READY, Week 16 PSD response rates for pain, itch and scaling with Bimzelx were 78.8% (201/255), 75.5% (210/278) and 78.0% (223/286) versus 9.0% (6/67), 5.6% (4/72) and 5.7% (4/70) with placebo.

In BE VIVID, Week 16 PSD response rates for pain, itch and scaling with Bimzelx were 77.3% (177/229), 76.6% (187/244) and 78.5% (193/246) versus 68.2% (73/107), 65.8% (77/117) and 59.5% (69/116) with ustekinumab and 16.7% (9/54), 13.1% (8/61) and 12.7% (8/63) with placebo.

In BE SURE, Week 16 PSD response rates for pain, itch and scaling with Bimzelx were 71.4% (180/252), 68.3% (179/262) and 70.9% (185/261) versus 58.3% (63/108), 50.0% (58/116) and 49.6% (59/119) with adalimumab.

Impact of psoriasis on health-related quality of life was measured using the Dermatology Life Quality Index (DLQI).

In BE READY, the percentage of patients with DLQI of 0/1 (no impact of psoriasis on health-related quality of life) at Week 16 were 75.6% and 5.8%, in the Bimzelx and Placebo groups, respectively.

In BE VIVID, DLQI 0/1 response rates at Week 16 were 67.3%, 42.3% and 12.0%, in the Bimzelx, Ustekinumab and Placebo groups, respectively. DLQI 0/1 response rates continued to increase beyond week 16 and then were maintained through week 52 (74.8% in patients treated with Bimzelx 320 mg every 4 weeks).

In BE SURE, DLQI 0/1 response rates at Week 16 were 63.0% and 46.5%, in the Bimzelx and Adalimumab groups, respectively. At week 56, 78.9% and 74.1% of patients had a DLQI 0/1 with Bimzelx 320 mg every 8 weeks and Bimzelx 320 mg every 4 weeks, respectively.

15 MICROBIOLOGY

No microbiological information is required for this drug product.

16 NON-CLINICAL TOXICOLOGY

The adverse effects observed in conducted non-clinical studies were attributed to the pharmacological effect of bimekizumab on muco-epidermal immunity, more generally on the skin, oral mucosa, and intestines.

General Toxicology:

In a single dose toxicity study, cynomolgus monkeys were administered bimekizumab at dose levels of 1 to 200mg/kg by the iv or sc route. Five out of 8 animals given the dose of 10mg/kg developed diarrhea, dehydration, and body weight loss due to intestinal infection between 26 and 40 days after dosing, with identification of *Balantidium coli* in faeces. The infection resolved in 4 animals after antibiotic treatment. A no-observed-adverse-effect-level (NOAEL) could not be determined for this study.

In an 8-week study, cynomolgus monkeys were administered bimekizumab once per week at intravenous doses of 0, 20 or 200mg/kg or subcutaneous doses of 50 or 200mg/kg (14 to 187-times the human exposure at the maximum recommended human dose [MRHD] based on AUC). One female in the high-dose group developed a mouth abscess following infection. Animals from all bimekizumab dosing groups showed dose-related, asymptomatic, and reversible focal necrosis of the mucosa associated lymphoid tissue in the large intestine associated with presence of *Balantidium coli* in the crypts and erosion of the surface intestinal mucosa. A NOAEL could not be determined for this study.

In a 26-week repeat-dose toxicity study, 6 male and 6 female cynomolgus monkeys per group were administered bimekizumab subcutaneously at doses of 0 (vehicle), 50, or 200mg/kg once a week (37- or 109-times the human exposure at the MRHD based on AUC). Animals were treated prophylactically with oral metronidazole to reduce gut protozoa and anaerobic bacteria 4 months prior to the initiation of dosing. Two animals in the low-dose group were euthanized after repeated episodes of infectious enteritis. Most animals given bimekizumab developed dose-related superficial dermatitis, mainly on ventral surface of the trunk, inguinal and axillary areas and upper part of limbs, associated with the proliferation of gram-positive cocci on the skin, mainly *Staphylococcus aureus*. Some of the animals had skin ulcerations and pustules and/or enlarged lymph nodes. A NOAEL could not be determined for this study.

Carcinogenicity: Carcinogenicity studies have not been conducted with bimekizumab.

Genotoxicity: Genotoxicity studies have not been conducted with bimekizumab.

Reproductive and Developmental Toxicology: In an enhanced pre- and postnatal development study, pregnant cynomolgus monkeys were administered bimekizumab subcutaneously at doses of 0, 20, or 50 mg/kg once per week (13- or 27-times the MRHD based on AUC) throughout organogenesis until parturition. At the highest dose (27-times the human exposure at the MRHD based on AUC), maternal animals showed test-article related dermal changes (e.g. discolouration and squamous or scabby skin). No effects on gestation, parturition, infant survival, or fetal and postnatal development were observed. At birth, serum bimekizumab concentrations in infant monkeys were comparable to those of mothers. Male infants exposed to bimekizumab *in utero* were found to have reduced neutrophil counts and

IgG response to antigen challenge. F1 animals showed transient discoloration of the lips. These changes reflect immunomodulatory properties of bimekizumab. Bimekizumab concentration in breast milk was not investigated.

Effects on male and female fertility have not been directly evaluated in animal studies. However menstrual cyclicity, testis size, semen quality and histological structure of the reproductive organs demonstrated no effects of bimekizumab during a 26-week toxicology study at doses up to 109-times the human exposure at the MRHD based on AUC.

PATIENT MEDICATION INFORMATION

READ THIS FOR SAFE AND EFFECTIVE USE OF YOUR MEDICINE

BIMZELX®

bimekizumab injection

Read this carefully before you start taking **Bimzelx (bim zel'ex)** and each time you get a refill. This leaflet is a summary and will not tell you everything about this drug. Talk to your healthcare professional about your medical condition and treatment and ask if there is any new information about **Bimzelx**.

What is Bimzelx used for?

Bimzelx is used in adults to treat a moderate to severe form of a skin condition called “plaque psoriasis”, which causes pain, itching and scaling of the skin.

How does Bimzelx work?

Bimzelx is a monoclonal antibody belonging to a group of medicines called interleukin (IL) inhibitors. Monoclonal antibodies are proteins that recognize and bind specifically to certain proteins in the body. This medicine works by reducing the activity of two proteins called IL-17A and IL-17F, which are present at increased levels in diseases such as plaque psoriasis.

What are the ingredients in Bimzelx?

Medicinal ingredients: bimekizumab

Non-medicinal ingredients: acetic acid, glycine, polysorbate 80, sodium acetate trihydrate and water for injection

No components of Bimzelx are made with natural rubber latex.

Bimzelx comes in the following dosage forms:

Pre-filled syringe 160 mg/mL

Autoinjector 160 mg/mL

Do not use Bimzelx if:

- you are allergic to bimekizumab or to any of the ingredients in this medicine. See **What are the ingredients in Bimzelx?**

To help avoid side effects and ensure proper use, talk to your healthcare professional before you take Bimzelx. Talk about any health conditions or problems you may have, including if you:

- have an infection that does not go away or that keeps coming back.
- have tuberculosis (TB) or have been in close contact with someone with TB.

- have recently received or are scheduled to receive an immunization (vaccine). You should avoid receiving live vaccines during treatment with Bimzelx.
- have inflammatory bowel disease (Crohn's disease or ulcerative colitis).
- are pregnant, think you may be pregnant or are planning to have a baby, ask your doctor for advice before using this medicine. This is because it is not known if Bimzelx can harm your unborn baby. If you are a woman of childbearing potential, use adequate contraception while using Bimzelx and for at least 4 months after the last Bimzelx dose. Talk to your doctor about your contraception options.
- are breastfeeding or plan to breastfeed. It is not known if Bimzelx passes into your breast milk.

Other warnings you should know about:

Bimzelx is not approved for children and adolescents under 18 years of age because it has not been studied in this age group.

Tell your healthcare professional about all the medicines you take, including any drugs, vitamins, minerals, natural supplements or alternative medicines.

How to take Bimzelx:

Use Bimzelx exactly as prescribed by your healthcare professional. Check with your healthcare professional if you are not sure. Your healthcare provider should show you or a caregiver how to prepare and inject Bimzelx for the first time. Do not inject yourself or someone else until you have been shown how to inject Bimzelx the right way.

Read '**Instructions for use**' at the end of this leaflet before injecting Bimzelx yourself.

Usual dose:

The usual dose is 320 mg given as two 160 mg injections every 4 weeks for the first 16 weeks, and then every 8 weeks. If you weigh more than 120 kg, your healthcare professional may decide to continue your injections every 4 weeks from week 16.

Overdose:

If you have taken more Bimzelx than you should or you have taken a dose earlier than prescribed, talk to your doctor.

If you think you, or a person you are caring for, have taken too much Bimzelx, contact a healthcare professional, hospital emergency department, or regional poison control centre immediately, even if there are no symptoms.

Missed Dose:

If you miss your Bimzelx dose, inject a dose as soon as you remember. Then, take your next dose at your regular schedule (i.e. 4 or 8 weeks later). Do not take two doses at the same time to make up for the missed dose. Call your doctor if you are not sure what to do.

What are possible side effects from using Bimzelx?

These are not all the possible side effects you may have when taking Bimzelx. If you experience any side effects not listed here, tell your healthcare professional.

Very common: may affect more than 1 in 10 people

- upper respiratory tract infections with symptoms such as sore throat and stuffy nose

Common: may affect up to 1 in 10 people

- fungal infections of the mouth (thrush) or throat
- headache
- injection site reactions (pain, redness or swelling at injection site)
- acne
- small red bumps on your skin
- stomach flu (gastroenteritis)
- athlete's foot
- feeling tired
- cold sores
- cough
- dry skin
- itchy skin
- toothache
- high blood pressure

Serious side effects and what to do about them			
Symptom / effect	Talk to your healthcare professional		Stop taking drug and get immediate medical help
	Only if severe	In all cases	
UNCOMMON			
Infections: fever, sweats, or chills, cough, shortness of breath, blood in phlegm, muscle aches; warm, red, or painful skin or sores on your body different from your psoriasis, weight loss, diarrhea or stomach pain; burning when you urinate or urinating more often than normal		✓	

Serious side effects and what to do about them			
Symptom / effect	Talk to your healthcare professional		Stop taking drug and get immediate medical help
	Only if severe	In all cases	
RARE			
Serious allergic reactions: feeling faint; swelling of your face, eyelids, lips, mouth, tongue, or throat; trouble breathing or throat tightness; or skin rash		✓	✓

If you have a troublesome symptom or side effect that is not listed here or becomes bad enough to interfere with your daily activities, tell your healthcare professional.

Reporting Side Effects

You can report any suspected side effects associated with the use of health products to Health Canada by:

- Visiting the Web page on Adverse Reaction Reporting (<https://www.canada.ca/en/health-canada/services/drugs-health-products/medeffect-canada.html>) for information on how to report online, by mail or by fax; or
- Calling toll-free at 1-866-234-2345.

NOTE: Contact your health professional if you need information about how to manage your side effects. The Canada Vigilance Program does not provide medical advice.

Storage:

- Store Bimzelx in the refrigerator at 2°C to 8°C (36°F to 46°F).
- Do not** freeze. **Do not** use Bimzelx if it has been frozen.
- Store in the original carton and protect from light.
- If necessary, Bimzelx may be stored at room temperature up to 25°C (77°F), protected from light, for a maximum of up to 25 days, within the expiration date of the product.
 - Do not** store above 25°C (77°F).
 - Write the date removed from the refrigerator in the space provided on the carton.
 - Do not** place Bimzelx back in refrigerator after it has been stored at room temperature.

- Throw away the product if it is not used within 25 days at room temperature.
- **Do not** use Bimzelx after the expiration date shown on the outer carton.
- Keep out of reach and sight of children.

If you want more information about Bimzelx:

- talk to your healthcare professional
- find the full product monograph that is prepared for healthcare professionals and includes this Patient Medication Information by visiting the Health Canada website: (<https://www.canada.ca/en/health-canada/services/drugs-health-products/drug-products/drug-product-database.html>); the manufacturer's website <http://www.ucb-canada.ca>, or by calling 1-866-709-8444.

This leaflet was prepared by UCB Canada Inc.

Last Revised: February 14, 2022

BIMZELX® is a registered trademark of the UCB Group of Companies.

Instructions for Use

BIMZELX® (bim' zel' ex)

bimekizumab injection

Pre-filled syringe

Please read this Instructions for Use before using the Bimzelx pre-filled syringe and each time you get a refill. **For a full dose, 2 injections are required, one after the other.** Each pre-filled syringe is for single-use only.

Important information:

- your healthcare professional should show you or a caregiver how to prepare and inject Bimzelx using pre-filled syringe for the first time. Do not inject yourself or someone else until you have been shown how to inject Bimzelx the right way. If you still need training, contact your nurse case manager.
- these instructions are for 1 injection only. **For a full dose, 2 injections are required, one after the other.**
- **do not** share or reuse your Bimzelx pre-filled syringe. You may give or get an infection.
- the Bimzelx pre-filled syringe has a needle safety feature that will be activated to cover the needle after the injection is finished. The needle safety feature will help to prevent needle stick injuries to anyone who handles the pre-filled syringe after injection.
- **do not** remove the needle cap until just before you give the injection.

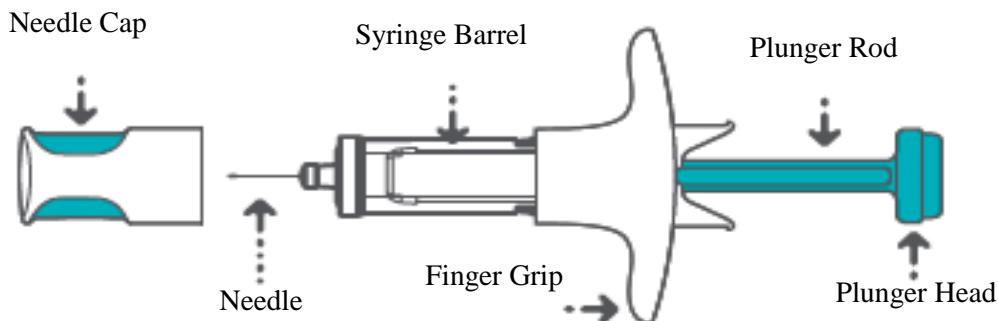
Keep Bimzelx and all medicines out of the reach of children.

How should I store Bimzelx pre-filled syringe?

- Store Bimzelx pre-filled syringe **in the refrigerator** between 2°C to 8°C (36°F to 46°F). Keep in the original carton to protect from light.
- Do not freeze Bimzelx. Do not use Bimzelx if it has been frozen.

Bimzelx pre-filled syringe parts (see Figure A):

Figure A



For each Bimzelx injection, you will need:

- 1 Bimzelx pre-filled syringe

Not provided in the Bimzelx pre-filled syringe carton:

- 1 alcohol swab
- 1 clean cotton ball
- 1 puncture-resistant sharps container.

Call your nurse case manager if you need help or do not know how to proceed.

For the full dose, you need 2 injections, one after the other.

Setting up for your Bimzelx injection

Step 1: Take the Bimzelx pre-filled syringe carton out of the refrigerator. Do not use the Bimzelx pre-filled syringe(s) if the carton is damaged or opened. Contact your nurse case manager.

- **Keep the Bimzelx pre-filled syringe in its original carton for 30 to 45 minutes** to warm to room temperature. This will help to reduce discomfort when injecting.
 - **Do not** microwave the pre-filled syringe, run hot water over it, or leave it in direct sunlight.
 - **Do not** shake the pre-filled syringe.
 - **Do not** take the cap off the pre-filled syringe until you are ready to inject.

Step 2: Find a clean flat, and well-lit work surface, like a table.

Step 3: Wash your hands well with soap and water and dry with a clean towel.

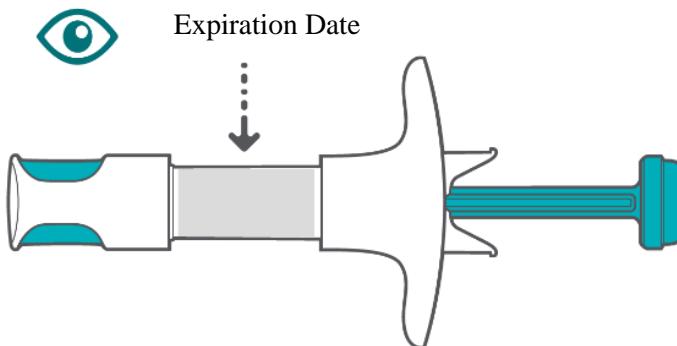
Step 4: Gather the supplies for your injection.

Step 5: Inspect the Bimzelx pre-filled syringe (see Figure B):

- **Make sure the name Bimzelx appears on the label.**
 - Check the expiration date printed on the label.

-  Check the medicine through the viewing window. The medicine inside should be pale yellow to brownish-yellow and free of particles. You may see an air bubble in the liquid. This is normal. Do not try to remove the air bubble.
- **Do not use the Bimzelx pre-filled syringe, and contact your nurse case manager if:**
 - the expiration date printed on the label has passed.
 - the medicine is cloudy, discolored, or has particles.
 - it looks damaged or has been dropped.

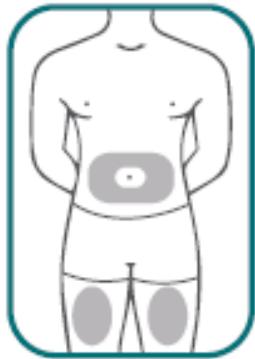
Figure B



Step 6: Choose your injection site

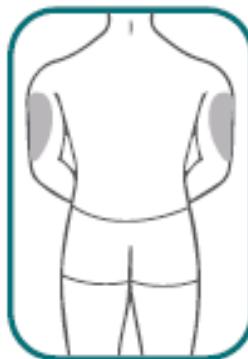
- **The sites you may choose for your injection are:**
 - your stomach area (abdomen) or in your thigh (**see Figure C**).
 - the back of your arm (**see Figure D**). A healthcare provider or caregiver is required to inject in the back of your arm.

Figure C



**Abdomen or
thigh**

Figure D



Back of arm

- **Do not** inject into areas where the skin is tender, bruised, red, scaly, or hard or areas with scars or stretch marks or within 2 inches of the belly button (navel).
- Choose a different site for each injection. You should try to rotate between the areas shown in the diagram above. If you cannot use a different site for each injection, make sure each injection is at least one inch (two fingers) apart. **Do not** use the same injection site 2 times in a row.

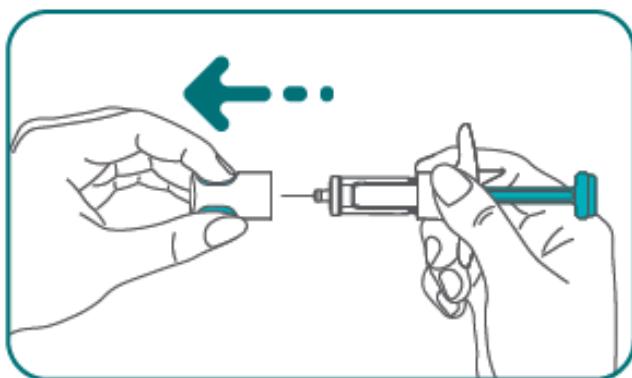
Step 7: Prepare your skin.

- Clean the injection site with an alcohol swab. Let the area dry completely. **Do not** touch the cleaned area again before injecting.

Step 8: Remove the Bimzelx pre-filled syringe needle cap.

- Hold the Bimzelx pre-filled syringe around the finger grip with one hand. Pull the cap straight off the pre-filled syringe with the other hand (**see Figure E**). You may see a drop of liquid on the tip of the needle, this is normal.
 - **Do not** touch the needle or let the needle touch any surface.
 - **Do not** hold the plunger rod during cap removal. If you accidentally remove the plunger rod, contact your nurse case manager.
 - **Do not** put the needle cap back on.

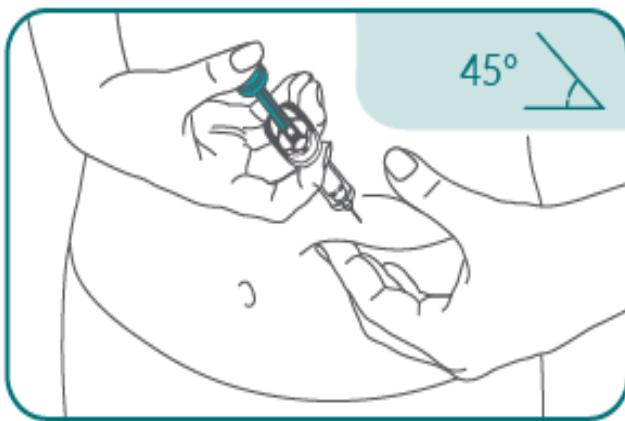
Figure E



Step 9: Gently pinch and hold a fold of skin where you cleaned the injection site with one hand. With the other hand, insert the needle into your skin at about a 45-degree angle.

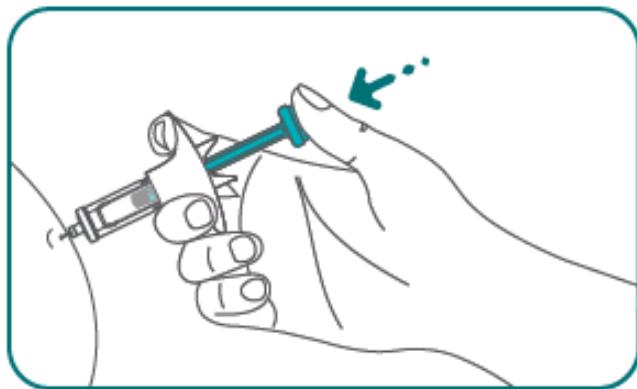
- Push the needle all the way in to make sure that you inject your full dose. Then gently let go of your skin. Make sure the syringe stays close to the skin so that the needle does not come out (**see Figure F**).

Figure F



Step 10: Firmly push the plunger head all the way down until all the medicine is injected. (see **Figure G**).

Figure G



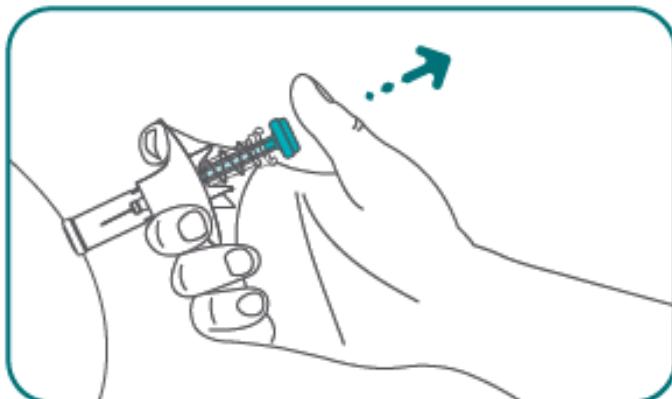
- All the medicine is injected when you cannot push the plunger head any further (see **Figure H**).

Figure H



Step 11: Lift your thumb off the plunger head (see **Figure I**). The needle will automatically move back in and lock in place.

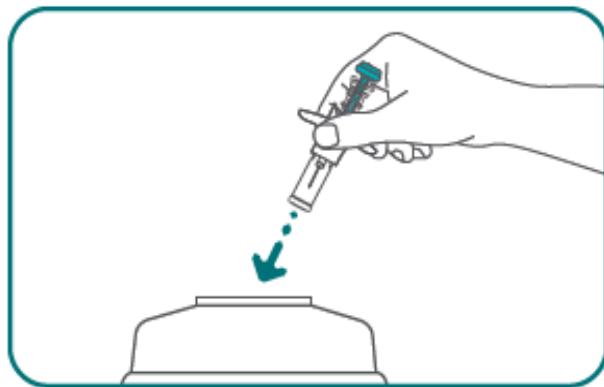
Figure I



- Press a dry cotton ball or gauze pad over the injection site for a few seconds. Do not rub the injection site. You may see slight bleeding or a drop of liquid. This is normal. You may cover the injection site with a small adhesive bandage, if needed.
- **If you need to give a second injection for your prescribed dose, use a new Bimzelx pre-filled syringe and repeat Steps 1 to 12.**
- Make sure to select a new injection site for your second injection. **Do not** use the same site that you used for your first injection.

Step 12: Dispose of (throw away) the used Bimzelx pre-filled syringe (see Figure J).

Figure J



- Put the used Bimzelx pre-filled syringe in sharps container right away after use.
- When your sharps container is almost full, contact your nurse case manager for disposal information.
- **Do not** recycle your used sharps container.

Instructions for Use

BIMZELX® (bim' zel' ex)

bimekizumab injection

Autoinjector

Please read this Instructions for Use before using Bimzelx autoinjector and each time you get a refill. There may be new information. **For a full dose, 2 injections are required, one after the other.** Each autoinjector is for single-use only.

Important information:

- your healthcare professional should show you or a caregiver how to prepare and inject Bimzelx using the autoinjector for the first time. Do not inject yourself or someone else until you have been shown how to inject Bimzelx the right way. If you still need training, contact your nurse case manager.
- these instructions are for 1 injection only. **For a full dose, 2 injections are required, one after the other.**
- **do not** share or reuse your Bimzelx autoinjector. You may give or get an infection.
- if you have vision or hearing problems, **do not** use Bimzelx autoinjector without help from a caregiver.

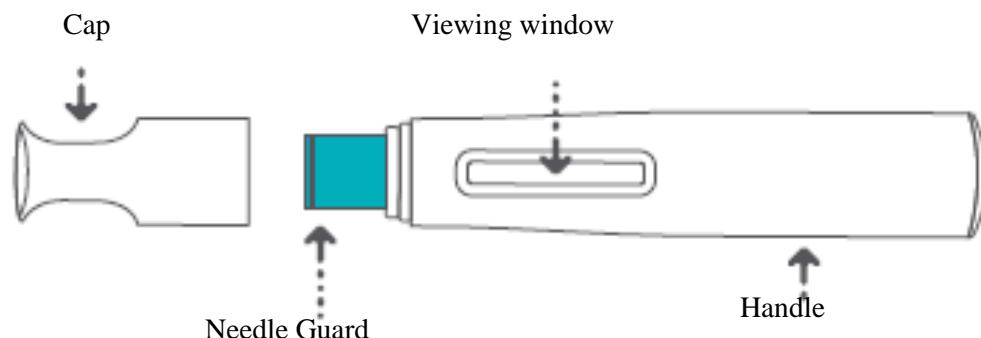
Keep Bimzelx and all medicines out of the reach of children.

How should I store Bimzelx autoinjector?

- Store Bimzelx autoinjector **in the refrigerator** between 2°C to 8°C (36°F to 46°F). Keep in the original carton to protect from light.
- Do not freeze Bimzelx. Do not use Bimzelx if it has been frozen.

Bimzelx autoinjector parts (see Figure A):

Figure A



For each Bimzelx injection, you will need:

- 1 Bimzelx autoinjector

Not provided in the Bimzelx autoinjector carton:

- 1 alcohol swab
- 1 clean cotton ball
- 1 puncture-resistant sharps disposal container.

For the full dose, you need 2 injections, one after the other.

Call your nurse case manager if you need help or do not know how to proceed.

Setting up for your Bimzelx injection

Step 1: Take the Bimzelx autoinjector carton out of the refrigerator. Do not use the Bimzelx autoinjector(s) if the carton is damaged or opened. Contact your nurse case manager.

- **Keep the Bimzelx autoinjector in its original carton for 30 to 45 minutes** to warm to room temperature. This will help to reduce discomfort when injecting.
 - **Do not** microwave the autoinjector, run hot water over it, or leave it in direct sunlight.
 - **Do not** shake the autoinjector.
 - **Do not** take the cap off the autoinjector until you are ready to inject.

Step 2: Find a clean flat, and well-lit work surface, like a table.

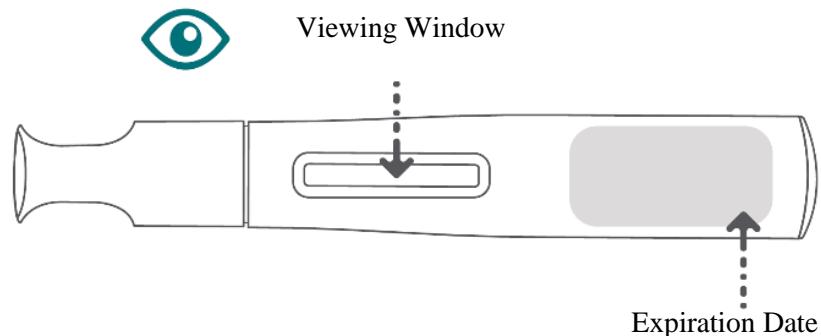
Step 3: Wash your hands well with soap and water and dry with a clean towel.

Step 4: Gather the supplies needed for your injection.

Step 5: Inspect the Bimzelx autoinjector (see Figure B):

- **Make sure the name Bimzelx appears on the label.**
 - Check the expiration date printed on the label.
 - Check the medicine through the viewing window. The medicine inside should be pale yellow to brownish-yellow and free of particles. You may see an air bubble in the liquid. This is normal. Do not try to remove the air bubbles.
- **Do not use the Bimzelx autoinjector**, and contact your nurse case manager if:
 - the expiration date printed on the label has passed
 - the medicine is cloudy, discolored, or has particles.
 - it looks damaged or has been dropped.

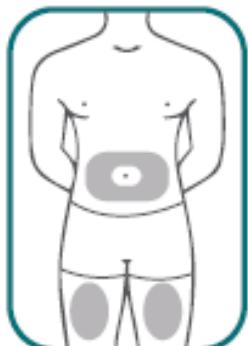
Figure B



Step 6: Choose your injection site.

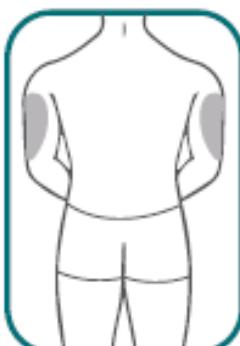
- **The sites you may chose for your injection are:**
 - your stomach area (abdomen) or your thigh (**see Figure C**).
 - the back of your arm (**see Figure D**). A healthcare provider or caregiver is required to inject in the back of your arm.

Figure C



Abdomen or thigh

Figure D



Back of arm

- **Do not** inject into areas where the skin is tender, bruised, red, scaly, hard or areas with scars or stretch marks, or within 2 inches of the belly button (navel).
- Choose a different site for each injection. You should try to rotate between the areas shown in the diagram above. If you cannot use a different site for each injection, make sure each injection is at least one inch (two fingers) apart. **Do not** use the same injection site 2 times in a row.

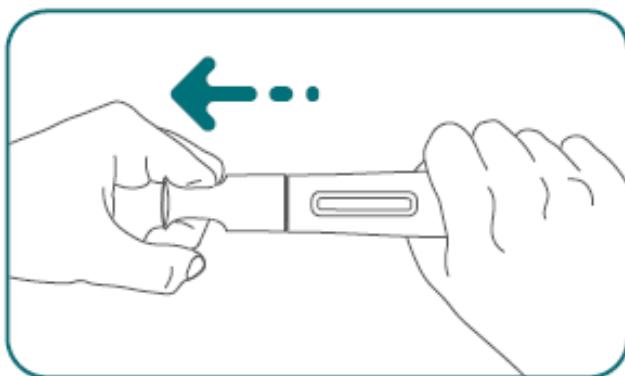
Step 7: Prepare your skin

- Clean the injection site with an alcohol swab. Let the area dry completely. **Do not** touch the cleaned area again before injecting.

Step 8: Remove the Bimzelx autoinjector cap.

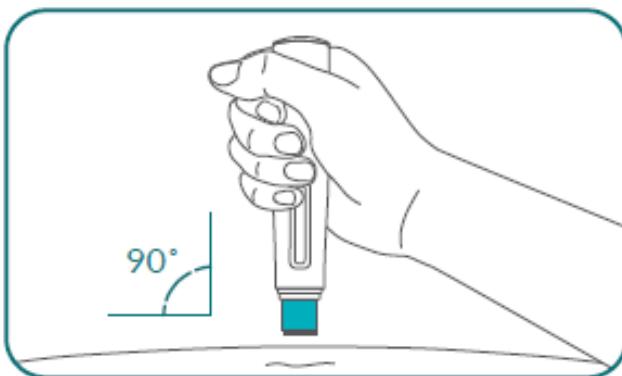
- Hold the autoinjector firmly with one hand around the handle. Pull the cap straight off the autoinjector with the other hand (see **Figure E**). Although you cannot see the needle tip, it is now uncovered.
 - **Do not** touch the needle guard or put the cap back on as it could activate the autoinjector and you can stick yourself.
 - **Do not** twist the handle when pulling the cap off.

Figure E



Step 9: Hold the Bimzelx autoinjector at a 90-degree angle to the cleaned injection site (see **Figure F).**

Figure F



Step 10: Place the Bimzelx autoinjector flat against your skin (you may need to pull the skin tight for the autoinjector to rest flat against your skin), then firmly press the Bimzelx autoinjector down against your skin. **You will hear a “click” sound.** Your injection begins when the first “click” is heard (see **Figure G**).

- **Do not** lift the autoinjector away from the skin.

Keep holding the Bimzelx autoinjector in place and pressed firmly against your skin. It will take about 15 seconds to receive your full dose.

- You will hear a second “click” in about 15 seconds after you hear the first click.
- The second click tells you that all the medicine has been injected and your Bimzelx injection is finished. You should see the yellow color indicator filling the viewing window (**see Figure H**).

Figure G

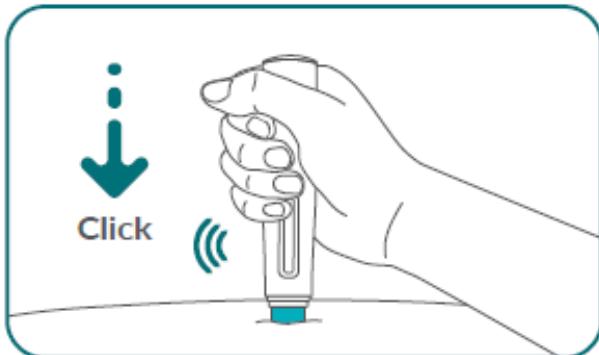
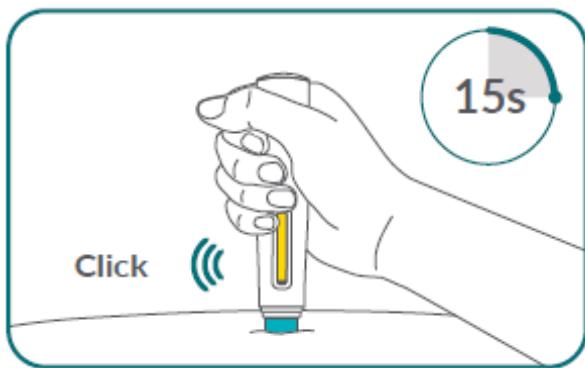


Figure H



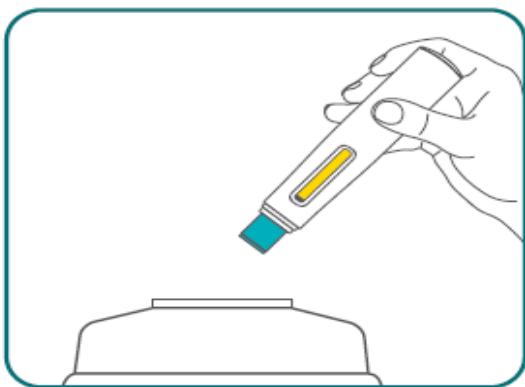
Step 11: Remove the Bimzelx autoinjector by carefully pulling the Bimzelx autoinjector straight up from your skin. The needle guard will automatically cover the needle. **Do not** try to touch the needle.

- Press a dry cotton ball over the injection site for a few seconds. **Do not** rub the injection site. You may see slight bleeding or drop of liquid. This is normal. You may cover the injection site with a small adhesive bandage, if needed.
- **If you need to give a second injection for your prescribed dose, use a new Bimzelx autoinjector, and repeat Steps 1 to 12.**
- Make sure you select a new injection site for your second injection. **Do not** use the same site that you used for your first injection.

Step 12: Dispose of (throw away) the used Bimzelx autoinjector (see Figure I).

- Put the used Bimzelx autoinjector in sharps container right away after use.

Figure I



- When your sharps container is almost full, contact your nurse case manager for disposal information.
- Do not recycle your used sharps disposal container.