# Updated Efficacy/Safety of the Bruton Tyrosine Kinase Degrader BGB-16673 Relapsed/Refractory CLL/SLL: Results From the Ongoing Phase 1 CaDAnCe-101 Study

**John F. Seymour,**<sup>1</sup> Ricardo D. Parrondo,<sup>2</sup> Meghan C. Thompson,<sup>3</sup> Anna Maria Frustaci,<sup>4</sup> John N. Allan,<sup>5</sup> Paolo Ghia,<sup>6,7</sup> Irina Mocanu,<sup>8</sup> Constantine S. Tam,<sup>9</sup> Stephan Stilgenbauer,<sup>10</sup> Damien Roos-Weil,<sup>11</sup> Judith Trotman,<sup>12</sup> Inhye E. Ahn,<sup>13</sup> Nicole Lamanna,<sup>14</sup> Linlin Xu,<sup>15</sup> Kunthel By,<sup>15</sup> Shannon Fabre,<sup>15</sup> Daniel Persky,<sup>15</sup> Amit Agarwal,<sup>15</sup> Lydia Scarfò<sup>6,7</sup>

<sup>1</sup>Peter MacCallum Cancer Centre, Royal Melbourne Hospital, and University of Melbourne, Melbourne, VIC, Australia;
<sup>2</sup>Mayo Clinic - Jacksonville, Jacksonville, FL, USA; <sup>3</sup>Memorial Sloan Kettering Cancer Center, New York, NY, USA;
<sup>4</sup>ASST Grande Ospedale Metropolitano Niguarda, Milano, Italy; <sup>5</sup>Weill Cornell Medicine, New York, NY, USA;
<sup>6</sup>Università Vita-Salute San Raffaele, Milano, Italy; <sup>7</sup>IRCCS Ospedale San Raffaele, Milano, Italy; <sup>8</sup>Institute of Oncology, ARENSIA Exploratory Medicine, Düsseldorf, Germany; <sup>9</sup>Alfred Hospital and Monash University, Melbourne, VIC, Australia;
<sup>10</sup>Ulm University, Ulm, Germany; <sup>11</sup>Pitié-Salpêtrière Hospital, Paris, France; <sup>12</sup>Concord Repatriation General Hospital, University of Sydney, Concord, NSW, Australia; <sup>13</sup>Dana-Farber Cancer Institute, Boston, MA, USA; <sup>14</sup>Herbert Irving Comprehensive Cancer Center, Columbia University, New York, NY, USA; <sup>15</sup>BeOne Medicines Ltd, San Carlos, CA, USA



#### **Disclosures for John F. Seymour**

- **Consultancy:** Genor Bio, TG Therapeutics
- Honoraria: AbbVie, AstraZeneca, BeOne Medicines Ltd, BMS, Gilead, Janssen, Roche
- Research funding: AbbVie, BMS, Roche
- Speakers bureau: AbbVie, AstraZeneca, BMS, Roche

#### **BGB-16673: A Chimeric Degradation Activating Compound (CDAC)**

- Many patients with CLL/SLL experience disease progression with BTK inhibitors, which can be caused by resistance mutations in BTK<sup>1-3</sup>
- BGB-16673 is an orally available protein degrader that blocks BTK signaling by tagging BTK for degradation through the cell's proteasome pathway, leading to tumor regression<sup>4</sup>
- In preclinical models, BGB-16673 showed CNS penetration and degraded both wild-type and mutant BTK resistant to cBTK (C481S, C481F, C481Y, L528W, T474I) and ncBTK inhibitors (V416L, M437R, T474I, L528W)<sup>4,5</sup>
- BGB-16673 led to substantial reductions in BTK protein levels in peripheral blood and tumor tissue<sup>6</sup>
- Here, updated safety and efficacy results in patients with R/R CLL/SLL in phase 1 of CaDAnCe-101 are presented

BTK, Bruton tyrosine kinase; cBTK, covalent Bruton tyrosine kinase; CLL/SLL, chronic lymphocytic leukemia/small lymphocytic lymphoma; CNS, central nervous system; ncBTK, noncovalent Bruton tyrosine kinase; R/R, relapsed/refractory; ub, ubiquitin.

1. Moreno C. Hematol Am Soc Hematol Educ Program. 2020;2020:33-40; 2. Woyach JA, et al. N Engl J Med. 2014;370:2286-2294; 3. Wang E, et al. N Engl J Med. 2022;386:735-743; 4. Feng X, et al. EHA 2023.





#### CaDAnCe-101: A Phase 1/2, Open-Label, Dose-Escalation/Expansion Study in R/R B-Cell Malignancies



<sup>a</sup>Data from gray portions of the figure are not included in this presentation. <sup>b</sup>Treatment was administered until progression, intolerance, or other criteria were met for treatment discontinuation. <sup>c</sup>Safety was assessed according to Common Terminology Criteria for Adverse Events v5.0 in all patients and iwCLL hematologic toxicity criteria in patients with CLL. <sup>d</sup>Response was assessed per iwCLL 2018 criteria after 12 weeks in patients with CLL.

cBTKi, covalent Bruton tyrosine kinase inhibitor; CLL, chronic lymphocytic leukemia; DLBCL, diffuse large B-cell lymphoma; ECOG PS, Eastern Cooperative Oncology Group performance status; FL, follicular lymphoma; GCB, germinal center B cell; iwCLL, International Workshop on Chronic Lymphocytic Leukemia; MCL, mantle cell lymphoma; MTD, maximum tolerated dose; MZL, marginal zone lymphoma; PD, pharmacodynamics; PK, pharmacokinetics; R/R, relapsed/refractory; RDFE, recommended dose for expansion; RT, Richter transformation; SLL, small lymphocytic lymphoma; WM, Waldenström macroglobulinemia.

## **Baseline Patient Characteristics**

#### Heavily pretreated, with high-risk CLL features

	Total (N=66)		Total (N=66)
Age, median (range), years	70 (47-91)	Mutation status, n/N (%)	
Male, n (%)	45 (68.2)	BTK mutation present	24/63 (38.1)
ECOG PS, n (%)		PLCG2 mutation present	10/63 (15.9)
	20 (57 6)	BTK and PLCG2 mutation present	5/63 (7.9)
0	38 (57.6)	No. of prior lines of therapy, median (range)	4 (2-10)
1	27 (40.9)	Prior therapy, n (%)	
2	1 (1.5)	Chemotherapy	47 (71.2)
CLL/SLL risk characteristics at study entry,		cBTK inhibitor	62 (93.9)
n/N with known status (%)		ncBTK inhibitor	14 (21.2)
Binet stage C	29/62 (46.8)	BCL2 inhibitor	54 (81.8)
Unmutated IGHV	38/49 (77.6)	cBTK + BCL2 inhibitors	42 (63.6)
del(17p) and/or <i>TP53</i> mutation	43/66 (65.2)	cBTK + ncBTK + BCL2 inhibitors	12 (18.2)
Complex karyotype (≥3 abnormalities)	22/44 (50.0)	Discontinued prior BTK inhibitor due to PD, n/N (%) <sup>a</sup>	55/62 (88.7)

Data cutoff: March 3, 2025.

<sup>a</sup>The remaining seven patients discontinued prior BTK inhibitor due to toxicity (n=4), treatment completion (n=2), and other (n=1).

BCL2, B-cell lymphoma 2; BTK, Bruton tyrosine kinase; cBTK, covalent Bruton tyrosine kinase; CLL, chronic lymphocytic leukemia; ECOG PS, Eastern Cooperative Oncology Group performance status; ncBTK, noncovalent Bruton tyrosine kinase; PD, progressive disease; SLL, small lymphocytic lymphoma.

#### **Overall Safety Summary**

Tolerable safety profile, with no treatment-related TEAEs leading to death

Patients, n (%)	Total (N=66)
Any TEAE	63 (95.5)
Any treatment-related	49 (74.2)
Grade ≥3	40 (60.6)
Treatment-related grade ≥3	20 (30.3)
Serious	30 (45.5)
Treatment-related serious	8 (12.1)
Leading to death	4 (6.1)
Treatment-related leading to death	0
Leading to treatment discontinuation	9 (13.6)
Treatment-related leading to treatment discontinuation	2 (3.0)

## Summary of All-Grade TEAEs in ≥10% of All Patients

- Most common TEAEs were fatigue in 37% and contusion (bruising) in 30% of patients
- Atrial fibrillation: n=2 (one grade 1 and one grade 2 in the context of infection and PD, respectively)
- Major hemorrhage<sup>a</sup>: n=2 (one grade 1 subarachnoid hemorrhage and one grade 3 subdural hemorrhage)
  - No new events occurred since the last update
- No pancreatitis



<sup>a</sup>Grade ≥3, serious, or any central nervous system bleeding <sup>b</sup>Neutropenia combines preferred terms *neutrophil count decreased* and *neutropenia*. <sup>c</sup>All events were laboratory findings and were transient, mostly occurring during the first 1-3 cycles of treatment, with no clinical pancreatitis. <sup>d</sup>Thrombocytopenia combines preferred terms *platelet count decreased* and *thrombocytopenia*.

PD, progressive disease; SAE, serious adverse event; TEAE, treatment-emergent adverse event.



Percent of Patients

# Rapid and Significant Cytopenia Improvement was Observed in Patients With Treatment Response



Platelet Count in Patients Who Had Baseline Thrombocytopenia and Responded to Treatment

<sup>a</sup>In n=21 patients based on 100×10<sup>9</sup>/L cutoff. <sup>b</sup>In n=13 patients based on 1.5×10<sup>9</sup>/L cutoff. <sup>c</sup>In n=23 patients based on 11.0 g/dL cutoff. D, day; W, week.

#### **Overall Response Rate**

#### Significant responses, particularly at 200-mg dose level

	50 mg (n=1)	100 mg (n=22)	200 mg (n=16)	350 mg (n=15)	500 mg (n=12)	Total (N=66)
Best overall response, n (%)		-				
CR/CRi	0	1 (4.5)	1 (6.3)	0	1 (8.3)	3 (4.5)
PRª	1 (100)	11 (50.0)	12 (75.0)	11 (73.3)	9 (75.0)	44 (66.7)
PR-L	0	6 (27.3)	2 (12.5)	0	1 (8.3)	9 (13.6)
SD	0	4 (18.2)	0	0	1 (8.3)	5 (7.6)
PD	0	0	1 (6.3)	1 (6.7)	0	2 (3.0)
Discontinued prior to first assessment	0	0	0	3 (20.0)	0	3 (4.5)
Overall response rate, n (%) <sup>b</sup>	1 (100)	18 (81.8)	15 (93.8)	11 (73.3)	11 (91.7)	56 (84.8)
Time to first response, median (range), months <sup>c</sup>	2.9 (2.9-2.9)	2.8 (2.0-6.2)	2.9 (2.6-8.3)	2.8 (2.6-19.4)	2.8 (2.6-13.8)	2.8 (2.0-19.4)
Time to best response, median (range), months	2.9 (2.9-2.9)	2.8 (2.0-11.1)	3.4 (2.6-13.8)	5.6 (2.6-19.4)	8.3 (2.7-13.8)	3.4 (2.0-19.4)
Duration of exposure, median (range), months	29.6 (29.6-9.6)	7.1 (3.7-23.7)	16.2 (2.9-24.6)	15.6 (0.2-22.8)	15.3 (6.8-21.4)	12.9 (0.2-29.6)

<sup>a</sup>Of 44 patients with PR, 12 achieved all nodes normalized. <sup>b</sup>Includes best overall response of PR-L or better. <sup>c</sup>In patients with a best overall response of PR-L or better.

CR, complete response; CRi, complete response with incomplete marrow recovery; PD, progressive disease; PR, partial response; PR-L, partial response with lymphocytosis; SD, stable disease.

#### High Overall Response Rates in High-Risk Subgroups

Subgroup	ORR, n/N with known status (%)
Double exposure (previously received cBTKi + BCL2i)	38/42 (90.5)
Triple exposure (previously received cBTKi + ncBTKi + BCL2i)	9/12 (75.0)
del(17p) and/or <i>TP53</i> mutation	35/43 (81.4)
Complex karyotype (≥3 abnormalities)	16/22 (72.7)
BTK mutations	18/24 (75.0)
PLCG2 mutations	9/10 (90.0)

#### **Progression-Free Survival**



#### **Responses Occurred Regardless of Baseline Mutations**

Best overall response vs baseline mutation<sup>a</sup>





<sup>a</sup>Genomic mutations were centrally assessed by targeted next-generation sequencing.

BTKi, Bruton tyrosine kinase inhibitor; CR, complete response; CRi, complete response with incomplete marrow recovery; PD, progressive disease;

PR, partial response; PR-L, partial response with lymphocytosis; SD, stable disease; WT, wild type.

**Prior BTKi** 

Yes

No

#### Conclusions

- In phase 1 of CaDAnCe-101, the novel BTK degrader BGB-16673 was safe and well tolerated in this heavily pretreated population of patients with R/R CLL/SLL
  - Only 2 patients discontinued treatment due to a treatment-related TEAE
  - No treatment-related deaths occurred
  - The 200-mg dose was selected as the RDFE for phase 2
- Significant antitumor activity was observed, including in patients with BTK mutations and those previously exposed to cBTK, ncBTK, and BCL2 inhibitors
  - ORR was 84.8%, and CR/CRi rate was 4.5%; in the 200-mg dose group, ORR was 93.8%
  - ORR in triple-exposed patients: 75.0%
  - Median time to first response: 2.8 months
  - PFS rate at 12 months: 77.4%
  - 65.2% of patients still on treatment with a median follow-up of 15.6 months
- BGB-16673 is being evaluated in ongoing phase 2 and phase 3 studies in R/R CLL

#### CaDAnCe-101 Study Sites (Recruiting)

 Enrollment for CaDAnCe-101 phase 1 and phase 2 is ongoing at >100 study sites across the US, Canada, the UK, France, Georgia, Germany, Italy, Moldova, Spain, Sweden, Turkey, Australia, South Korea, Brazil, and Japan



#### Acknowledgments

- The authors thank the patients and their families, investigators, co-investigators, and the study teams at each of the participating centers
- This study was sponsored by BeOne Medicines Ltd
- Medical writing support was provided by Shanen Perumal, PhD, of Nucleus Global, an Inizio company, and supported by BeOne Medicines

**Corresponding Author:** John F. Seymour, John.Seymour@petermac.org