

COLUMVI®
1mg/mL Concentrate for Solution for Infusion

Glofitamab

1. DESCRIPTION**1.1 THERAPEUTIC / PHARMACOLOGIC CLASS OF DRUG**

Antineoplastic agent, other monoclonal antibodies and antibody drug conjugates

ATC code: L01FX28

1.2 TYPE OF DOSAGE FORM

Concentrate for solution for infusion

1.3 ROUTE OF ADMINISTRATION

Intravenous (IV) infusion

1.4 STERILE / RADIOACTIVE STATEMENT

Sterile product

1.5 QUALITATIVE AND QUANTITATIVE COMPOSITION*Active ingredient:* glofitamab

Columvi is a preservative-free, colorless, clear solution supplied in single-dose vials containing:

- 2.5 mg of glofitamab/2.5 mL at a concentration of 1 mg/mL
- 10 mg of glofitamab/10 mL at a concentration of 1 mg/mL

Excipients: L-Histidine, L-Histidine Hydrochloride Monohydrate, L-Methionine, D-Sucrose, Polysorbate 20, Water for Injection**2. CLINICAL PARTICULARS****2.1 THERAPEUTIC INDICATION(S)**

Columvi in combination with gemcitabine and oxaliplatin is indicated for the treatment of adult patients with relapsed or refractory diffuse large B-cell lymphoma not otherwise specified (DLBCL NOS) who are ineligible for autologous stem cell transplant (ASCT).

Columvi as monotherapy is indicated for the treatment of adult patients with relapsed or refractory diffuse large B-cell lymphoma (DLBCL), after two or more lines of systemic therapy.

2.2 DOSAGE AND ADMINISTRATION

Columvi must only be administered under the supervision of a healthcare professional experienced in the diagnosis and treatment of cancer patients and who has access to appropriate medical support to manage severe reactions associated with cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS).

At least 1 dose of tocilizumab for use in the event of CRS must be available prior to Columvi infusion at Cycles 1 and 2. Access to an additional dose of tocilizumab within 8 hours of use of the previous tocilizumab dose must be ensured (see section 2.4).

Pre-treatment with Obinutuzumab

All patients in study NP30179 and in study GO41944 (STARGLO) received a single 1 000 mg dose of obinutuzumab as pre-treatment on Cycle 1 Day 1 (7 days prior to initiation of Columvi treatment) to lower the circulating and lymphoid B cells (see Table 2, *Delayed or Missed Doses*, and section 3.1).

Obinutuzumab was administered as an intravenous infusion at 50 mg/h. The rate of infusion was escalated in 50 mg/h increments every 30 minutes to a maximum of 400 mg/h.

Refer to the obinutuzumab prescribing information for complete information on premedication, preparation, administration and management of adverse reactions of obinutuzumab.

Premedication and prophylaxis

Cytokine release syndrome prophylaxis

Columvi should be administered to well-hydrated patients. Recommended premedication for CRS (see section 2.4) is outlined in Table 1.

Table 1 Premedication before Columvi infusion

Treatment cycle (Day)	Patients requiring premedication	Premedication	Administration
Cycle 1 (Day 8, Day 15); Cycle 2 (Day 1); Cycle 3 (Day 1)	All patients	20 mg intravenous dexamethasone ¹	Completed at least 1 hour prior to Columvi infusion
		Oral analgesic / anti-pyretic ²	At least 30 minutes before Columvi infusion
		Anti-histamine ³	
All subsequent infusions	All patients	Oral analgesic / anti-pyretic ²	At least 30 minutes before Columvi infusion
		Anti-histamine ³	
	Patients who experienced CRS with the previous dose	20 mg intravenous dexamethasone ^{1, 4}	Completed at least 1 hour prior to Columvi infusion

¹ If patient has an intolerance to dexamethasone or dexamethasone is unavailable, administer 100 mg prednisone/prednisolone or 80 mg methylprednisolone.

² For example, 1 000 mg paracetamol.

³ For example, 50 mg diphenhydramine.

⁴ To be administered in addition to the premedication required for all patients.

Infection prophylaxis

Prophylaxis is recommended to reduce the risk of infection (see section 2.4).

Consider prophylaxis for cytomegalovirus (CMV), herpes, pneumocystis jirovecii pneumonia, and other opportunistic infections in patients at increased risk (see section 2.6).

Posology

Columvi dosing begins with a step-up dosing schedule (which is designed to decrease the risk of CRS), leading to the recommended dose of 30 mg.

Columvi monotherapy dose step-up schedule

Columvi must be administered as an intravenous infusion according to the dose step-up schedule leading to the recommended dose of 30 mg (as shown in Table 2), after completion of pre-treatment with obinutuzumab on Cycle 1 Day 1. Each cycle is 21 days.

Table 2 Columvi monotherapy dose step-up schedule for patients with relapsed or refractory DLBCL

Treatment Cycle, Day		Dose of Columvi	Duration of infusion
Cycle 1 (Pre-treatment and step-up dose)	Day 1	Pre-treatment with obinutuzumab 1000 mg ¹	
	Day 8	2.5 mg	4 hours ²
	Day 15	10 mg	
Cycle 2	Day 1	30 mg	2 hours ³
Cycle 3 to 12	Day 1	30 mg	

¹ Refer to "Pre-treatment with obinutuzumab" described above.

² For patients who experience CRS with their previous dose of Columvi, the duration of infusion may be extended up to 8 hours (see section 2.4).

³ At the discretion of the treating physician, if the previous infusion was well tolerated. If the patient experienced CRS with a previous dose, the duration of infusion should be maintained at 4 hours.

Columvi dose step-up schedule in combination with gemcitabine and oxaliplatin

Columvi must be administered as an intravenous infusion according to the dose step-up schedule leading to the recommended dose of 30 mg (as shown in Table 3), after completion of pre-treatment with obinutuzumab on Cycle 1 Day 1.

Columvi is given in combination with gemcitabine and oxaliplatin at Cycles 1-8 and as monotherapy at Cycles 9-12. Each cycle is 21 days.

Table 3 Columvi dose step-up schedule in combination with gemcitabine and oxaliplatin for patients with relapsed or refractory DLBCL

Treatment cycle, Day		Dose of Columvi (duration of infusion)	Dose of gemcitabine	Dose of oxaliplatin
Cycle 1 (Pre-treatment and step-up dose)	Day 1	Pre-treatment with obinutuzumab 1000 mg ^a		
	Day 2	–	1000 mg/m ² ^b	100 mg/m ² ^b
	Day 8	2.5 mg (4 hours) ^c	–	–
	Day 15	10 mg (4 hours) ^c		
Cycle 2	Day 1	30 mg (4 hours) ^{c,d}	1000 mg/m ² ^{b,d}	100 mg/m ² ^{b,d}
Cycle 3 to 8	Day 1	30 mg (2 hours) ^{d,e}	1000 mg/m ² ^{b,d}	100 mg/m ² ^{b,d}
Cycle 9 to 12	Day 1	30 mg (2 hours) ^e	–	–

^a Refer to "Pre-treatment with obinutuzumab" described above.

^b Cycles 1-8: Administer gemcitabine before oxaliplatin.

^c For patients who experience CRS with their previous dose of Columvi, the time of infusion may be extended up to 8 hours (see section 2.4).

^d Cycles 2-8: Administer Columvi before gemcitabine and oxaliplatin. Gemcitabine and oxaliplatin may be given on Day 1 or 2.

^e Infusion time may be shortened to 2 hours at the discretion of the treating physician, if the previous infusion was well tolerated. If the patient experienced CRS with a previous dose, the duration of infusion should be maintained at 4 hours.

Patient Monitoring

- When Columvi is given as monotherapy, patients must be monitored for signs and symptoms of potential CRS during all Columvi infusions and for at least 10 hours after completion of the infusion of the first Columvi dose (2.5 mg on Cycle 1 Day 8) (see section 2.6).
- When Columvi is given in combination with gemcitabine and oxaliplatin, patients must be monitored for signs and symptoms of potential CRS during all Columvi infusions and for 4 hours after completion of the first Columvi dose (2.5 mg on Cycle 1 Day 8) (see section 2.6).

Patients who experienced Grade ≥ 2 CRS with their previous infusion should be monitored after completion of the infusion (see Table 4 in section 2.2).

All patients must be monitored for signs and symptoms of CRS and immune effector cell-associated neurotoxicity syndrome (ICANS) following Columvi administration.

All patients must be counselled on the risk, signs and symptoms of CRS and ICANS and advised to contact the healthcare provider immediately should they experience signs and symptoms of CRS and/or ICANS at any time (see section 2.4).

Duration of treatment

Treatment with Columvi monotherapy is recommended for a maximum of 12 cycles or until disease progression or unmanageable toxicity, whichever occurs first. Each cycle is 21 days.

Treatment with Columvi in combination with gemcitabine and oxaliplatin is recommended for 8 cycles, followed by 4 cycles of Columvi monotherapy for a maximum of 12 cycles of Columvi in total or until disease progression or unmanageable toxicity, whichever occurs first. Each cycle is 21 days.

Delayed or missed doses

During step-up dosing (weekly dosing):

- Following pre-treatment with obinutuzumab, if the Columvi 2.5 mg dose is delayed by more than 1 week, then repeat pre-treatment with obinutuzumab.
- Following Columvi 2.5 mg dose or 10 mg dose, if there is a Columvi treatment-free interval of 2 weeks to 6 weeks, then repeat the last tolerated Columvi dose and resume the planned step-up dosing.
- Following Columvi 2.5 mg dose or 10 mg dose, if there is a Columvi treatment-free interval of more than 6 weeks, then repeat pre-treatment with obinutuzumab and Columvi step-up dosing (see Cycle 1 in Table 2 and Table 3).

After Cycle 2 (30 mg dose):

- If there is a Columvi treatment-free interval of more than 6 weeks between cycles, then repeat pre-treatment with obinutuzumab and Columvi step-up dosing (see Cycle 1 in Table 2 and Table 3), and then resume the planned treatment cycle (30 mg dose).

Dose modifications

No dose reductions of Columvi are recommended.

Management of cytokine release syndrome

CRS should be identified based on the clinical presentation (see sections 2.4 and 2.6). Patients should be evaluated for other causes of fever, hypoxia, and hypotension, such as infections or sepsis. If CRS is suspected, it should be managed according to the CRS management recommendations based on American Society for Transplantation and Cellular Therapy (ASTCT) consensus grading in Table 4

Table 4 ASTCT CRS grading and CRS management guidance

Grade ¹	CRS management	For next scheduled Columvi infusion
Grade 1 Fever ≥ 38 °C	If CRS occurs during infusion: • Interrupt infusion and treat symptoms • Restart infusion at slower rate when symptoms resolve • If symptoms recur, discontinue current infusion If CRS occurs post-infusion: • Treat symptoms If CRS lasts more than 48 h after symptomatic management: • Consider corticosteroids³ • Consider tocilizumab⁴ For CRS with concurrent ICANS, refer to Table 5.	• Ensure symptoms are resolved for at least 72 hours prior to next infusion • Consider slower infusion rate²
Grade 2 Fever ≥ 38 °C and/or hypotension not requiring vasopressors and/or hypoxia requiring low-flow oxygen by nasal cannula or blow-by	If CRS occurs during infusion: • Discontinue current infusion and treat symptoms • Administer corticosteroids³ • Consider tocilizumab⁴ If CRS occurs post-infusion: • Treat symptoms • Administer corticosteroids³ • Consider tocilizumab⁴ For CRS with concurrent ICANS, refer to Table 5.	• Ensure symptoms are resolved for at least 72 hours prior to next infusion • Consider slower infusion rate² • Monitor patients post-infusion⁵
For Grade 2: Tocilizumab use Do not exceed 3 doses of tocilizumab in a period of 6 weeks. If no prior use of tocilizumab or if 1 dose of tocilizumab was used within the last 6 weeks: • Administer first dose of tocilizumab⁴ • If no improvement within 8 hours, administer second dose of tocilizumab⁴ • After 2 doses of tocilizumab, consider alternative anti-cytokine therapy and/or alternative immunosuppressant therapy If 2 doses of tocilizumab were used within the last 6 weeks: • Administer only one dose of tocilizumab⁴ • If no improvement within 8 hours, consider alternative anti-cytokine therapy and/or alternative immunosuppressant therapy		

Grade ¹	CRS management	For next scheduled Columvi infusion
Grade 3 Fever $\geq 38^{\circ}\text{C}$ and/or hypotension requiring a vasopressor (with or without vasopressin) and/or hypoxia requiring high-flow oxygen by nasal cannula, face mask, non-rebreather mask, or Venturi mask	If CRS occurs during infusion: - Discontinue current infusion and treat symptoms - Administer corticosteroids³ - Administer tocilizumab⁴ If CRS occurs post-infusion: - Treat symptoms - Administer corticosteroids³ - Administer tocilizumab⁴ For CRS with concurrent ICANS, refer to Table 5.	- Ensure symptoms are resolved for at least 72 hours prior to next infusion - Consider slower infusion rate² - Monitor patients post-infusion⁵ - If Grade ≥ 3 CRS recurs at subsequent infusion, stop infusion immediately and permanently discontinue Columvi
Grade 4 Fever $\geq 38^{\circ}\text{C}$ and/or hypotension requiring multiple vasopressors (excluding vasopressin) and/or hypoxia requiring oxygen by positive pressure (e.g., CPAP, BiPAP, intubation, and mechanical ventilation)	If CRS occurs during infusion or post-infusion: - Permanently discontinue Columvi and treat symptoms - Administer corticosteroids³ - Administer tocilizumab⁴ For CRS with concurrent ICANS, refer to Table 5.	
For Grade 3 and Grade 4: Tocilizumab use Do not exceed 3 doses of tocilizumab in a period of 6 weeks. If no prior use of tocilizumab or if 1 dose of tocilizumab was used within the last 6 weeks: - Administer first dose of tocilizumab⁴ - If no improvement within 8 hours or rapid progression of CRS, administer second dose of tocilizumab⁴ - After 2 doses of tocilizumab, consider alternative anti-cytokine therapy and/or alternative immunosuppressant therapy If 2 doses of tocilizumab were used within the last 6 weeks: - Administer only one dose of tocilizumab⁴ - If no improvement within 8 hours or rapid progression of CRS, consider alternative anti-cytokine therapy and/or alternative immunosuppressant therapy		

¹ ASTCT consensus grading criteria (Lee 2019).

² Duration of infusion may be extended up to 8 hours, as appropriate for that cycle (see Table 2).

³ Corticosteroids (e.g., 10 mg intravenous dexamethasone, 100 mg intravenous prednisolone, 1-2 mg/kg intravenous methylprednisolone per day, or equivalent).

⁴ Tocilizumab 8 mg/kg intravenously (not to exceed 800 mg), as administered in Study NP30179.

⁵ See section 2.6 for frequency and time to onset of Grade ≥ 2 CRS following Columvi 10 mg and 30 mg doses.

Management of immune effector cell-associated neurotoxicity syndrome (ICANS)

At the first sign of ICANS, based on the type and severity, consider supportive therapy, neurology evaluation, and withholding Columvi (see Table 5). Rule out other causes of neurologic symptoms. If ICANS is suspected, it should be managed according to the recommendations in Table 5.

Table 5 ICANS grading and management guidance

Grade ¹	Presenting symptoms ²	ICANS management	
		Concurrent CRS	No concurrent CRS
Grade 1	ICE ³ score 7-9 Or depressed level of consciousness ⁴ : awakens spontaneously	• Manage CRS per Table 4. • Monitor neurologic symptoms and consider neurology consultation and evaluation, per physician discretion.	• Monitor neurologic symptoms and consider neurology consultation and evaluation, per physician discretion.
		Withhold Columvi until ICANS resolves. Consider non-sedating, anti-seizure medicinal products (e.g., levetiracetam) for seizure prophylaxis.	
Grade 2	ICE ³ score 3-6 Or depressed level of consciousness ⁴ : awakens to voice	• Administer tocilizumab per Table 4 for management of CRS. • If no improvement after starting tocilizumab, administer dexamethasone⁵ 10 mg intravenously every 6 hours if not already taking other corticosteroids. Continue dexamethasone use until resolution to Grade 1 or less, then taper.	• Administer dexamethasone⁵ 10 mg intravenously every 6 hours. • Continue dexamethasone use until resolution to Grade 1 or less, then taper.
		Withhold Columvi until ICANS resolves. Consider non-sedating, anti-seizure medicinal products (e.g., levetiracetam) for seizure prophylaxis. Consider neurology consultation and other specialists for further evaluation, as needed.	
Grade 3	ICE ³ score 0-2 Or depressed level of consciousness ⁴ : awakens only to tactile stimulus; Or seizures ⁴ , either: • any clinical seizure, focal or generalised that resolves rapidly, or • non-convulsive seizures on electroencephalogram (EEG) that resolve with intervention;	• Administer tocilizumab per Table 4 for management of CRS. • In addition, administer dexamethasone⁵ 10 mg intravenously with the first dose of tocilizumab, and repeat dose every 6 hours, if not already taking other corticosteroids. Continue dexamethasone use until resolution to	• Administer dexamethasone⁵ 10 mg intravenously every 6 hours. • Continue dexamethasone use until resolution to Grade 1 or less, then taper.

Grade ¹	Presenting symptoms ²	ICANS management	
		Concurrent CRS	No concurrent CRS
	Or raised intracranial pressure: focal/local oedema on neuroimaging ⁴	Grade 1 or less, then taper.	
		Withhold Columvi until ICANS resolves. For Grade 3 ICANS events which do not improve within 7 days, consider permanently discontinuing Columvi. Consider non-sedating, anti-seizure medicinal products (e.g., levetiracetam) for seizure prophylaxis. Consider neurology consultation and other specialists for further evaluation, as needed.	
Grade 4	ICE³ score 0 Or depressed level of consciousness⁴, either: • patient is unarousable or requires vigorous or repetitive tactile stimuli to arouse, or • stupor or coma; Or seizures⁴, either: • life-threatening prolonged seizure (> 5 minutes), or • repetitive clinical or electrical seizures without return to baseline in between; Or motor findings⁴: • deep focal motor weakness such as hemiparesis or paraparesis; Or raised intracranial pressure/cerebral oedema⁴, with signs/symptoms, such as: • diffuse cerebral oedema on neuroimaging, or • decerebrate or decorticate posturing, or • cranial nerve VI palsy, or • papilloedema, or • Cushing's triad	• Administer tocilizumab per Table 4 for management of CRS. • As above, or consider administration of methylprednisolone 1 000 mg per day intravenously with first dose of tocilizumab, and continue methylprednisolone 1 000 mg per day intravenously for 2 or more days.	• Administer dexamethasone⁵ 10 mg intravenously every 6 hours. • Continue dexamethasone use until resolution to Grade 1 or less, then taper. • Alternatively, consider administration of methylprednisolone 1 000 mg per day intravenously for 3 days; if symptoms improve, then manage as above.
		Permanently discontinue Columvi. Consider non-sedating, anti-seizure medicinal products (e.g., levetiracetam) for seizure prophylaxis. Consider neurology consultation and other specialists for further evaluation, as needed. In case of raised intracranial pressure/cerebral oedema, refer to institutional guidelines for management.	

¹ ASTCT consensus grading criteria for ICANS (Lee 2019).

² Management is determined by the most severe event, not attributable to any other cause.

³ If patient is arousable and able to perform **Immune Effector Cell-Associated Encephalopathy (ICE) Assessment**, assess:

Orientation (oriented to year, month, city, hospital = 4 points);

Naming (name 3 objects, e.g., point to clock, pen, button = 3 points);

Following Commands (e.g., "show me 2 fingers" or "close your eyes and stick out your tongue" = 1 point);

Writing (ability to write a standard sentence = 1 point);

Attention (count backwards from 100 by ten = 1 point).

If patient is unarousable and unable to perform ICE Assessment (Grade 4 ICANS) = 0 points.

⁴ Attributable to no other cause.

⁵ All references to dexamethasone administration are dexamethasone or equivalent.

2.2.1 Special Populations

Elderly

No dose adjustment is required in patients 65 years of age and older (see section 3.2.5).

Hepatic impairment

No dose adjustment is required in patients with mild hepatic impairment (total bilirubin > upper limit of normal [ULN] to $\leq 1.5 \times$ ULN or aspartate transaminase [AST] > ULN). Columvi has not been studied in patients with moderate or severe hepatic impairment (see section 3.2.5).

Renal impairment

No dose adjustment is required in patients with mild or moderate renal impairment (CrCL 30 to < 90 mL/min). Columvi has not been studied in patients with severe renal impairment (see section 3.2.5).

Paediatric population

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

Method of administration

Columvi is for intravenous use only.

Columvi must be diluted by a healthcare professional using aseptic technique, prior to intravenous administration. It must be administered as an intravenous infusion through a dedicated infusion line.

Columvi must not be administered as an intravenous push or bolus.

For instructions on dilution of Columvi before administration, see section 4.3.

2.3 CONTRAINDICATIONS

Hypersensitivity to the active substance, to obinutuzumab, or to any of the excipients listed in section 4.1.

For specific contraindications on obinutuzumab, please refer to the obinutuzumab prescribing information.

2.4 WARNINGS AND PRECAUTIONS

2.4.1 General

Traceability

In order to improve the traceability of biological medicinal products, the name and the batch number of the administered product should be clearly recorded.

CD20-negative disease

There are limited data available on patients with CD20-negative DLBCL treated with Columvi and it is possible that patients with CD20-negative DLBCL may have less benefit compared to patients with CD20-positive DLBCL. The potential risks and benefits associated with treatment of patients with CD20-negative DLBCL with Columvi should be considered.

Cytokine release syndrome

CRS, including life-threatening reactions, has been reported in patients receiving Columvi (see section 2.6).

The most common manifestations of CRS were pyrexia, tachycardia, hypotension, chills and hypoxia. Infusion-related reactions may be clinically indistinguishable from manifestations of CRS.

Most CRS events occurred following the first dose of Columvi. Elevated liver function tests (AST and alanine transaminase [ALT] $> 3 \times \text{ULN}$ and/or total bilirubin $> 2 \times \text{ULN}$) concurrent with CRS have been reported after Columvi use (see section 2.6).

Patients in studies NP30179 and GO41944 (STARGLO) were pre-treated with obinutuzumab to lower the circulating and lymphoid B cells, 7 days prior to initiation of Columvi therapy. All patients should be premedicated with an anti-pyretic, antihistamine, and a glucocorticoid (see Table 1).

At least 1 dose of tocilizumab for use in the event of CRS must be available prior to Columvi infusion at Cycles 1 and 2. Access to an additional dose of tocilizumab within 8 hours of use of the previous tocilizumab dose must be ensured.

When Columvi is given as monotherapy, patients must be monitored during all Columvi infusions and for at least 10 hours after completion of the first infusion.

When Columvi is given in combination with gemcitabine and oxaliplatin, patients must be monitored during all Columvi infusions and for 4 hours after completion of the first infusion.

For complete information on monitoring, see section 2.2. Patients must be counselled to seek immediate medical attention should signs or symptoms of CRS occur at any time (see *Patient card* below).

Patients should be evaluated for other causes of fever, hypoxia and hypotension, such as infections or sepsis. CRS should be managed based on the patient's clinical presentation and according to the CRS management guidance provided in Table 4 (section 2.2).

Immune effector cell-associated neurotoxicity syndrome

Serious cases of immune effector cell-associated neurotoxicity syndrome (ICANS) which could be life-threatening or fatal have occurred following treatment with Columvi (see section 2.6).

The onset of ICANS can be concurrent with CRS, following resolution of CRS, or in the absence of CRS. Clinical signs and symptoms of ICANS may include but are not limited to confusion, depressed level of consciousness, disorientation, seizure, aphasia, and dysgraphia.

Patients should be monitored for signs and symptoms of ICANS following Columvi administration and treated promptly. Patients must be counselled to seek immediate medical attention should signs or symptoms occur at any time (see Patient card below).

At the first signs or symptoms of ICANS, manage according to the ICANS guidance provided in Table 5. Treatment with Columvi should be withheld or discontinued permanently as recommended.

Patient card

The prescriber must inform the patient of the risk of CRS and ICANS and the signs and symptoms of CRS and ICANS. Patients must be instructed to seek immediate medical attention if they experience signs and symptoms of CRS and ICANS. Patients should be provided with the patient card and instructed to carry the card at all times. This card describes symptoms of CRS and ICANS which, if experienced, should prompt the patient to seek immediate medical attention.

Interaction with CYP450 substrates

The initial release of cytokines associated with the start of Columvi treatment could suppress CYP450 enzymes and lead to fluctuations in concentrations of concomitantly administered drugs. On initiation of Columvi therapy, patients being treated with CYP450 substrates with a narrow therapeutic index should be monitored as fluctuations in the concentration of concomitant drugs may lead to toxicity, loss of effect or adverse events (see section 2.8).

Serious infections

Serious infections, including opportunistic infections, have occurred in patients treated with Columvi (see section 2.6).

Columvi must not be administered to patients with an active infection. Caution should be exercised when considering the use of Columvi in patients with a history of chronic or recurrent infection, those with underlying conditions that may predispose them to infections, or those who have had significant prior immunosuppressive treatment. Administer prophylactic antimicrobials, as appropriate. Patients should be monitored before and during Columvi treatment for the emergence of possible bacterial, fungal, and new or reactivated viral infections and treated appropriately.

Columvi should be temporarily withheld in the presence of an active infection until the infection has resolved. Patients should be instructed to seek medical advice if signs or symptoms suggestive of an infection occur.

Febrile neutropenia has been reported during treatment with Columvi. Patients with febrile neutropenia should be evaluated for infection and treated promptly.

Tumour flare

Tumour flare has been reported in patients receiving Columvi (see section 2.6). Manifestations included localised pain and swelling.

Consistent with the mechanism of action of Columvi, tumour flare is likely due to the influx of T cells into tumour sites following Columvi administration and may mimic progression of disease. Tumour flare does not imply treatment failure or represent tumour progression.

Specific risk factors for tumour flare have not been identified, however, there is a heightened risk of compromise and morbidity due to mass effect secondary to tumour flare in patients with bulky tumours located in close proximity to airways and/or a vital organ. Monitoring and evaluation for tumour flare at critical anatomical sites is recommended in patients treated with Columvi and managed as clinically indicated. Corticosteroids and analgesics should be considered to treat tumour flare.

Tumour lysis syndrome

Tumour lysis syndrome (TLS) has been reported in patients receiving Columvi (see section 2.6). Patients with high tumour burden, rapidly proliferative tumours, renal dysfunction or dehydration are at greater risk of tumour lysis syndrome.

Patients at risk should be monitored closely by appropriate laboratory and clinical tests for electrolyte status, hydration and renal function. Appropriate prophylactic measures with anti-hyperuricaemics (e.g., allopurinol or rasburicase) and adequate hydration should be considered prior to obinutuzumab pre-treatment and prior to Columvi infusion.

Management of TLS may include aggressive hydration, correction of electrolyte abnormalities, anti-hyperuricaemic therapy and supportive care.

Immunisation

The safety of immunisation with live vaccines during or following Columvi therapy has not been studied. Immunisation with live vaccines is not recommended during Columvi therapy.

Polysorbates

This medicinal product contains 1.25 mg of polysorbate 20 in each 2.5 mL vial and 5 mg of polysorbate 20 in each 10 mL vial, which is equivalent to 0.5 mg/mL.

Polysorbates may cause allergic reactions.

2.4.2 Ability to Drive and Use Machines

Columvi has major influence on the ability to drive and use machines.

Due to the potential for ICANS, patients receiving Columvi are at risk of depressed level of consciousness (see section 2.4). Patients should be instructed to avoid driving or operating machines for 48 hours after each of the first two doses during the step-up dosing and in the event of new onset of any symptoms of ICANS (confusion, disorientation, depressed level of consciousness) and/or CRS (pyrexia, tachycardia, hypotension, chills, hypoxia) until symptoms resolve (see sections 2.4 and 2.6).

2.5 USE IN SPECIAL POPULATIONS

2.5.1 Woman of childbearing potential/Contraception

Female patients of childbearing potential must use highly effective contraceptive methods during treatment with Columvi and for at least 2 months following the last dose of Columvi.

2.5.2 Pregnancy

There are no data on the use of Columvi in pregnant women. No reproductive toxicity studies have been performed in animals (see section 3.3.3).

Glofitamab is an immunoglobulin G (IgG). IgG is known to cross the placenta. Based on its mechanism of action, glofitamab is likely to cause foetal B-cell depletion when administered to a pregnant woman.

Columvi is not recommended during pregnancy and in women of childbearing potential not using contraception. Female patients receiving Columvi should be advised of the potential harm to the foetus. Female patients should be advised to contact the treating physician, should pregnancy occur.

2.5.3 Breast-feeding

It is not known whether glofitamab is excreted in human milk. No studies have been conducted to assess the impact of glofitamab on milk production or its presence in breast milk. Human IgG is known to be present in human milk. The potential for absorption of glofitamab and the potential for adverse reactions in the breast-feeding child is unknown. Women should be advised to discontinue breast-feeding during treatment with Columvi and for 2 months after the final dose of Columvi.

2.5.4 Fertility

No human data on fertility are available. No fertility assessments in animals have been performed to evaluate the effect of glofitamab on fertility (see section 3.3)

2.6 UNDESIRABLE EFFECTS

2.6.1 Clinical Trials

Summary of the safety profile

Columvi monotherapy

The most common adverse reactions ($\geq 20\%$) were cytokine release syndrome, neutropenia, anaemia, thrombocytopenia, and rash.

The most common serious adverse reactions reported in $\geq 2\%$ of patients were cytokine release syndrome (22.1%), sepsis (4.1%), COVID-19 (3.4%), tumour flare (3.4%), COVID-19 pneumonia (2.8%), febrile neutropenia (2.1%), neutropenia (2.1%), and pleural effusion (2.1%).

Permanent discontinuation of Columvi due to an adverse reaction occurred in 5.5% of patients. The most common adverse reactions leading to permanent discontinuation of Columvi were COVID-19 (1.4%) and neutropenia (1.4%).

Columvi in combination with gemcitabine and oxaliplatin

The most common adverse reactions ($\geq 20\%$) were thrombocytopenia, cytokine release syndrome, neutropenia, anaemia, nausea, peripheral neuropathy, diarrhoea, aspartate aminotransferase increased, alanine aminotransferase increased, rash, lymphopenia, pyrexia, and vomiting.

The most common serious adverse reactions reported in $\geq 2\%$ of patients were cytokine release syndrome (20.3%), pyrexia (6.4%), pneumonia (5.8%), COVID-19 (5.8%), thrombocytopenia (4.7%), respiratory tract infection (3.5%), sepsis (2.3%), febrile neutropenia (2.3%), and diarrhoea (2.3%).

Permanent discontinuation of Columvi due to an adverse reaction occurred in 20.9% of patients. The most common adverse reactions leading to permanent discontinuation of Columvi were COVID-19 (11.6%), sepsis (1.2%), and pneumonitis (1.2%).

Tabulated list of adverse reactions

Adverse reactions occurring in relapsed or refractory DLBCL patients treated with Columvi monotherapy (n=145) in study NP30179 are listed in Table 6. Patients received a median of 5 cycles of Columvi treatment (range: 1 to 13 cycles).

Adverse reactions occurring in relapsed or refractory DLBCL patients treated with Columvi in combination with gemcitabine and oxaliplatin (n=172) in study GO41944 (STARGLO) are listed in Table 7. Patients received a median of 11 cycles of Columvi treatment (range: 1 to 13 cycles).

The adverse reactions are listed by MedDRA system organ class and categories of frequency. The following categories of frequency have been used: 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 ($< 1/10\ 000$). Within each frequency grouping, adverse reactions are presented in the order of decreasing seriousness.

Table 6 **Adverse reactions reported in patients with relapsed or refractory DLBCL treated with Columvi monotherapy**

System organ class	Adverse reaction	All grades	Grade 3-4
Infections and infestations	Viral infections ¹	Very common	Common*
	Bacterial infections ²	Common	Common
	Upper respiratory tract infections ³	Common	Very rare**
	Sepsis ⁴	Common	Common*
	Lower respiratory tract infections ⁵	Common	Very rare**
	Pneumonia	Common	Uncommon
	Urinary tract infection ⁶	Common	Uncommon
	Fungal infections ⁷	Common	Very rare**

System organ class	Adverse reaction	All grades	Grade 3-4
Neoplasms benign, malignant and unspecified (incl cysts and polyps)	Tumour flare	Very common	Common
Blood and lymphatic system disorders	Neutropenia	Very common	Very Common
	Anaemia	Very common	Common
	Thrombocytopenia	Very common	Common
	Lymphopenia	Common	Common
	Febrile neutropenia ⁸	Common	Common
Immune system disorders	Cytokine release syndrome ⁹	Very common	Common
Metabolism and nutrition disorders	Hypophosphataemia	Very common	Common
	Hypomagnesaemia	Very common	Very rare**
	Hypocalcaemia	Very common	Very rare**
	Hypokalaemia	Very common	Uncommon
	Hyponatraemia	Common	Common
	Tumour lysis syndrome	Common	Common
Psychiatric disorders	Confusional state	Common	Very rare**
Nervous system disorders	Headache	Very common	Very rare**
	Immune effector cell-associated neurotoxicity syndrome ¹⁰	Common	Uncommon*
	Somnolence	Common	Uncommon
	Tremor	Common	Very rare**
	Myelitis ¹¹	Uncommon	Uncommon
Gastrointestinal disorders	Constipation	Very common	Very rare**
	Diarrhoea	Very common	Very rare**
	Nausea	Very common	Very rare**
	Gastrointestinal haemorrhage ¹²	Common	Common
	Vomiting	Common	Very rare**
	Colitis	Uncommon	Uncommon
Skin and subcutaneous tissue disorders	Rash ¹³	Very common	Common
General disorders and administration site conditions	Pyrexia	Very common	Very rare**
Investigations	Alanine aminotransferase increased	Common	Common
	Aspartate aminotransferase increased	Common	Common
	Blood alkaline phosphatase increased	Common	Common
	Gamma-glutamyltransferase increased	Common	Common
	Blood bilirubin increased	Common	Uncommon
	Hepatic enzyme increased	Common	Common

* Grade 5 reactions reported. See *Description of selected adverse reactions*.

** No Grade 3-4 events were reported.

¹ Includes COVID-19, COVID-19 pneumonia, herpes zoster, influenza, and ophthalmic herpes zoster.

² Includes vascular device infection, bacterial infection, Campylobacter infection, biliary tract infection bacterial, urinary tract infection bacterial, *Clostridium difficile* infection, Escherichia infection, and peritonitis.

³ Includes upper respiratory tract infection, sinusitis, nasopharyngitis, chronic sinusitis, and rhinitis.

⁴ Includes sepsis and septic shock.

⁵ Includes lower respiratory tract infection and bronchitis.

⁶ Includes urinary tract infection and Escherichia urinary tract infection.

⁷ Includes oesophageal candidiasis and oral candidiasis.

⁸ Includes febrile neutropenia and neutropenic infection.

⁹ Based on ASTCT consensus grading (Lee 2019).

¹⁰ ICANS based on Lee 2019 and includes somnolence, cognitive disorder, confusional state, delirium, and disorientation.

¹¹ Myelitis occurred concurrently with CRS.

¹² Includes gastrointestinal haemorrhage, large intestinal haemorrhage, and gastric haemorrhage.

¹³ Includes rash, rash pruritic, rash maculo-papular, dermatitis, dermatitis acneiform, dermatitis exfoliative, erythema, palmar erythema, pruritis, and rash erythematous.

Table 7 Adverse reactions reported in patients with relapsed or refractory DLBCL treated with Columvi in combination with gemcitabine and oxaliplatin

System organ class	Adverse reaction	All grades	Grade 3–4
Infections and infestations	COVID-19 ¹	Very common	Common*
	Respiratory tract infections ²	Very common	Common*
	Pneumonia ³	Very common	Common*
	Cytomegalovirus infections ⁴	Common	Uncommon
	Herpes viral infections ⁵	Common	Uncommon
	Urinary tract infection ⁶	Common	Common
	Sepsis ⁷	Common	Common*
	Candida infections ⁸	Common	Very rare**
	Pneumocystis jirovecii pneumonia	Uncommon	Uncommon
Neoplasms benign, malignant and unspecified (incl cysts and polyps)	Tumour flare ⁹	Common	Very rare**
Blood and lymphatic system disorders	Thrombocytopenia	Very common	Very common
	Neutropenia	Very common	Very common
	Anaemia	Very common	Very common
	Lymphopenia	Very common	Very common
	Febrile neutropenia	Common	Common
Immune system disorders	Cytokine release syndrome ¹⁰	Very common	Common
Metabolism and nutrition disorders	Hypokalaemia	Very common	Common
	Hyponatraemia	Very common	Uncommon
	Hypomagnesaemia	Common	Very rare**
	Hypocalcaemia	Common	Uncommon
	Hypophosphataemia	Common	Common
	Tumour lysis syndrome	Common	Common
Nervous system disorders	Peripheral neuropathy ¹¹	Very common	Common
	Immune effector cell-associated neurotoxicity syndrome ¹²	Common	Uncommon
	Headache	Common	Very rare**
	Tremor	Uncommon	Very rare**
Respiratory, thoracic and mediastinal disorders	Pneumonitis	Common	Very rare*,**

System organ class	Adverse reaction	All grades	Grade 3–4
Gastrointestinal disorders	Nausea	Very common	Uncommon
	Diarrhoea	Very common	Common
	Vomiting	Very common	Uncommon
	Abdominal pain ¹³	Very common	Common
	Constipation	Very common	Very rare**
	Colitis ¹⁴	Common	Common
	Pancreatitis ¹⁵	Common	Common
Skin and subcutaneous tissue disorders	Rash ¹⁶	Very common	Uncommon
Musculoskeletal and connective tissue disorders	Musculoskeletal pain ¹⁷	Very common	Common
General disorders and administration site conditions	Pyrexia	Very common	Uncommon
Investigations	Aspartate aminotransferase increased	Very common	Common
	Alanine aminotransferase increased	Very common	Common
	Blood alkaline phosphatase increased	Very common	Uncommon
	Gamma-glutamyltransferase increased	Very common	Common
	Blood lactate dehydrogenase increased	Very common	Very rare**
	Blood bilirubin increased ¹⁸	Common	Very rare**
	Hepatic enzyme increased	Uncommon	Very rare**

* Grade 5 reactions reported. See *Description of selected adverse reactions*.

** No Grade 3–4 events were reported.

¹ Includes COVID-19, COVID-19 pneumonia, and SARS-CoV-2 test positive.

² Includes upper respiratory tract infection, lower respiratory tract infection, respiratory tract infection, and respiratory tract infection bacterial.

³ Includes pneumonia, pneumonia bacterial, and pneumonia pneumococcal.

⁴ New onset or reactivation. Includes cytomegalovirus infection, cytomegalovirus test positive, cytomegalovirus infection reactivation and cytomegalovirus viraemia.

⁵ New onset or reactivation. Includes herpes zoster and herpes virus infection.

⁶ Includes urinary tract infection and urosepsis.

⁷ Includes sepsis, streptococcal sepsis, septic shock, and enterococcal sepsis.

⁸ Includes oral candidiasis and candida infection.

⁹ Includes tumour flare and tumour pain.

¹⁰ Based on ASTCT consensus grading (Lee 2019).

¹¹ Includes neuropathy peripheral, peripheral sensory neuropathy, dysaesthesia, paraesthesia, hypoaesthesia, peripheral motor neuropathy, and polyneuropathy.

¹² Includes confusional state, delirium, and ICANS.

¹³ Includes abdominal pain, abdominal discomfort, abdominal pain upper, abdominal pain lower, and gastrointestinal pain.

¹⁴ Includes colitis, colitis ischaemic, and enterocolitis.

¹⁵ Includes pancreatitis and pancreatitis acute.

¹⁶ Includes rash, rash pruritic, rash maculo-papular, erythema, pruritus, rash erythematous, urticaria, and erythema multiforme.

¹⁷ Includes arthralgia, musculoskeletal pain, back pain, bone pain, myalgia, neck pain, pain in extremity, musculoskeletal chest pain, and non-cardiac chest pain.

¹⁸ Includes blood bilirubin increased and hyperbilirubinaemia.

Description of selected adverse reactions

The descriptions below reflect information for significant adverse reactions for Columvi monotherapy and/or combination therapy. Details for the significant adverse reactions for

Columvi when given in combination are presented separately if clinically relevant differences were noted in comparison to Columvi monotherapy.

Cytokine release syndrome

Columvi monotherapy

Any grade CRS (by ASTCT criteria) occurred in 67.6% of patients who received Columvi monotherapy, with Grade 1 CRS reported in 50.3% of patients, Grade 2 CRS in 13.1% of patients, Grade 3 CRS in 2.8% of patients and Grade 4 CRS in 1.4% of patients. CRS occurred more than once in 32.4% (47/145) of patients; 36/47 patients experienced multiple Grade 1 CRS events only. There were no fatal cases of CRS. CRS resolved in all patients except one. One patient discontinued treatment due to CRS.

In patients with CRS, the most common manifestations of CRS included pyrexia (99.0%), tachycardia (25.5%), hypotension (23.5%), chills (14.3%) and hypoxia (12.2%). Grade 3 or higher events associated with CRS included hypotension (3.1%), hypoxia (3.1%), pyrexia (2.0%) and tachycardia (2.0%).

CRS of any grade occurred in 54.5% of patients following the first 2.5 mg dose of Columvi at Cycle 1 Day 8 with median time to onset (from start of infusion) of 12.6 hours (range: 5.2 to 50.8 hours) and median duration of 31.8 hours (range: 0.5 to 316.7 hours); in 33.3% of patients following the 10 mg dose at Cycle 1 Day 15 with median time to onset of 26.8 hours (range: 6.7 to 125.0 hours) and median duration of 16.5 hours (range: 0.3 to 109.2 hours); and in 26.8% of patients following the 30 mg dose at Cycle 2 with median time to onset of 28.2 hours (range: 15.0 to 44.2 hours) and median duration of 18.9 hours (range: 1.0 to 180.5 hours). CRS was reported in 0.9% of patients at Cycle 3 and in 2% of patients beyond Cycle 3.

Grade ≥ 2 CRS occurred in 12.4% of patients following the first Columvi dose (2.5 mg) with median time to onset of 9.7 hours (range: 5.2 to 19.1 hours) and median duration of 50.4 hours (range: 6.5 to 316.7 hours). Following Columvi 10 mg dose at Cycle 1 Day 15, the incidence of Grade ≥ 2 CRS decreased to 5.2% of patients with median time to onset of 26.2 hours (range: 6.7 to 144.2 hours) and median duration of 30.9 hours (range: 3.7 to 227.2 hours). Grade ≥ 2 CRS following Columvi 30 mg dose at Cycle 2 Day 1 occurred in one patient (0.8%) with time to onset of 15.0 hours and duration of 44.8 hours. No Grade ≥ 2 CRS was reported beyond Cycle 2.

In 145 patients, 7 patients (4.8%) experienced elevated liver function tests (AST and ALT $> 3 \times$ ULN and/or total bilirubin $> 2 \times$ ULN) reported concurrently with CRS (n=6) or with disease progression (n=1).

Among the 25 patients who experienced Grade ≥ 2 CRS after Columvi, 22 (88.0%) received tocilizumab, 15 (60.0%) received corticosteroids and 14 (56.0%) received both tocilizumab and corticosteroids. Ten patients (40.0%) received oxygen. All 6 patients (24.0%) with Grade 3 or 4 CRS received a single vasopressor.

Hospitalisations due to patients experiencing CRS following Columvi administration occurred in 22.1% of patients and the reported median duration of hospitalisation was 4 days (range: 2 to 15 days).

Columvi in combination with gemcitabine and oxaliplatin

Any grade CRS (by ASTCT criteria) occurred in 44.2% of patients who received Columvi with gemcitabine and oxaliplatin, with Grade 1 CRS reported in 31.4% of patients, Grade 2 CRS in 10.5% of patients, and Grade 3 CRS in 2.3% of patients. CRS occurred more than once in 21.5% (37/172) of patients; 30/37 patients experienced multiple Grade 1 CRS events only. There were no Grade 4 or fatal cases of CRS. CRS resolved in all patients except one. One patient discontinued treatment due to CRS.

In patients with CRS, the most common manifestations of CRS included pyrexia (98.7%), hypotension (22.4%), chills (17.1%) and hypoxia (14.5%). Grade 3 or higher events associated with CRS included hypotension (6.6%), hypoxia (5.3%), pyrexia (3.9%), chills (1.3%) and diarrhoea (1.3%).

CRS of any grade occurred in 34.9% of patients following the first 2.5 mg dose of Columvi at Cycle 1 Day 8 with median time to onset (from start of infusion) of 12.6 hours (range: 4.4 to 54.7 hours) and median duration of 19.8 hours (range: 2.0 to 168.0 hours); in 14.4% of patients following the 10 mg dose at Cycle 1 Day 15 with median time to onset of 22.8 hours (range: 7.4 to 81.2 hours) and median duration of 10.6 hours (range: 1.0 to 248.5 hours); and in 9.3% of patients following the 30 mg dose at Cycle 2 with median time to onset of 23.5 hours (range: 14.7 to 33.4 hours) and median duration of 18.4 hours (range: 8.3 to 137.0 hours). CRS was reported in 6.7% of patients at Cycle 3 and in 11.0% of patients beyond Cycle 3.

Grade ≥ 2 CRS occurred in 10.5% of patients following the first Columvi dose (2.5 mg) with median time to onset of 12.0 hours (range: 4.4 to 30.5 hours) and median duration of 42.3 hours (range: 3.5 to 143.7 hours). The majority (14/18) of patients who experienced Grade ≥ 2 CRS had onset of CRS within 8 hours of the start of the first Columvi dose (2.5 mg) or presented with a fever ≥ 1.5 hours before the onset of other symptoms of a Grade ≥ 2 CRS. Following Columvi 10 mg dose at Cycle 1 Day 15, the incidence of Grade ≥ 2 CRS decreased to 1.8% of patients with median time to onset of 22.3 hours (range: 7.4 to 22.8 hours) and median duration of 37.0 hours (range: 34.8 to 248.5 hours). There were no Grade ≥ 2 CRS events following Columvi 30 mg dose at Cycle 2 Day 1. Three patients (2.0%) had Grade ≥ 2 CRS beyond Cycle 2 (all Grade 2 events).

Of the 172 patients, 2 patients (1.2%) experienced elevated liver function tests (AST and ALT $> 3 \times$ ULN) reported concurrently with CRS.

Out of the 76 patients with any grade CRS, 28 patients (36.8%) were treated with tocilizumab, 39 patients (51.3%) were treated with corticosteroids, and 18 patients (23.7%) received both tocilizumab and corticosteroids.

Among the 22 patients who experienced Grade ≥ 2 CRS after Columvi, 16 (72.7%) received tocilizumab, 15 (68.2%) received corticosteroids, and 12 (54.5%) received both tocilizumab and corticosteroids. Eleven patients (50.0%) received oxygen. All 4 patients (18.2%) with Grade 3 CRS received a single vasopressor.

Hospitalisations due to patients experiencing CRS following Columvi administration occurred in 19.8% of patients and the reported median duration of hospitalisation was 5 days (range: 2 to 85 days).

Immune effector cell-associated neurotoxicity syndrome

ICANS, including Grade 3 and higher, was reported in clinical trials and with post-marketing experience. The most frequent clinical manifestations of ICANS were confusion, depressed level of consciousness, disorientation, seizure, aphasia, and dysgraphia. Based on the available data, the onset of neurologic toxicity was concurrent with CRS in the majority of cases.

The observed time to onset of the majority of ICANS was 1-7 days with median of 2 days after the most recent dose. Only few events were reported to have occurred more than one month after the initiation of Columvi.

Serious infections

Serious infections were reported in 15.9% of patients who received Columvi monotherapy. The most frequent serious infections reported in $\geq 2\%$ of patients were sepsis (4.1%), COVID-19 (3.4%), and COVID-19 pneumonia (2.8%). Infection-related deaths were reported in 4.8% of patients (due to sepsis, COVID-19 pneumonia and COVID-19). Four patients (2.8%) experienced serious infections concurrently with Grade 3 or 4 neutropenia.

Serious infections were reported in 22.7% of patients who received Columvi with gemcitabine and oxaliplatin. The most frequent serious infections reported in $\geq 2\%$ of patients were pneumonia (5.8%), COVID-19 (4.7%), and lower respiratory tract infection (2.9%). Infection-related deaths were reported in 3.5% of patients (due to COVID-19, pneumonia, respiratory tract infection, and septic shock). One patient (0.6%) experienced a serious infection (pneumonia) concurrently with Grade 3 neutropenia.

Pneumonitis

Pneumonitis events (excluding pneumonia of infectious aetiology) were reported in 2 patients (1.2%) who received Columvi with gemcitabine and oxaliplatin, both of which were fatal events. The median time to onset of pneumonitis from the first Columvi dose was 168 days (range: 102 to 255 days).

Colitis

Colitis (Grade 4) was reported in 1 patient (0.7%) who received Columvi monotherapy, with time to onset from the first Columvi dose of 104 days.

Colitis events (excluding infectious aetiology) were reported in 4/172 patients (2.3%) who received Columvi with gemcitabine and oxaliplatin. Two patients (1.2%) had Grade 3 events. The median time to onset of colitis from the first Columvi dose was 154 days (range: 115 to 187 days).

Opportunistic infections

CMV events were reported in 6/467 patients (1.3%) who received Columvi monotherapy, with 1 patient (0.2%) experiencing Grade 3 CMV chorioretinitis. Pneumocystis jirovecii pneumonia was reported in 4/467 patients (0.9%), 3 of whom (0.6%) had Grade 3 events.

CMV events were reported in 11 patients (6.4%) who received Columvi with gemcitabine and oxaliplatin, with 1 patient (0.6%) experiencing Grade 3 CMV viraemia. Oral candidiasis was reported in 3 patients (1.7%) all of which were Grade 1-2 events. Pneumocystis jirovecii pneumonia (Grade 3) was reported in 1 patient (0.6%), the same patient with Grade 3 CMV viraemia. Borellia meningitis (Grade 2) was reported in 1 patient (0.6%).

Neutropenia

Neutropenia (including neutrophil count decreased) was reported in 40.0% of patients and severe neutropenia (Grade 3 or 4) was reported in 29.0% of patients who received Columvi monotherapy. The median time to onset of the first neutropenia event was 29 days (range: 1 to 203 days). Prolonged neutropenia (lasting longer than 30 days) occurred in 11.7% of patients. The majority of patients with neutropenia (79.3%) were treated with G-CSF. Febrile neutropenia was reported in 3.4% of patients.

Tumour flare

Tumour flare was reported in 11.7% of patients who received Columvi monotherapy, including Grade 2 tumour flare in 4.8% of patients and Grade 3 tumour flare in 2.8% of patients. Tumour flare was reported involving lymph nodes in the head and neck presenting with pain and involving lymph nodes in the thorax with symptoms of breathlessness due to development of pleural effusion. Most tumour flare events (16/17) occurred during Cycle 1, and no tumour flare events were reported beyond Cycle 2. The median time to onset of tumour flare of any grade was 2 days (range: 1 to 16 days), and the median duration was 3.5 days (range: 1 to 35 days).

Among the 11 patients who experienced Grade ≥ 2 tumour flare, 2 patients (18.2%) received analgesics, 6 patients (54.5%) received corticosteroids and analgesics including morphine derivatives, 1 patient (9.1%) received corticosteroids and anti-emetics, and 2 patients (18.2%) did not require treatment. All tumour flare events resolved except in one patient with a Grade ≥ 2 event. No patients discontinued treatment due to tumour flare.

Tumour lysis syndrome

TLS was reported in 2 patients (1.4%) who received Columvi monotherapy and was Grade 3 in severity in both cases. The median time to onset of TLS onset was 2 days, and the median duration was 4 days (range: 3 to 5 days).

2.6.2 Post-Marketing Experience

Not applicable.

2.7 OVERDOSE

There is no experience with overdose in clinical trials. In case of overdose, patients should be closely monitored for signs or symptoms of adverse reactions, and appropriate symptomatic treatment instituted.

2.8 INTERACTIONS WITH OTHER MEDICINAL PRODUCTS AND OTHER FORMS OF INTERACTION

No interaction studies have been performed. No interactions with Columvi are expected via the cytochrome P450 enzymes, other metabolising enzymes or transporters.

The initial release of cytokines associated with the start of Columvi treatment could suppress CYP450 enzymes. The highest drug-drug interaction risk is during the period of one week following each of the first 2 doses of Columvi (i.e., Cycle 1 Day 8 and 15) in patients who are receiving concomitant CYP450 substrates with a narrow therapeutic index (e.g., warfarin, cyclosporine). On initiation of Columvi therapy, patients being treated with CYP450 substrates with a narrow therapeutic index should be monitored.

The pharmacokinetics (PK) of glofitamab are not affected by co-administration with gemcitabine or oxaliplatin.

3. PHARMACOLOGICAL PROPERTIES AND EFFECTS

3.1 PHARMACODYNAMIC PROPERTIES

3.1.1 Mechanism of Action

Glofitamab is a bispecific monoclonal antibody that binds bivalently to CD20 expressed on the surface of B cells and monovalently to CD3 in the T-cell receptor complex expressed on the surface of T cells. By simultaneous binding to CD20 on the B cell and CD3 on the T cell, glofitamab mediates the formation of an immunological synapse with subsequent T-cell activation and proliferation, secretion of cytokines and release of cytolytic proteins that results in the lysis of CD20-expressing B cells.

Pharmacodynamics

In study NP30179, 84% (84/100) of patients were already B cell depleted (< 70 cells/ μ L) before pre-treatment with obinutuzumab. The proportion of patients with B-cell depletion increased to 100% (94/94) after obinutuzumab pre-treatment prior to Columvi treatment initiation, and B-cell counts remained low during Columvi treatment.

During Cycle 1 (step-up dosing), transient increases in plasma IL-6 levels were observed at 6 hours post Columvi infusion, which remained elevated at 20 hours post-infusion and returned to baseline prior to the next infusion.

In study GO41944 (STARGLO), 63.9% (115/180) of patients were already B-cell depleted (< 70 cells/ μ L) before pre-treatment with obinutuzumab. The proportion of patients with B-cell depletion increased to 79.4% (143/180) after obinutuzumab pre-treatment prior to Columvi treatment initiation, and B-cell counts remained low during Columvi treatment.

Cardiac electrophysiology

In study NP30179, 16/145 patients who were exposed to Columvi experienced a post-baseline QTc value > 450ms. One of these cases was assessed to be of clinical significance by the investigator. No patients discontinued treatment due to QTc prolongation.

In study GO41944 (STARGLO), 16/172 patients who were exposed to Columvi experienced a post-baseline QTc value > 450 ms. No patients discontinued treatment due to QTc prolongation.

3.1.2 Clinical / Efficacy Studies

Relapsed or refractory DLBCL

Columvi monotherapy

An open-label multicentre, multi-cohort trial (NP30179) was conducted to evaluate Columvi in patients with relapsed or refractory B-cell non-Hodgkin's lymphoma. In the single-arm monotherapy DLBCL cohort (n=108), patients with relapsed or refractory DLBCL were required to have received at least two prior lines of systemic therapy, including an anti-CD20 monoclonal antibody and an anthracycline agent. Patients with FL3b and Richter transformation were not eligible. Patients were expected to present CD20-positive DLBCL, but biomarker eligibility was not a requirement for inclusion (see section 2.4).

The study excluded patients with ECOG performance status ≥ 2 , significant cardiovascular disease (such as New York Heart Association Class III or IV cardiac disease, myocardial infarction within the last 6 months, unstable arrhythmias, or unstable angina), significant active pulmonary disease, impaired renal functions (CrCL < 50 mL/min with elevated serum creatinine level), active autoimmune disease requiring immunosuppressive therapy, active infections (i.e., chronic active EBV, acute or chronic hepatitis C, hepatitis B, HIV), progressive multifocal leukoencephalopathy, current or a history of CNS lymphoma or CNS disease, a history of macrophage activation syndrome / hemophagocytic lymphohistiocytosis, prior allogeneic stem cell transplant, prior organ transplantation, or hepatic transaminases $\geq 3 \times$ ULN.

All patients received pre-treatment with obinutuzumab at Cycle 1 Day 1. Patients received 2.5 mg of Columvi at Cycle 1 Day 8, 10 mg of Columvi at Cycle 1 Day 15, and 30 mg of Columvi at Cycle 2 Day 1 as per the step-up dosing schedule. Patients continued to receive 30 mg of Columvi on Day 1 of Cycles 3 to 12. The duration of each cycle was 21 days. Patients received a median of 5 cycles of Columvi treatment (range: 1 to 13 cycles); 34.7% received 8 or more cycles and 25.7% received 12 cycles of Columvi treatment.

The baseline demographic and disease characteristics were: median age 66 years (range: 21 to 90 years) with 53.7% aged 65 years or older and 15.7% aged 75 years or older; 69.4% males; 74.1% white, 5.6% Asian and 0.9% Black or African American; 5.6% Hispanic or Latino; and ECOG performance status of 0 (46.3%) or 1 (52.8%). Most patients (71.3%) had DLBCL not otherwise specified, 7.4% had DLBCL transformed from follicular lymphoma, 8.3% had high-grade B-cell lymphoma (HGBCL) or another histology transformed from follicular lymphoma, 7.4% had HGBCL, and 5.6% had primary mediastinal large B-cell lymphoma (PMBCL). The median number of prior lines of therapy was 3 (range: 2 to 7); 39.8% of patients received 2 prior lines and 60.2% received 3 or more prior lines of therapy. All patients had received prior chemotherapy (all patients received alkylator therapy and 98.1% of patients received anthracycline therapy) and all patients had received prior anti-CD20 monoclonal antibody therapy; 35.2% of patients had received prior CAR T-cell therapy, and 16.7% of patients had received autologous stem cell transplant. Most patients (89.8%) had refractory disease, 60.2% of patients had primary refractory disease and 83.3% of patients were refractory to their last prior therapy.

The primary efficacy outcome measure was complete response (CR) rate as assessed by an independent review committee (IRC) using 2014 Lugano criteria. The overall median duration of follow-up was 15 months (range: 0 to 21 months). The secondary efficacy outcome measures included overall response rate (ORR), duration of response (DOR), duration of complete response (DOCR), and time to first complete response (TFCR) as assessed by IRC.

Efficacy results are summarised in Table 8.

Table 8 Summary of efficacy in patients with relapsed or refractory DLBCL

Efficacy endpoints	Columvi N=108
Complete response	
Patients with CR, n (%)	38 (35.2)
95% CI	[26.24, 44.96]
Overall response rate	
Patients with CR or PR, n (%)	54 (50.0)
95% CI	[40.22, 59.78]
Duration of complete response¹	
Median DOCR, months [95% CI]	NE [18.4, NE]
Range, months	0 ² –20 ²
12-month DOCR, % [95% CI] ³	74.6 [59.19, 89.93]
Duration of response⁴	
Median duration, months [95% CI]	14.4 [8.6, NE]
Range, months	0 ² –20 ²
Time to first complete response	
Median TFCR, days [95% CI]	42 [41, 47]
Range, days	31–308

CI=confidence interval; NE=not estimable; PR=partial response.

Hypothesis testing was conducted on the primary endpoint of IRC-assessed CR rate.

¹ DOCR is defined as the date of first complete response until disease progression or death due to any cause.

² Censored observations.

³ Event-free rates based on Kaplan-Meier estimates.

⁴ DOR is defined as the date of first response (PR or CR) until disease progression or death due to any cause.

The median follow-up for DOR was 12.8 months (range: 0 to 20 months).

Columvi in combination with gemcitabine and oxaliplatin

The efficacy of Columvi in combination with gemcitabine and oxaliplatin (Columvi+GemOx) was evaluated in study GO41944 (STARGLO), an open-label multicentre, randomised clinical trial in 274 patients with relapsed or refractory DLBCL not otherwise specified (DLBCL NOS).

The study included patients with DLBCL NOS who received only one prior line of therapy who were not candidates for autologous stem cell transplant (ASCT), or who had received ≥ 2 prior therapies. Patients were required to have ECOG performance status ≤ 2 , CrCL ≥ 30 mL/min, hepatic transaminases $\leq 2.5 \times$ ULN, no significant cardiovascular disease (such as New York Heart Association Class III or IV cardiac disease, myocardial infarction within the last 3 months, unstable arrhythmias, or unstable angina) and no current or prior CNS lymphoma or CNS disease, no active autoimmune disease requiring immunosuppressive therapy, no active infections (i.e., chronic active EBV, active hepatitis B, hepatitis C), and no history of any of the following: HIV, progressive multifocal leukoencephalopathy, hemophagocytic lymphohistiocytosis, prior allogeneic stem cell transplant, or prior organ transplantation. Patients with HGBCL, PMBCL, or history of transformation of indolent disease to DLBCL were excluded.

Patients who received only one prior line of therapy were not considered candidates for transplant if they met at least one of the following criteria: age ≥ 70 years, ECOG performance status 2, left ventricular ejection fraction $\leq 40\%$, insufficient response to salvage therapy prior to ASCT, CrCL ≤ 45 mL/min, other comorbidities or criteria that preclude use of transplant based on local practice standards or in the investigator's opinion, or patient refusal of high-dose chemotherapy and/or transplant.

Patients were randomised 2:1 to receive Columvi+GemOx (N=183) or rituximab in combination with gemcitabine plus oxaliplatin (R-GemOx; N=91) for 8 cycles, followed by 4 additional cycles of Columvi monotherapy for patients in the Columvi+GemOx arm. Randomisation was stratified

by number of previous lines of systemic therapy for DLBCL (1 vs. ≥ 2) and outcome of last systemic therapy (relapsed vs. refractory).

In the Columvi+GemOx arm, patients received pre-treatment with obinutuzumab at Cycle 1 Day 1 followed by 2.5 mg of Columvi at Cycle 1 Day 8, 10 mg of Columvi at Cycle 1 Day 15, and 30 mg of Columvi at Cycle 2 Day 1 as per the step-up dosing schedule. Patients continued to receive 30 mg of Columvi on Day 1 of Cycles 3 to 12. Gemcitabine (1000 mg/m²) and oxaliplatin (100 mg/m²) were administered intravenously on Day 2 of Cycle 1 and then on Day 1 of subsequent cycles, up to Cycle 8. The duration of each cycle was 21 days in both arms. Patients received a median of 11 cycles of Columvi treatment (range: 1 to 13 cycles); 64.5% received 8 or more cycles and 44.8% received 12 cycles of Columvi treatment.

The baseline demographic and disease characteristics were: median age 68 years (range: 20 to 88 years) with 62.8% aged 65 years or older and 23.7% aged 75 years or older; 57.7% males; 42% white, 50% Asian, and 1.1% Black or African American; 5.8% Hispanic or Latino; and ECOG performance status of 0 (43.3%), 1 (46.6%), or 2 (10.1%). The majority of patients (62.8%) had received 1 prior line of systemic therapy; 37.2% of patients received 2 or more prior lines. All patients had received prior chemotherapy and most (98.5%) had received prior anti-CD20 monoclonal antibody therapy; 7.7% of patients had received prior CAR T-cell therapy, and 4.0% of patients had received autologous stem cell transplant. The majority of patients (66.8%) had refractory disease, 55.8% of patients had primary refractory disease, and 60.6% of patients were refractory to their last prior therapy. The most common reasons why patients were not considered candidates for transplant included age (42.3%), patient refused high-dose chemotherapy and/or transplant (34.7%), and insufficient response to salvage therapy (9.9%).

The primary efficacy outcome measure was overall survival (OS). At the time of the prespecified primary analysis, a statistically significant improvement in OS was observed for patients randomised to the Columvi+GemOx arm compared to patients randomised to R-GemOx (HR 0.59, 95% CI: 0.40, 0.89; p-value=0.011). Median OS in the R-GemOx arm was 9.0 months (95% CI: 7.3, 14.4) and was not reached in the Columvi+GemOx arm (95% CI: 13.8, NE). Statistically significant improvements in progression-free survival (PFS) and CR rate, as assessed by an IRC, were also observed with Columvi+GemOx over R-GemOx. Median PFS was 12.1 months (95% CI: 6.8, 18.3) in the Columvi+GemOx arm versus 3.3 months (95% CI: 2.5, 5.6) in the R-GemOx arm (HR 0.37, 95% CI: 0.25, 0.55; p-value<0.001). The rate of complete response was 50.3% with Columvi+GemOx versus 22.0% with R-GemOx, a difference of 28.3% (p-value<0.001).

Overall survival, PFS, and CR results from an updated analysis conducted after an additional 10.5 months of follow-up continue to demonstrate benefit of Columvi+GemOx over R-GemOx. The key results are summarised in Table 9. Kaplan-Meier plots for OS and PFS from the updated analysis are presented in Figure 1 and Figure 2, respectively. Exploratory subgroup analysis at the time of the updated analysis showed an OS hazard ratio of 1.09 (95% CI: 0.54, 2.18) and PFS hazard ratio of 0.84 (95% CI: 0.44, 1.59) for patients enrolled in Europe.

Table 9 Efficacy in patients with relapsed or refractory DLBCL treated with Columvi in combination with gemcitabine and oxaliplatin (ITT)

Efficacy endpoints	Updated analysis (median observation time=20.7 months)	
	Columvi+GemOx N=183	R-GemOx N=91

Overall survival		
Number (%) of deaths	80 (43.7)	52 (57.1)
Median (95% CI), months	25.5 (18.3, NE)	12.9 (7.9, 18.5)
HR (95% CI)	0.62 (0.43, 0.88)	
Progression-free survival - IRC-assessed		
Number (%) of patients with events	90 (49.2)	54 (59.3)
Median (95% CI), months	13.8 (8.7, 20.5)	3.6 (2.5, 7.1)
HR (95% CI)	0.40 (0.28, 0.57)	
Complete response rate - IRC-assessed		
Responders (%)	107 (58.5)	23 (25.3)
Difference in response rate (95% CI), %	33.2 (20.9, 45.5)	
Objective response rate - IRC-assessed		
Responders (%) (CR, PR)	125 (68.3)	37 (40.7)
Difference in response rate (95% CI), %	27.7 (14.7, 40.6)	

CI=confidence interval; HR=hazard ratio; NE=not estimable.

Figure 1. Kaplan-Meier plot of overall survival in study GO41944 (STARGLO, updated analysis; ITT)

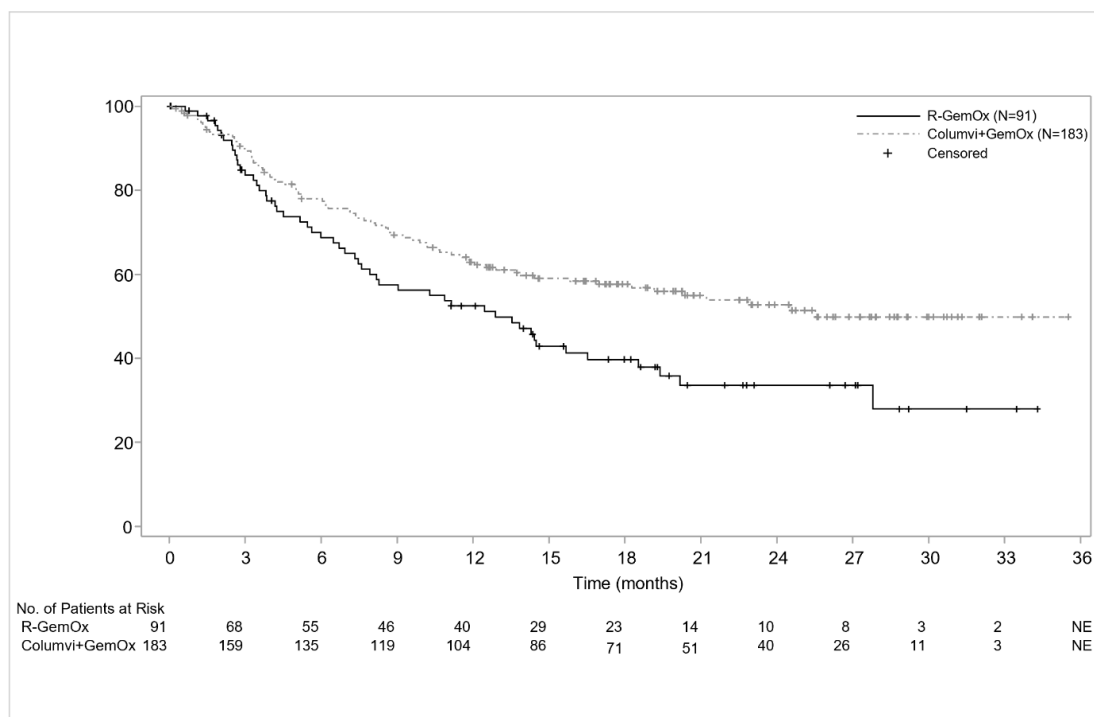
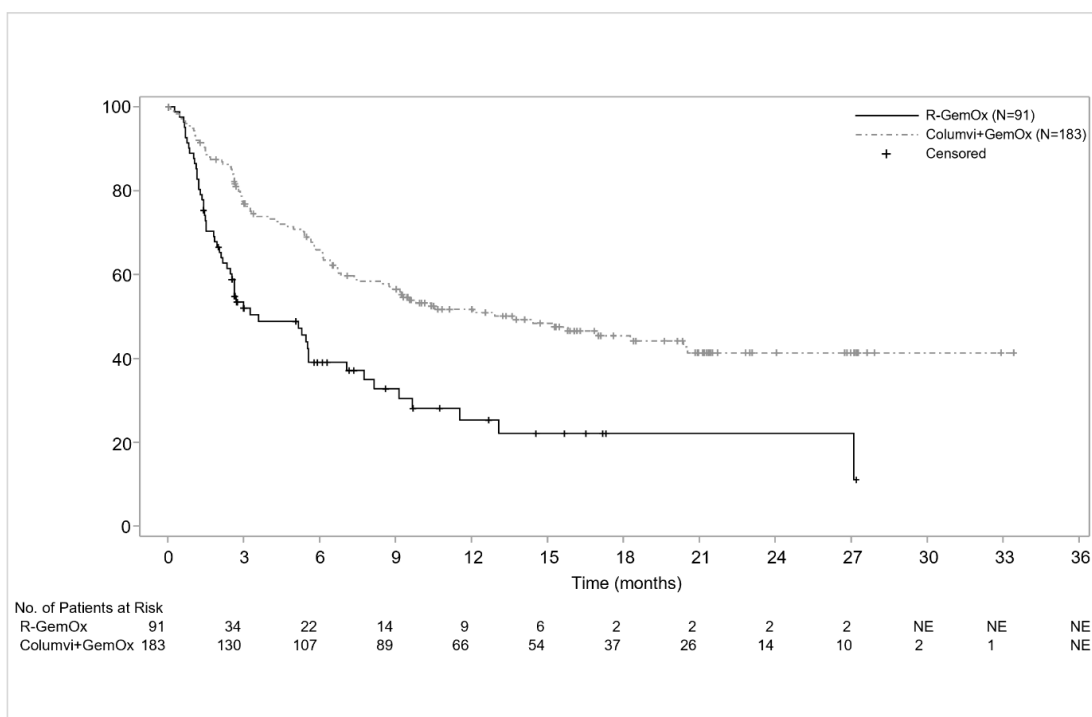


Figure 2. Kaplan Meier plot of IRC-assessed progression-free survival in study GO41944 (STARGLO, updated analysis; ITT)



Immunogenicity

Across studies, of 608 patients, only 4 patients (0.7%) were negative for anti-glofitamab antibodies at baseline and became positive following treatment. Due to the limited number of patients with antibodies against glofitamab, no conclusions can be drawn concerning a potential effect of immunogenicity on efficacy or safety.

3.2 PHARMACOKINETIC PROPERTIES

Non-compartmental analyses indicate that glofitamab serum concentration reaches the maximal level (C_{max}) at the end of infusion and declines in a bi-exponential fashion. Glofitamab exhibits linear and dose-proportional pharmacokinetics over the dose range studied (0.005 to 30 mg) and is independent of time.

3.2.1 Absorption

Columvi is administered as an intravenous infusion. Peak concentration of glofitamab (C_{max}) was reached at the end of the infusion.

3.2.2 Distribution

Following intravenous administration, the central volume of distribution was 3.34 L, which is close to total serum volume. The peripheral volume of distribution was 2.35 L.

3.2.3 Biotransformation

The metabolism of glofitamab has not been studied. Antibodies are cleared principally by catabolism.

3.2.4 Elimination

The glofitamab serum concentration–time data are described by a population pharmacokinetic model with two compartments, and both time-independent clearance and time-varying clearance.

The time-independent clearance pathway was estimated as 0.633 L/day and the initial time-varying clearance pathway as 0.814 L/day, with an exponential decay over time ($K_{des} \sim 1.5/\text{day}$). The estimated decay half-life from the initial total clearance value to the time-independent clearance only was estimated as 0.471 days.

The effective half-life in the linear phase (i.e., after the contribution of time-varying clearance has collapsed to a negligible amount) is 7.92 days (geometric mean, 95% CI: 4.69, 11.90) based on the population pharmacokinetic analysis.

3.2.5 Pharmacokinetics in Special Populations

Elderly

No differences in glofitamab exposure were noted in patients 65 years of age and older and those under 65 years based on population pharmacokinetic analysis.

Renal impairment

The population pharmacokinetic analysis of glofitamab showed that creatinine clearance does not affect the pharmacokinetics of glofitamab. The pharmacokinetics of glofitamab in patients with mild or moderate renal impairment (CrCL 30 to < 90 mL/min) were similar to those in patients with normal renal function. Columvi has not been studied in patients with severe renal impairment.

Hepatic impairment

Population pharmacokinetic analyses showed mild hepatic impairment does not affect the pharmacokinetics of glofitamab. The pharmacokinetics of glofitamab in patients with mild hepatic impairment (total bilirubin > ULN to $\leq 1.5 \times \text{ULN}$ or AST > ULN) were similar to those with normal hepatic functions. Columvi has not been studied in patients with moderate or severe hepatic impairment.

Effects of age, gender and body weight

No clinically significant differences in the pharmacokinetics of glofitamab were observed based on age (21 years to 90 years), gender and body weight (31 kg to 148 kg).

3.3 NONCLINICAL SAFETY

No studies have been conducted to establish the carcinogenic potential and mutagenic potential of glofitamab.

3.3.1 Fertility

No fertility assessments in animals have been performed to evaluate the effect of glofitamab.

3.3.2 Reproductive Toxicity

No reproductive and developmental toxicity studies in animals have been performed to evaluate the effect of glofitamab. Based on low placental transfer of antibodies during the first trimester, the mechanism of action of glofitamab (B-cell depletion, target-dependent T-cell activation, and cytokine release), the available safety data with glofitamab and data on other anti-CD20 antibodies, the risk for teratogenicity is low. Prolonged B-cell depletion can lead to increased risk of opportunistic infection, which may cause foetal loss. Transient CRS associated with Columvi administration may also be harmful to the foetus (see section 2.5).

3.3.3 Systemic toxicity

In a study in cynomolgus monkeys, animals experiencing severe CRS after a single intravenous dose of glofitamab (0.1 mg/kg) without obinutuzumab pre-treatment had erosions in the gastrointestinal tract and inflammatory cell infiltrates in spleen and sinusoids of the liver and sporadically in some other organs. These inflammatory cell infiltrates were likely secondary to cytokine-induced immune cell activation. Pre-treatment with obinutuzumab resulted in the attenuation of glofitamab-induced cytokine release and related adverse effects by depleting B cells in peripheral blood and lymphoid tissue. This allowed at least 10 times higher doses of

glofitamab (1 mg/kg) in cynomolgus monkeys resulting in a C_{max} of up to 3.74 times the human C_{max} at the recommended 30 mg dose.

All findings with glofitamab were considered pharmacologically mediated effects and reversible.

Studies longer than 4 weeks were not performed, as glofitamab was highly immunogenic in cynomolgus monkeys and led to loss of exposure and loss of the pharmacologic effect.

As all relapsed or refractory DLBCL patients to be treated have been exposed to anti-CD20 treatment before, the majority will likely have low levels of circulating B cells due to residual effects of prior anti-CD20 therapy, before treatment with obinutuzumab. Therefore, the animal model without prior rituximab (or other anti-CD20) treatment may not fully reflect the clinical context.

4. PHARMACEUTICAL PARTICULARS

4.1 LIST OF EXCIPIENTS

L-Histidine

L-Histidine hydrochloride monohydrate

L-Methionine

D-Sucrose

Polysorbate 20

Water for injections

4.2 STORAGE

Vials

Store at 2 °C to 8 °C in a refrigerator.

Keep vial in the outer carton in order to protect from light.

Do not freeze. Do not shake.

For storage conditions after dilution of the medicinal product, see section *Shelf life*.

Shelf life

Unopened vial

Columvi should not be used after the expiry date (EXP) shown on the carton.

Diluted solution for intravenous infusion

Chemical and physical in-use stability have been demonstrated for a maximum of 72 hours at 2 °C to 8 °C and 24 hours at 30 °C followed by a maximum infusion time of 8 hours.

From a microbiological point of view, the diluted solution should be used immediately. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user and would normally not be longer than 24 hours at 2 °C to 8 °C, unless dilution has taken place in controlled and validated aseptic conditions.

4.3 SPECIAL INSTRUCTIONS FOR USE, HANDLING AND DISPOSAL

Columvi diluted solution can be administered via intravenous bag infusion (all doses) or intravenous syringe infusion (2.5 mg dose only).

Instructions for dilution

- Columvi contains no preservative and is intended for single use only.
- Columvi must be diluted by a healthcare professional using aseptic technique, prior to intravenous administration.

- Visually inspect the Columvi vial for particulate matter or discolouration prior to administration. Columvi is a colourless, clear solution. Discard the vial if the solution is cloudy, discoloured or contains visible particles.

Preparation of intravenous bag infusion

- Withdraw the appropriate volume of sodium chloride 9 mg/mL (0.9%) solution for injection or sodium chloride 4.5 mg/mL (0.45%) solution for injection, as described in Table 10, from the infusion bag using a sterile needle and syringe and discard.
- Withdraw the required volume of Columvi concentrate for the intended dose from the vial using a sterile needle and syringe and dilute into the infusion bag (see Table 10). Discard any unused portion left in the vial.
- The final Columvi concentration after dilution must be 0.1 mg/mL to 0.6 mg/mL.
- Gently invert the infusion bag to mix the solution in order to avoid excessive foaming. Do not shake.
- Inspect the infusion bag for particulates and discard if present.
- Prior to the start of the intravenous infusion, the content of the infusion bag should be at room temperature (25°C).

Table 10 Dilution of Columvi for intravenous bag infusion

Dose of Columvi to be administered	Size of infusion bag	Volume of sodium chloride 9 mg/mL (0.9%) or 4.5 mg/mL (0.45%) solution for injection to be withdrawn and discarded	Volume of Columvi concentrate to be added
2.5 mg	50 mL	27.5 mL	2.5 mL
	100 mL	77.5 mL	2.5 mL
10 mg	50 mL	10 mL	10 mL
	100 mL	10 mL	10 mL
30 mg	50 mL	30 mL	30 mL
	100 mL	30 mL	30 mL

Preparation of intravenous syringe infusion (2.5 mg dose only)

Use a two-syringe method with a connector to prepare the dose. The final volume of the diluted solution is 25 mL.

- Withdraw 22.5 mL of sodium chloride 9 mg/mL (0.9%) solution for injection or sodium chloride 4.5 mg/mL (0.45%) solution for injection from an infusion bag into a syringe of the appropriate size (e.g., 30 mL).
- Withdraw 2.5 mL of Columvi concentrate from the vial using a sterile needle into a second syringe. Discard any unused portion left in the vial.
- Attach a connector to the two syringes and transfer Columvi concentrate into the syringe containing sodium chloride 9 mg/mL (0.9%) solution for injection or sodium chloride 4.5 mg/mL (0.45%) solution for injection. The final glofitamab concentration after dilution should be 0.1 mg/mL.
- Disconnect the syringes. Draw air into the syringe containing the Columvi diluted solution and close.
- Gently invert the syringe to mix the solution in order to avoid excessive foaming. Do not shake.
- Remove air bubbles from the syringe before administration.

Administration

Only administer as an intravenous infusion.

Do not administer as an intravenous push or bolus.

Administer as an intravenous infusion through a dedicated infusion line using an intravenous infusion pump or syringe pump, over a maximum of 8 hours.

Once the Columvi infusion bag or syringe is empty, ensure the entire dose of Columvi is administered by clearing the infusion line with an infusion bag or syringe containing sodium chloride 9 mg/mL (0.9%) solution for injection or sodium chloride 4.5 mg/mL (0.45%) solution for injection. Continue the infusion at the same rate according to Table 2.

Incompatibilities

Only sodium chloride 9 mg/mL (0.9%) or 4.5 mg/mL (0.45%) solution for injection should be used to dilute Columvi, since other solvents have not been tested.

When diluted with sodium chloride 9 mg/mL (0.9%) solution for injection, Columvi is compatible with intravenous infusion bags composed of polyvinyl chloride (PVC), polyethylene (PE), polypropylene (PP) or polyolefin. When diluted with sodium chloride 4.5 mg/mL (0.45%) solution for injection, Columvi is compatible with intravenous infusion bags composed of PVC.

When diluted with sodium chloride 9 mg/mL (0.9%) or 4.5 mg/mL (0.45%) solution for injection, Columvi is compatible with syringes composed of PP.

No incompatibilities have been observed with infusion sets with product-contacting surfaces of polyurethane (PUR), PVC, PE, polybutadiene (PBD), polyetherurethane (PEU), polycarbonate (PC), silicone, polytetrafluoroethylene (PTFE) or acrylonitrile butadiene styrene (ABS)s, and in-line filter membranes composed of polyethersulfone (PES) or polysulfone. The use of in-line filter membranes is optional.

Disposal

Columvi vial is for single use only.

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

4.4 PACKS

Pack size of 1 vial

- 2.5 mg/vial, contains 2.5 mL concentrate for solution for infusion in a 6 mL vial (colourless Type I glass) with stopper (butyl rubber).
- 10 mg/vial, contains 10 mL concentrate for solution for infusion in a 15 mL vial (colourless Type I glass) with stopper (butyl rubber).

Medicine: keep out of reach of children

MYColumvi20251126CDS6.0

Date of revision: Nov 2025

Made for

F. Hoffmann-La Roche Ltd, Basel, Switzerland

Manufacturer:

- Genentech, Inc., South San Francisco, United States
- Roche Diagnostics GmbH, Mannheim, Germany

Batch Releaser:

F. Hoffmann-La Roche AG, Kaiseraugst, Switzerland