

First-in-human study of BG-C477, a novel CEA-targeting ADC, in advanced solid tumors: initial results in NSCLC

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Introduction

BG-C477 is a novel antibody-drug conjugate (ADC) that adopts a differentiated design through a proprietary antibody targeting carcinoembryonic antigen (CEA)-related cell adhesion molecule 5 (CEACAM5), highly potent topoisomerase I inhibitor payload, stable conjugator, and cleavable linker with a drug-to-antibody ratio of 8. This phase 1 global trial evaluates BG-C477 as monotherapy and in combination with anticancer agents for advanced solid tumors (NCT06596473). Here we present monotherapy results in patients (pts) with non-small cell lung cancer (NSCLC).

Methods

NSCLC pts with elevated serum CEA (≥ 5 ng/mL) who have exhausted standard treatments received BG-C477 monotherapy in phase 1a dose escalation. Key objectives were safety/tolerability, PK, and antitumor activity. Tumor CEA expression was assessed retrospectively by central lab immunohistochemistry.

Results

As of April 9, 2026, 43 NSCLC pts were treated and had ≥ 2 post-baseline tumor assessments. Median (range) study follow-up was 4.2 (0.1-11.6) months. 81.4% of pts had non-squamous NSCLC and 27.9% had EGFR mutations. Median prior lines of therapies for advanced disease were 3 (range, 1-8). Grade ≥ 3 treatment-emergent adverse events (TEAEs) were reported in 44.2% of pts and were predominantly hematologic events (anemia 14.0%, neutropenia 14.0%, thrombocytopenia 2.3%). Two pts (4.7%) experienced TEAEs leading to dose discontinuation. There were no treatment-related fatal TEAEs. In 25 NSCLC pts with CEA-high expression, confirmed ORR was 56.0% (**Table**). Most responders, as well as two additional pts with unconfirmed ORR, were on treatment at the time of data cut-off.

Conclusion

BG-C477 monotherapy showed a preliminary yet compelling signal of antitumor activity in heavily pre-treated NSCLC pts with CEA-high expression, with a manageable and tolerable safety profile. Further clinical development is ongoing.

	CEA high n=25	CEA low n=18	Total N=43
Confirmed ORR, % (95% CI)	56.0 (34.9-75.6)	5.6 (0.1-27.3)	34.9 (21.0-50.9)
BOR, n (%)			
CR	0	0	0
PR	14 (56.0)	1 (5.6)	15 (34.9)
SD	8 (32.0)	12 (66.7)	20 (46.5)
PD	2 (8.0)	3 (16.7)	5 (11.6)
NE	1 (4.0)	2 (11.1)	3 (7.0)
DoR, median (range), months	NR (4.1-NE)	NR (NE-NE)	NR (4.1-NE)
DCR, % (95% CI)	88.0 (68.8-97.5)	72.2 (46.5-90.3)	81.4 (66.6-91.6)
BOR, best overall response; CR, confirmed response; CI, confidence interval; DCR, disease control rate; DoR, duration of response; NE, not evaluable, NR, not reached; ORR, overall response rate; PD, progressive disease; PR, partial response; SD, stable disease			