Poster #41: A phase 2 study of HLX07 plus serplulimab with or without chemotherapy versus serplulimab plus chemotherapy as first-line therapy in advanced or recurrent squamous non-small cell lung cancer

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Background

- Non-small cell lung cancer (NSCLC) accounts for 80% of all lung cancers, of which 20–30% are the squamous subtype (sqNSCLC)[1]. The combination of immunotherapy (PD-L1/PD-1 inhibitors) and chemotherapy has demonstrated efficacy and been approved as first-line therapy for advanced sqNSCLC[2,3]. However, the prognosis remains to be improved.
- High expression level of the epidermal growth factor receptor (EGFR) is prevalent in advanced NSCLC[4,5].
- This study aimed to compare the efficacy of HLX07, a novel recombinant humanized anti-EGFR monoclonal antibody, plus serplulimab (anti-PD-1 antibody) ± chemotherapy versus serplulimab plus chemotherapy as first-line treatment for advanced sqNSCLC.

Methods

- This randomized, multicenter phase 2 study consisted of 4 parts and assessed different combinations of HLX07 (at various doses), serplulimab, and chemotherapy.
- Part 3 explored the preliminary efficacy of the three-drug combination and is presented in this report.
- Tumor imaging by computed tomography or magnetic resonance imaging was scheduled at baseline, every 6 weeks for 48 weeks from the first dose, and every 9 weeks thereafter. Tumor response was assessed by the blinded independent central review (BICR) and by investigators per RECIST v1.1.

Figure 1. Study design of part 3

Inclusion criteria:

- Age ≥18 years; ECOG PS 0 or 1
- Histologically confirmed stage IIIB/IIIC or IV (AJCC 8th edition) sqNSCLC that could not be treated with surgery or radiation therapy
- No prior systemic therapy
- Provision of tumor tissue for determination of EGFR and PD-L1 expression levels; EGFR H-score ≥150 as confirmed by central laboratory
- At least one measurable target lesion assessed by investigator per RECIST v1.1 within 4 weeks prior to the first dose of study treatment

Group A
- HLX07, 800 mg
- Serplulimab[a], 300 mg
- Carboplatin[b] + Nab-paclitaxel[b]

Q3W IV

Group B
- HLX07, 1000 mg
- Serplulimab[a], 300 mg
- Carboplatin[b] + Nab-paclitaxel[b]

Q3W IV

Primary endpoint:

ORR and PFS assessed by BICR per RECIST v1.1

Secondary endpoints:

- DOR
- DCR
- OS
- Safety
- Pharmacokinetics
- Immunogenicity
- Biomarker explorations
- Quality of life

[a] *Up to 2 years;* [b] *Up to 6 cycles*

BICR, blinded independent central review; DCR, disease control rate; DOR, duration of response; ECOG PS, Eastern Cooperative Oncology Group performance status; IV, intravenous; ORR, objective response rate; OS, overall survival; PFS, progression-free survival; Q3W: every 3 weeks; RECIST, Response Evaluation Criteria in Solid Tumors.

Results

- As of the data cut-off date of Dec 31, 2024, 27 patients were enrolled and randomly assigned to group A (n=13) and group B (n=14) in part 3 of the study.
- All patients received at least one dose of the intended combinatory drug treatments and were included in the intent-to-treat (ITT) population.
- Ten (76.9%) patients, and 11 (78.6%) patients had an ECOG PS of 1 in group A, and B, respectively (Table 1).

References

1. Lau SCM, *et al.* ***Cancer Cell*** **2022**;40(11):1279-1293.
2. Paz-Ares L, et al. ***N Engl J Med*** **2018**;379(21):2040-2051.
3. Guo H, *et al.* ***Medicine (Baltimore)*** **2024**;103(3):e36861.
4. Al Olayan A, *et al.* ***J Infect Public Health*** **2012**; 5 Suppl 1:S50-S60.
5. Wang Z, et al. ***Methods Mol Biol*** **2017**;1652:3-35.

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The encouraging antitumor activity and manageable safety profile warrants further investigation of HLX07 plus serplulimab and chemotherapy as a first-line treatment option for patients with advanced sqNSCLC.

Efficacy

Table 2. Tumor response[a] in the ITT population

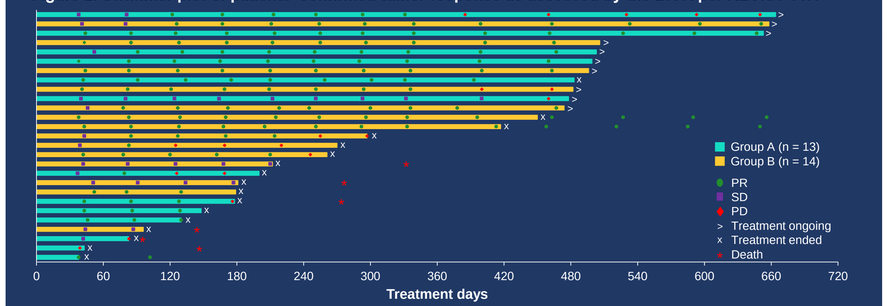
	Group A (n = 13)	Group B (n = 14)
ORR, % (95% CI)	**69.2** (38.6–90.9)	**71.4** (41.9–91.6)
DCR, % (95% CI)	**92.3** (64.0–99.8)	**100.0** (76.8–100.0)
CR, n (%)	0	0
PR, n (%)	9 (69.2)	10 (71.4)
SD, n (%)	3 (23.1)	4 (28.6)
PD, n (%)	1 (7.7)	0
NE, n (%)	0	0

- Median follow-up duration was 16.0 months for both group A and B.
- BICR-assessed ORRs were **69.2%** and **71.4%** in group A and group B, respectively.
- BICR-assessed DCRs were 92.3% for group A, and 100.0% for group B.
- Median PFS was 15.1 months in group A and not reached in group B; the current PFS data is not mature as of the data cutoff date.
- Median DOR and OS were not reached in either groups.

[a] *Confirmed tumor response assessed by the BICR per RECIST v1.1.*

BICR, blinded independent central review; CI, confidence interval; CR, complete response; DCR, disease control rate; ITT, intent-to-treat; NE, not evaluable; NR, not reached; ORR, objective response rate; OS, overall survival; PD, progressive disease; PR, partial response; SD, stable disease.

Figure 2. Swimmer plot of patients' confirmed tumor response as assessed by the BICR per RECIST v1.1



BICR, blinded independent central review; PD, progressive disease; PR, partial response; SD, stable disease

Figure 3. Kaplan-Meier curve of PFS as assessed by the BICR

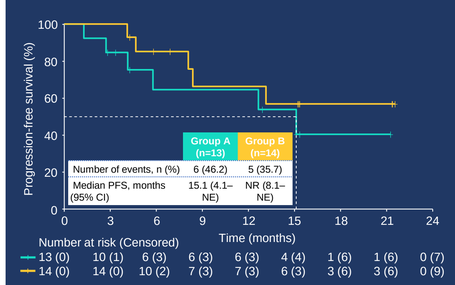
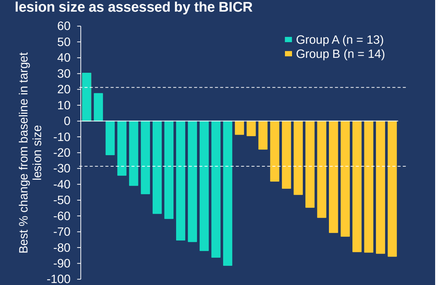


Figure 4. Best percentage change from baseline in target lesion size as assessed by the BICR



BICR, blinded independent central review; CI, confidence interval; NE, not evaluable; NR, not reached.

- More baseline demographics and characteristics of patients in group A and group B are shown in Table 1.

Table 1. Patient demographics and baseline characteristics

	Group A (n = 13)	Group B (n = 14)
Median age (range), years	65.0 (54–80)	65.5 (50–72)
Male, n (%)	11 (84.6)	12 (85.7)
ECOG PS, n (%)		
0	3 (23.1)	3 (21.4)
1	10 (76.9)	11 (78.6)
Disease status, n (%)		
Locally advanced	5 (38.5)	7 (50.0)
Distant metastasis	8 (61.5)	7 (50.0)
Tumor stage, n (%)		
IIIB	3 (23.1)	1 (7.1)
IIIC	2 (15.4)	6 (42.9)
IVA	5 (38.5)	6 (42.9)
IVB	3 (23.1)	1 (7.1)
PD-L1 expression, TPS, n (%)		
TPS < 1%	8 (61.5)	6 (42.9)
1% ≤ TPS < 50%	3 (23.1)	5 (35.7)
TPS ≥ 50%	2 (15.4)	3 (21.4)
EGFR expression, H-score		
H-score < 200	7 (53.8)	7 (50.0)
H-score ≥ 200	6 (46.2)	7 (50.0)
Median	190.0	202.5
Range	150–275	155–290

ECOG PS, Eastern Cooperative Oncology Group performance status; EGFR, epidermal growth factor receptor; PD-L1, programmed death ligand 1; TPS, tumor proportion score.

Safety

- Twelve (92.3%) patients in group A and 10 (71.4%) patients in group B reported HLX07-related ≥ grade 3 TEAEs; 12 (92.3%) patients in group A and 9 (64.3%) patients in group B reported serplulimab-related ≥ grade 3 TEAEs (Table 3).
- irAEs occurred in 6 (46.2%) patients in group A and 8 (57.1%) patients in group B.
- The most common ≥ grade 3 TEAEs are listed in Table 4.

Table 3. Safety summary

n (%)	Group A (n = 13)	Group B (n = 14)
Any TEAEs	13 (100.0)	14 (100.0)
≥ Grade 3	13 (100.0)	13 (92.9)
Leading to HLX07 discontinuation	2 (15.4)	2 (14.3)
Leading to serplulimab discontinuation	3 (23.1)	3 (21.4)
Leading to death	2 (15.4)	0
Any TRAEs	13 (100.0)	14 (100.0)
HLX07-related	13 (100.0)	14 (100.0)
≥ Grade 3	12 (92.3)	10 (71.4)
Serplulimab-related	13 (100.0)	14 (100.0)
≥ Grade 3	12 (92.3)	9 (64.3)
Any AESIs	12 (92.3)	14 (100.0)
IRR	1 (7.7)	2 (14.3)
irAE	6 (46.2)	8 (57.1)
Rash (HLX07-related)	6 (46.2)	8 (57.1)
Hypomagnesemia (HLX07-related)	6 (46.2)	6 (42.9)
Serious	1 (7.7)	2 (14.3)

Table 4. Most common ≥ grade 3 TEAEs

n (%)	Group A (n = 13)	Group B (n = 14)
≥ Grade 3 TEAEs (≥ 10% in either group), n (%)		
Neutrophil count decreased	7 (53.8)	9 (64.3)
White blood cell count decreased	7 (53.8)	5 (35.7)
Platelet count decreased	4 (30.8)	5 (35.7)
Anemia	4 (30.8)	3 (21.4)
Pneumonia	4 (30.8)	3 (21.4)
Hypokalemia	2 (15.4)	5 (35.7)
Hypomagnesemia	2 (15.4)	2 (14.3)
Hypocalcemia	2 (15.4)	1 (7.1)
Dermatitis acneiform	1 (7.7)	2 (14.3)
Lymphocyte count decreased	1 (7.7)	2 (14.3)
Rash	1 (7.7)	2 (14.3)

AESI, adverse event of special interest; irAE, immune-related adverse event; IRR, infusion-related reactions; TEAE, treatment-emergent adverse event; TRAE, treatment-related adverse event.

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