

## **SUMMARY OF PRODUCT CHARACTERISTICS**

▼ This medicinal product is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse reactions. See section 4.8 for how to report adverse reactions.

### **1 NAME OF THE MEDICINAL PRODUCT**

Zilbrysq 23 mg solution for injection in pre-filled syringe

### **2 QUALITATIVE AND QUANTITATIVE COMPOSITION**

Each pre-filled syringe contains zilucoplan sodium equivalent to 23 mg zilucoplan in 0.574 mL (40 mg/mL).

For the full list of excipients, see section 6.1.

### **3 PHARMACEUTICAL FORM**

Solution for injection (injection)

The solution is clear to slightly opalescent and colourless, free of visible particles. The pH and osmolality of the solution are approximately 7.0 and 300 mOsm/kg respectively.

### **4 CLINICAL PARTICULARS**

#### **4.1 Therapeutic indications**

Zilbrysq is indicated as an add-on to standard therapy for the treatment of generalised myasthenia gravis (gMG) in adult patients who are anti-acetylcholine receptor (AChR) antibody positive.

## 4.2 Posology and method of administration

Zilbrysq is intended for use under the guidance and supervision of healthcare professionals experienced in the management of patients with neuromuscular disorders.

Before starting therapy, patients must be vaccinated against *Neisseria meningitidis*. If treatment needs to start less than 2 weeks after vaccination, the patient must receive appropriate prophylactic antibiotic treatment until 2 weeks after the first vaccination dose (see sections 4.3 and 4.4).

### Posology

The recommended dose should be given as a subcutaneous injection once daily and administered about the same time every day.

*Table 1: Total daily dose by body weight range*

<b>Body weight</b>	<b>Dose*</b>	<b>Number of pre-filled syringes by colour</b>
< 56 kg	16.6 mg	1 (Rubine red)
≥ 56 to < 77 kg	23 mg	1 (Orange)
≥ 77 kg	32.4 mg	1 (Dark blue)

*\*The recommended dose corresponds to approximately 0.3 mg/kg.*

Zilucoplan has not been studied in gMG patients with a Myasthenia Gravis Foundation of America (MGFA) Class V.

### Missed dose

If a dose is missed, it should be administered the same day; then, normal dosing should be continued the following day. No more than one dose should be administered per day.

### Special populations

#### *Elderly*

No dose adjustment is required in elderly patients (see section 5.2). Experience with zilucoplan in elderly patients in clinical studies is limited.

#### *Renal impairment*

No dose adjustment is required for patients with renal impairment (creatinine clearance  $\geq 15$  mL/min). There are no data on patients requiring dialysis.

#### *Hepatic impairment*

No dose adjustment is required for patients with mild and moderate hepatic impairment (Child-Pugh score of 9 or lower).

The safety and efficacy of Zilbrysq in patients with severe hepatic impairment have not been established. No dose recommendation can be made (see section 5.2).

#### *Paediatric population*

The safety and efficacy of Zilbrysq in children below the age of 18 years have not been established. No data are available.

#### Method of administration

This medicinal product is administered by subcutaneous injection.

Suitable injection sites include front of the thighs, abdomen and the back of the upper arms.

Injection sites should be rotated and injections should not be given in areas where the skin is tender, erythematous, bruised, indurated or where the skin has scars or stretch marks.

Zilbrysq is intended to be self-administered by the patient and/or another person who has been properly trained to administer subcutaneous injections and following the detailed instructions given in the instructions for use at the end of the package leaflet.

### **4.3 Contraindications**

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

Patients who are not currently vaccinated against *Neisseria meningitidis* (see section 4.4).

Patients with unresolved *Neisseria meningitidis* infection.

## 4.4 Special warnings and precautions for use

### Neisseria infections

#### Meningococcal infection

Due to its mechanism of action, the use of zilucoplan may increase the patient's susceptibility to infections with *Neisseria meningitidis*. As a precautionary measure, all patients must be vaccinated against meningococcal infections, at least 2 weeks prior to the start of treatment.

If treatment needs to start less than 2 weeks after vaccination against meningococcal infections, the patient must receive appropriate prophylactic antibiotic treatment until 2 weeks after the first vaccination dose. Meningococcal vaccines reduce but do not completely eliminate the risk of meningococcal infections.

Vaccines against serogroups A, C, Y, W, and where available, serogroup B, are recommended for preventing the commonly pathogenic meningococcal serogroups. Vaccination and prophylactic antibiotic treatment should occur according to most current relevant guidelines.

During treatment, patients should be monitored for signs and symptoms of meningococcal infection and evaluated immediately if infection is suspected. In case of a suspected meningococcal infection, appropriate measures such as treatment with antibiotics and discontinuation of treatment, should be taken until the meningococcal infection can be ruled out. Patients should be instructed to seek immediate medical advice if signs or symptoms of meningococcal infections occur.

Prescribers should be familiar with the educational materials for the management of meningococcal infections and provide a patient alert card and patient/carer guide to patients treated with zilucoplan.

#### Other *Neisseria* infections

In addition to *Neisseria meningitidis*, patients treated with zilucoplan may also be susceptible to infections with other *Neisseria* species, such as gonococcal infections. Patients should be informed on the importance of gonorrhoea prevention and treatment.

### Immunization

Prior to initiating zilucoplan therapy, it is recommended that patients initiate immunizations according to current immunization guidelines.

### Sodium content

This medicinal product contains less than 1 mmol sodium (23 mg) per pre-filled syringe, that is to say essentially 'sodium-free'.

#### **4.5 Interaction with other medicinal products and other forms of interaction**

No interaction studies have been performed. Based on results from *in vitro* testing, zilucoplan will not inhibit or induce drug metabolising enzymes (CYPs and UGTs) and common transporters in a clinically relevant manner.

Based on the potential inhibitory effect of zilucoplan on complement-dependent cytotoxicity of rituximab, zilucoplan may reduce the expected pharmacodynamic effects of rituximab.

#### **4.6 Fertility, pregnancy and lactation**

##### Pregnancy

There are no data from the use of zilucoplan in pregnant women.

Animal studies do not indicate direct or indirect harmful effects with respect to reproductive toxicity (see section 5.3).

Treatment of pregnant women with Zilbrysq should only be considered if the clinical benefit outweighs the risks.

##### Breast-feeding

It is unknown whether zilucoplan is excreted in human milk or absorbed systemically after oral ingestion by the newborns/infants. A risk to the newborns/infants cannot be excluded.

A decision must be made whether to discontinue breast-feeding or to discontinue zilucoplan therapy taking into account the benefit of breastfeeding for the child and the benefit of therapy for the woman.

##### Fertility

The effect of zilucoplan on human fertility has not been evaluated. In some non-human primate fertility and repeat-dose toxicity studies, findings of uncertain clinical relevance were observed in male and female reproductive organs (see section 5.3).

#### 4.7 Effects on ability to drive and use machines

Zilbrysq has no or negligible influence on the ability to drive and use machines.

#### 4.8 Undesirable effects

##### Summary of the safety profile

The most frequently reported adverse reactions were injection site reactions (injection site bruising (13.9%) and injection site pain (7.0%)) and upper respiratory tract infections (nasopharyngitis (5.2%), upper respiratory tract infection (3.5%) and sinusitis (3.5%)).

##### Tabulated list of adverse reactions

Table 2 presents the adverse reactions from the pooled placebo-controlled (n=115) and open-label extension (n=213) studies in gMG together with a classification of the frequency in the zilucoplan treated patients, using the following convention: very common ( $\geq 1/10$ ), common ( $\geq 1/100$  to  $< 1/10$ ), uncommon ( $\geq 1/1\ 000$  to  $< 1/100$ ), rare ( $\geq 1/10\ 000$  to  $< 1/1\ 000$ ), very rare ( $< 1/10\ 000$ ), not known (cannot be estimated from the available data). Within each frequency grouping, adverse reactions are presented in the order of decreasing seriousness.

*Table 2: Adverse reactions*

System organ class	Frequency	Adverse reaction
Infections and infestations	Very common	Upper respiratory tract infections*
Gastrointestinal disorders	Common	Diarrhoea
Skin and subcutaneous tissue disorders	Common	Morphoea <sup>*a</sup>
General disorders and administration site conditions	Very common	Injection site reactions*
Investigations	Common	Lipase increased*
	Common	Amylase increased*

	Uncommon	Blood eosinophils increased*
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\*See paragraph *Description of selected adverse reactions*.

<sup>a</sup>*Morphoea was reported only in long-term open-label clinical studies. The maximum duration of exposure to ZLP during the long-term clinical studies was more than 4 years.*

#### Description of selected adverse reactions

##### *Injection site reactions*

The most common reactions were injection site bruising, pain, nodule, pruritus and haematoma. All cases were mild or moderate in severity, and less than 3% of reactions led to treatment discontinuation.

##### *Upper respiratory tract infections*

The most common infections were nasopharyngitis, upper respiratory tract infection and sinusitis. More than 95% of the cases were mild or moderate in severity and did not lead to treatment discontinuation. In pooled placebo-controlled studies, upper respiratory tract infections were reported in 13.0% of patients treated with zilucoplan and in 7.8% of patients treated with placebo.

##### *Pancreatic enzymes increased*

Cases of lipase increase (5.2%) and/or amylase increase (6.1%) were observed. These elevations were transient and rarely led to treatment discontinuation. The majority occurred within 2 months of starting zilucoplan and normalized within 2 months.

##### *Blood eosinophils increased*

Elevations of blood eosinophils were observed. These were transient and not leading to treatment discontinuation. The majority occurred within 2 months of starting zilucoplan and normalized within 1 month.

##### *Morphoea*

Cases of morphoea were observed after long-term treatment during the open-label extension study. The majority of the cases had a time to onset longer than one year after start of treatment, were mild or moderate in severity and did not lead to treatment discontinuation.

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via:

Yellow Card Scheme

Website: [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard) or search for MHRA Yellow Card in the Google Play or Apple App Store.

## 4.9 Overdose

In a healthy volunteer study where 32 participants were exposed to doses twice the recommended dose (corresponding to approximately 0.6 mg/kg; Table 1), administered subcutaneously for up to 7 days, safety data were consistent with the safety profile of the recommended dose.

In cases of overdose, it is recommended that patients are monitored closely for any adverse reactions, and appropriate supportive measures should be instituted immediately.

## 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Immunosuppressants, complement inhibitors, ATC code: L04AJ06

### Mechanism of action

Zilucoplan is a 15 amino acid, synthetic macrocyclic peptide that inhibits the effects of the complement protein C5 through a dual mechanism of action. It specifically binds to C5, thereby inhibiting its cleavage by the C5 convertase to C5a and C5b, which results in a downregulation of the assembly and cytolytic activity of the membrane attack complex (MAC). Additionally, by binding to the C5b moiety of C5, zilucoplan sterically hinders binding of C5b to C6, which prevents the subsequent assembly and activity of the MAC, should any C5b be formed.

### Pharmacodynamic effects

The pharmacodynamic effect of zilucoplan was analysed through the ability of inhibiting *ex vivo*, complement-induced sheep red blood cell (sRBC) lysis.

Data from the phase 2 and phase 3 studies demonstrate rapid, complete (> 95%) and sustained complement inhibition with zilucoplan when dosed according to Table 1.

### Clinical efficacy and safety

The safety and efficacy of zilucoplan were evaluated in a 12-week multicentre, randomised, double-blind placebo-controlled study MG0010 (RAISE) and the open-label extension study MG0011 (RAISE-XT).

#### Study MG0010 (RAISE)

A total of 174 patients were enrolled, who were at least 18 years of age, had acetylcholine-receptor antibody positive generalised myasthenia gravis, a Myasthenia Gravis- Activities of Daily Living (MG-ADL) Score of  $\geq 6$  and a Quantitative Myasthenia Gravis (QMG Score) of  $\geq 12$  (see Table 3).

Patients were treated once daily with either zilucoplan (dosed according to Table 1) or placebo with 86 and 88 patients randomised to each treatment group, respectively. Stable standard of care (SOC) therapy was allowed. The majority of patients received treatment for gMG at baseline which included parasympathomimetics (84.5%), systemic corticosteroids (63.2%) and nonsteroidal immunosuppressants (51.1%).

The primary endpoint was the change from baseline to week 12 in MG-ADL total score.

Key secondary endpoints were the change from baseline to week 12 in QMG total score, in Myasthenia Gravis Composite (MGC) total score and in MG Quality of Life (MG-QoL15r) total score (Table 4).

MG-ADL clinical responders were defined as having at least a 3-point decrease and QMG responders were defined as having at least a 5-point decrease without rescue therapy.

*Table 3: Baseline demographic and disease characteristics of patients enrolled in study MG0010*

	<b>Zilucoplan (n=86)</b>	<b>Placebo (n=88)</b>
Age, years, mean (SD)	52.6 (14.6)	53.3 (15.7)
Age at onset, years, mean (SD)	43.5 (17.4)	44.0 (18.7)
Age $\geq 65$	22 (25.6)	26 (29.5)
Gender, male, n (%)	34 (39.5)	41 (46.6)
Baseline MG-ADL score mean (SD)	10.3 (2.5)	10.9 (3.4)
Baseline QMG score mean (SD)	18.7 (3.6)	19.4 (4.5)
Baseline MGC score, mean (SD)	20.1 (6.0)	21.6 (7.2)
Baseline MG-QoL 15r score, mean	18.6 (6.6)	18.9 (6.8)

(SD)		
Duration of disease, years, mean (SD)	9.3 (9.5)	9.0 (10.4)
MGFA class at screening, n (%) Class II	22 (25.6)	27 (30.7)
MGFA class at screening, n (%) Class III	60 (69.8)	57 (64.8)
MGFA class at screening, n (%) Class IV	4 (4.7)	4 (4.5)

Table 4 presents the change from baseline at week 12 in the total scores for MG-ADL, QMG, MGC and MGQoL15r. Mean baseline scores were 10.9 and 10.3 for MG-ADL, 19.4 and 18.7 for QMG, 21.6 and 20.1 for MGC and 18.9 and 18.6 for MG-QoL15r for placebo and zilucoplan groups, respectively.

*Table 4: Change from baseline at week 12 in total scores for MG-ADL, QMG, MGC and MG-QoL15r*

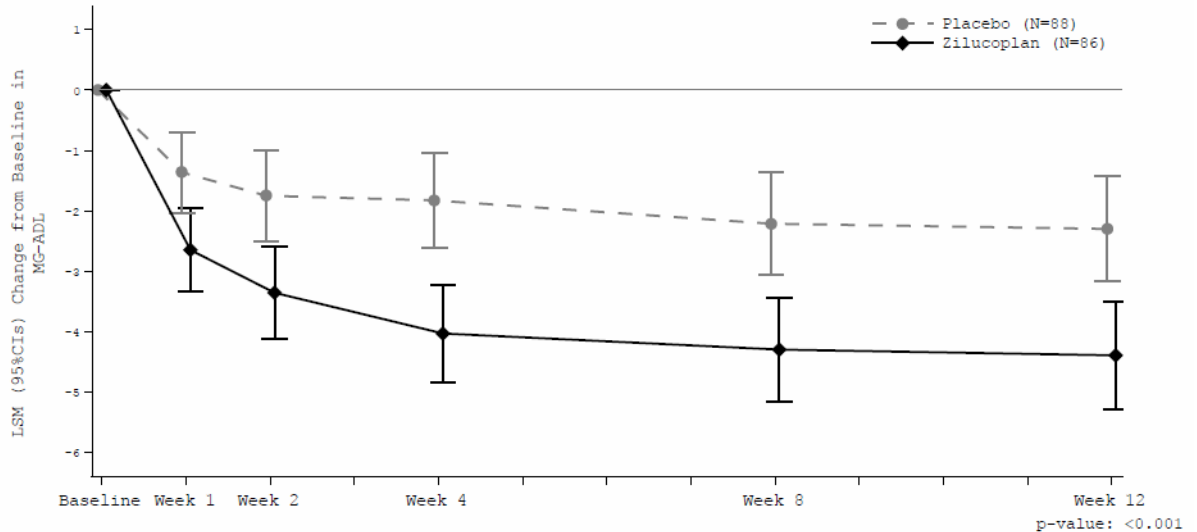
<b>Endpoints: Change from baseline in total score at week 12: LS Mean (95% CI)</b>	<b>Zilucoplan (n=86)</b>	<b>Placebo (n=88)</b>	<b>Zilucoplan change LS mean difference vs. placebo (95% CI)</b>	<b>p-value*</b>
MG-ADL	-4.39 (-5.28, -3.50)	-2.30 (-3.17, -1.43)	-2.09 (-3.24, -0.95)	< 0.001
QMG	-6.19 (-7.29, -5.08)	-3.25 (-4.32, -2.17)	-2.94 (-4.39, -1.49)	< 0.001
MGC	-8.62 (-10.22, -7.01)	-5.42 (-6.98, -3.86)	-3.20 (-5.24, -1.16)	0.0023
MG-QoL15r	-5.65 (-7.17, -4.12)	-3.16 (-4.65, -1.67)	-2.49 (-4.45, -0.54)	0.0128

\*Analysis based on a MMRM ANCOVA model

The treatment effect in the zilucoplan group for all 4 endpoints started rapidly at week 1, further increased to week 4 and was sustained through week 12.

At week 12, a clinically meaningful and highly statistically significant improvement in MG-ADL total score (Figure 1) and in QMG total score was observed for zilucoplan versus placebo.

*Figure 1: Change from baseline in MG-ADL total score*



Analysis based on MMRM ANCOVA model

Clinically meaningful change = 2-point change in MG-ADL score

At week 12, 73.1% of the patients in the zilucoplan group were MG-ADL clinical responders without rescue therapy, vs. 46.1% in the placebo group ( $p < 0.001$ ). Fifty-eight percent (58.0%) of the patients in the zilucoplan group were QMG clinical responders without rescue therapy, vs. 33.0% in the placebo group ( $p = 0.0012$ ).

At week 12, the cumulative portion of patients that needed rescue therapy was 5% in the zilucoplan group and 11% in the placebo group. Rescue therapy was defined as intravenous immunoglobulin G (IVIG) or plasma exchange (PLEX).

### Study MG0011 (RAISE-XT)

Two hundred patients who completed a placebo-controlled phase 2 study (MG0009) or the phase 3 study (MG0010) continued in the open-label extension study MG0011 in which all patients received zilucoplan (dosed according to Table 1) daily. Primary objective was long-term safety. Secondary efficacy endpoints were change from double-blind study baseline in MG-ADL, QMG, MGC and MG-QoL15r score at week 24. For former MG0010 participants, results are shown below (Table 5).

Table 5: Mean change from double-blind study baseline (MG0010) to week 24 (week 12 in MG0011) and week 60 (week 48 in MG0011) in total scores for MG-ADL, QMG, MGC and MG-QoL15r

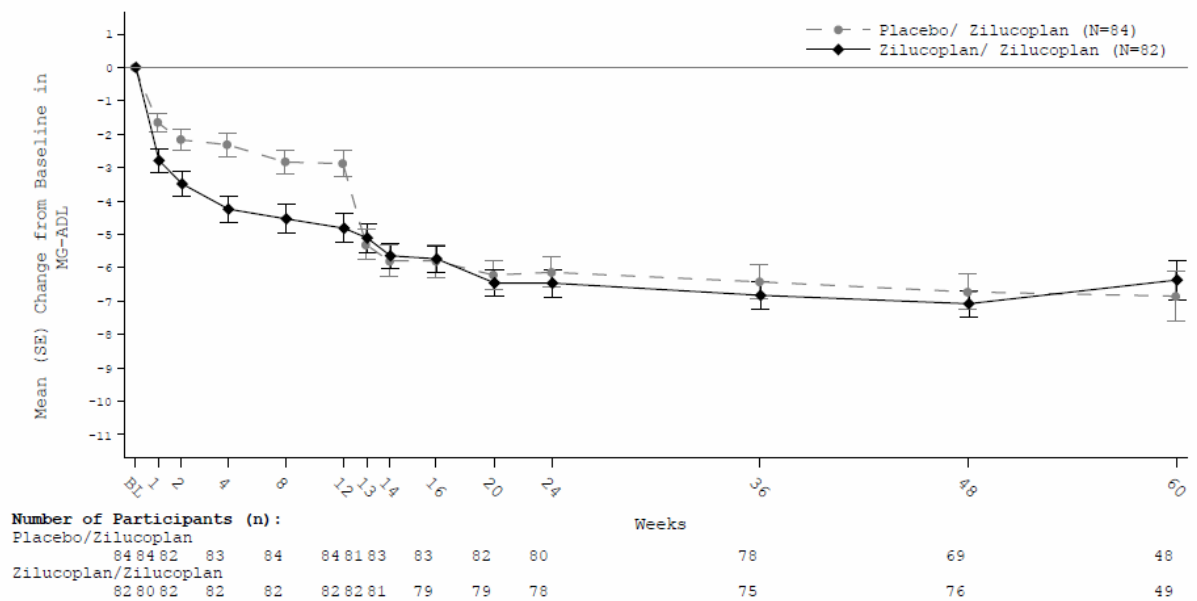
Endpoints: Change from baseline in total score at week 24 and week 60: LS Mean (SE)	Zilucoplan (n=82)	Placebo/zilucoplan (n=84)
<b>MG-ADL</b>		
Week 24	-5.46 (0.59)	-5.20 (0.52)
Week 60	-5.16 (0.61)	-4.37 (0.54)

<b>QMG</b>		
Week 24	-7.10 (0.80)	-7.19 (0.69)
Week 60	-6.44 (0.83)	-6.15 (0.71)
<b>MGC</b>		
Week 24	-10.37 (1.15)	-11.12 (1.00)
Week 60	-8.89 (1.20)	-9.01 (1.04)
<b>MG-QoL15r</b>		
Week 24	-8.09 (0.96)	-7.96 (0.89)
Week 60	-7.22 (0.99)	-6.09 (0.91)

Analysis based on a MMRM ANCOVA model where rescue therapy and discontinuation are imputed as treatment failure; Death are imputed the worst possible score (e.g. score 24 for MG-ADL).

SE = Standard error

Figure 2: Mean change from double-blind study baseline to week 60 for total MG ADL score



### Immunogenicity

In MG0010 and MG0011 (RAISE-XT), the patients were tested for anti-drug antibody (ADA) positivity and anti-polyethylene glycol (PEG) antibody positivity.

In both studies, antibody titres were low and there was no evidence of an impact on pharmacokinetics or pharmacodynamics and no clinically meaningful impact on efficacy or safety.

In MG0010 and MG0011, 2 patients (2.4%) each in the zilucoplan/zilucoplan and placebo/zilucoplan group were positive for treatment emergent ADA and anti-PEG antibodies. Thirteen subjects (16%) per arm were treatment emergent anti-PEG

antibody positive while ADA negative. Two patients (2.4%) per arm were anti-PEG negative while treatment emergent ADA positive.

### Paediatric population

The licensing authority has deferred the obligation to submit the results of studies with zilucoplan in one or more subsets of the paediatric population in the treatment of myasthenia gravis. See section 4.2 for information on paediatric use.

## **5.2 Pharmacokinetic properties**

### Absorption

Following single and multiple daily subcutaneous administration of the zilucoplan recommended dose (Table 1) in healthy subjects, zilucoplan reached peak plasma concentration generally between 3 to 6 hours post-dose. In study MG0010 in patients with gMG, after daily repeated subcutaneous administration of the zilucoplan recommended dose (Table 1), plasma concentrations of zilucoplan were consistent, with steady state trough concentrations being reached by week 4 and maintained through week 12. Exposures after subcutaneous administration of single zilucoplan doses in the abdomen, thigh, or upper arm were comparable.

### Distribution

Zilucoplan and the active (RA103488) and major inactive (RA102758) circulating metabolites are highly bound to plasma proteins (> 99%). The mean volume of distribution for zilucoplan (V<sub>c</sub>/F) using a population pharmacokinetic analysis is 3.51 L. Zilucoplan is not a substrate for common drug transporters.

### Metabolism

Zilucoplan is not a substrate of major CYP enzymes. In plasma, 2 metabolites, the active (RA103488) and major inactive metabolite (RA102758) were detected. The formation of RA103488 is mainly due to cytochrome CYP450 4F2. RA103488 has pharmacological activity similar to zilucoplan but is present at a much lower concentration compared to zilucoplan. The contribution of RA103488 to pharmacological activity is low. Further, as a peptide, zilucoplan is expected to be degraded into smaller peptides and amino acids via catabolic pathways.

Zilucoplan inhibits MRP3 in vitro at therapeutic concentrations; the clinical relevance of this inhibition is unknown.

### Elimination

As a peptide, zilucoplan is expected to be degraded into smaller peptides and amino acids via catabolic pathways. The mean plasma terminal elimination half-life was approximately 172 hours (7-8 days). The half-life was 220 hours and 96 hours respectively for the active (RA103488) and major inactive metabolite (RA102758). The excretion of zilucoplan and its metabolites (RA103488 and RA102758) measured in both urine and faeces was negligible. The pegylated part of zilucoplan is anticipated to be excreted mainly via the kidneys and the main degradation of fatty acid part is via  $\beta$ -oxidation to acetyl-CoA.

### Linearity/non-linearity

In the population pharmacokinetic analysis (doses corresponding to 0.05 to 0.6 mg/kg), zilucoplan pharmacokinetics is characterised by target dependent drug disposition with less than dose proportional increase in exposure with increasing doses, and after multiple doses compared to single dose.

### Antibodies

The incidences of ADA and anti-PEG antibodies in the phase 3 study in patients with gMG were comparable between the zilucoplan treatment group and the placebo treatment group (see section 5.1).

The ADA and anti-PEG antibody status of patients treated with zilucoplan did not affect zilucoplan concentrations.

### Special populations

#### Weight

Population pharmacokinetic analysis on data collected across studies in gMG showed that body weight significantly influences the pharmacokinetics of zilucoplan. Zilucoplan dosing is based on body weight categories (see section 4.2), no further dose adjustment is needed.

#### Elderly

Based on population pharmacokinetic analysis, age did not influence the pharmacokinetics of zilucoplan. No dose adjustment is required.

#### Renal impairment

The effect of renal impairment on the pharmacokinetics of zilucoplan and its metabolites was studied in an open-label phase 1 study, where a single-dose of the zilucoplan recommended dose (Table 1) was administered to healthy subjects and subjects with severe renal impairment (creatinine clearance between 15 and <30 mL/min).

Systemic exposure to zilucoplan and the major inactive metabolite RA102758 was not different in subjects with severe renal impairment compared to subjects with normal renal function. The exposure to the active metabolite RA103488 was approximately 1.5-fold higher in subjects with severe renal impairment compared to subjects with normal renal function.

Based on the pharmacokinetic results, no dose adjustment is required in patients with renal impairment.

#### Hepatic impairment

The effects of moderate hepatic impairment (as defined by a Child-Pugh score between 7 and 9) on the pharmacokinetics of zilucoplan and its metabolites were studied in an open-label phase 1 study, where a single dose of the zilucoplan recommended dose (Table 1) was administered to healthy subjects and subjects with moderate hepatic impairment.

Systemic exposure to zilucoplan was 24% lower in subjects with moderate impaired liver function compared to healthy subjects, which was in line with a higher systemic and peak exposures of both metabolites in subjects with hepatic impairment compared to healthy subjects. Zilucoplan peak exposure as well as terminal half-life were comparable between both groups. Further pharmacodynamic analysis did not identify meaningful differences in complement levels or inhibition of complement activity between both groups. Based on these results, no dose adjustment is required in patients with mild and moderate hepatic impairment.

#### Racial and ethnic groups

In a phase 1 clinical study in healthy Caucasian and Japanese subjects, the pharmacokinetic profile of zilucoplan and its two metabolites (RA102758 and RA103488) was compared following a single dose (Table 1) and after multiple dosing for 14 days. Results were generally similar between both groups. The population pharmacokinetic analysis for zilucoplan showed that there are no differences between the different race categories (Black/African American, Asian/Japanese, and Caucasians). No dose adjustment is required.

#### Gender

In the population pharmacokinetic analysis, no difference in pharmacokinetics between genders was observed. No dose adjustment is required.

### **5.3 Preclinical safety data**

In repeat-dose toxicity studies performed in non-human primates, there were vesicular degeneration/hyperplasia of epithelial cells and mononuclear cell infiltrates in various tissues at clinically relevant exposure. In the pancreas, this sometimes manifested as pancreatic acinar cell degeneration, some with fibrosis and ductal degeneration/regeneration and was accompanied with increased plasma concentrations of amylase and lipase. In female reproductive organs (vagina, cervix, uterus), mononuclear cell infiltrates with epithelial degeneration and cervical squamous metaplasia were seen. In a monkey male fertility study, minimal to slight germ line degeneration/depletion was observed at clinically relevant exposures but severity did not increase with dose. No impact on spermatogenesis was observed. The findings in non-human

primates are of uncertain clinical relevance and some are possibly related to infections secondary to the pharmacological effect of zilucoplan, but other mechanisms cannot be excluded. The findings did not correlate with any effects on embryofetal development or pregnancy outcomes (pregnancy loss, parturition, pregnancy outcomes, or infant post-natal development) in non-human primates at similar dose levels.

No carcinogenicity studies were conducted with zilucoplan.

## **6 PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Sodium dihydrogen phosphate, monohydrate

Disodium phosphate (anhydrous)

Sodium chloride

Water for injections

### **6.2 Incompatibilities**

Not applicable

### **6.3 Shelf life**

4 years

### **6.4 Special precautions for storage**

Store in a refrigerator (2 °C-8 °C).

Do not freeze.

Keep the pre-filled syringe in the outer carton in order to protect from light.

Patients may store the pre-filled syringe at room temperature in the original carton up to 30 °C for a single period of maximum 3 months. Once Zilbrysq has been stored at

room temperature, it should not be placed back into the refrigerator and should be discarded if not used within the 3 months period or by the expiry date, whichever occurs first.

## **6.5 Nature and contents of container**

Pre-filled syringe (type I glass) with a 29G ½” thin wall needle closed with a grey fluoropolymer-laminated bromobutyl rubber plunger stopper. The needle is protected with a rigid needle shield consisting of a thermoplastic elastomer needle shield and a polypropylene rigid shield.

Each pre-filled syringe is pre-assembled with a needle safety device, a finger grip and a coloured plunger:

Zilbrysq 23 mg solution for injection in pre-filled syringe

0.574 mL solution for injection in pre-filled syringe with orange plunger

Pack size of 7 pre-filled syringes for 23 mg solution for injection.

Multipack containing 28 (4 packs of 7) pre-filled syringes.

Not all pack sizes may be marketed.

## **6.6 Special precautions for disposal**

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

## **7 MARKETING AUTHORISATION HOLDER**

UCB Pharma Ltd  
208 Bath Road  
Slough  
Berkshire  
SL1 3WE  
United Kingdom

**8      MARKETING AUTHORISATION NUMBER(S)**

PLGB 00039/0806

**9      DATE OF FIRST AUTHORISATION/RENEWAL OF THE  
AUTHORISATION**

15/01/2024

**10     DATE OF REVISION OF THE TEXT**

25/03/2026