

A Phase 1 a/b Dose Escalation Study of the Mutation Agnostic BTK/FLT3 Inhibitor CG-806 in Patients with Relapsed or Refractory CLL/SLL or Non-Hodgkin's Lymphomas

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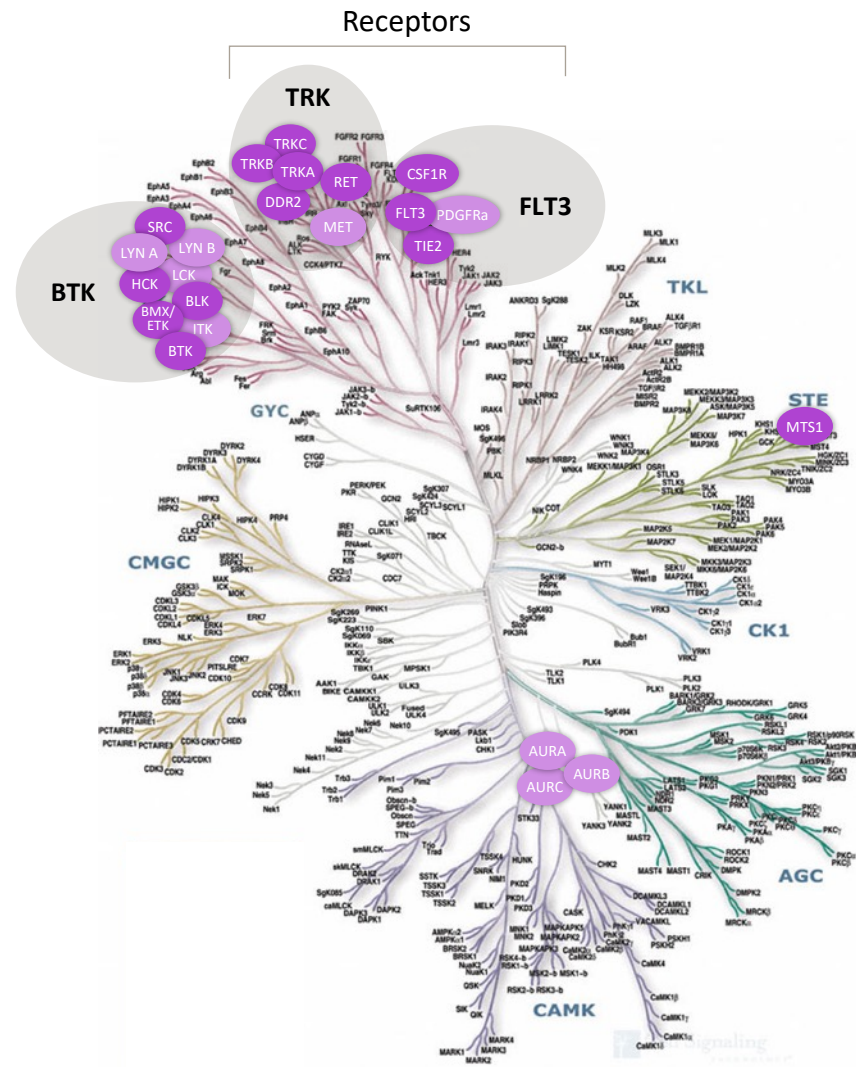


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- Astex – Consultant, Data Review Committee



“Cluster-Selective Kinase Inhibitor”: CG-806 Potently and Selectively Inhibits Clusters of Related Kinases



Unique Kinome Targeting

Mutation Agnostic

Robust Preclinical
Safety Profile

Selectively inhibits clusters of kinases

Potently inhibit the validated **BTK** and **FLT3** targets

Under development for lymphoid & myeloid
hematologic cancers

Inhibits WT and all mutant forms of BTK

Inhibits WT and all mutant forms of FLT3

May avoid rapid emergence of drug resistance

Simultaneously suppresses multiple oncogenic
signaling pathways

Avoids kinases that negatively impact safety

NOT a “dirty” kinase inhibitor



CG-806 Phase 1a/b Clinical Trial in R/R CLL & NHL: Now Dosing Cohort 5 (750 mg BID)

Objectives

Ongoing Phase 1 a/b, open-label, single arm, multicenter, 3 + 3 dose-escalation clinical study (NCT03893682).

Primary objectives:

- Assess safety and tolerability of CG-806
- Determine recommended Phase 2 dose (RP2D)

Key secondary objectives:

- Assess PK profile and PD activity
- Obtain preliminary evidence of antitumor activity
- Identify recommended starting dose for a separate study in patients with R/R AML

Dose Escalation Phase

- Patients administered **oral capsules, twice daily** on a **28-day cycle**
- Plan to perform 6 dose levels
- Planned expansion cohorts
- **Accelerated titration** design
- Additional patients may be enrolled (**back filling**) at dose levels previously declared safe
- **Intra-patient dose escalation** is allowed if higher dose is safe in 3 or more patients

PATIENT POPULATION

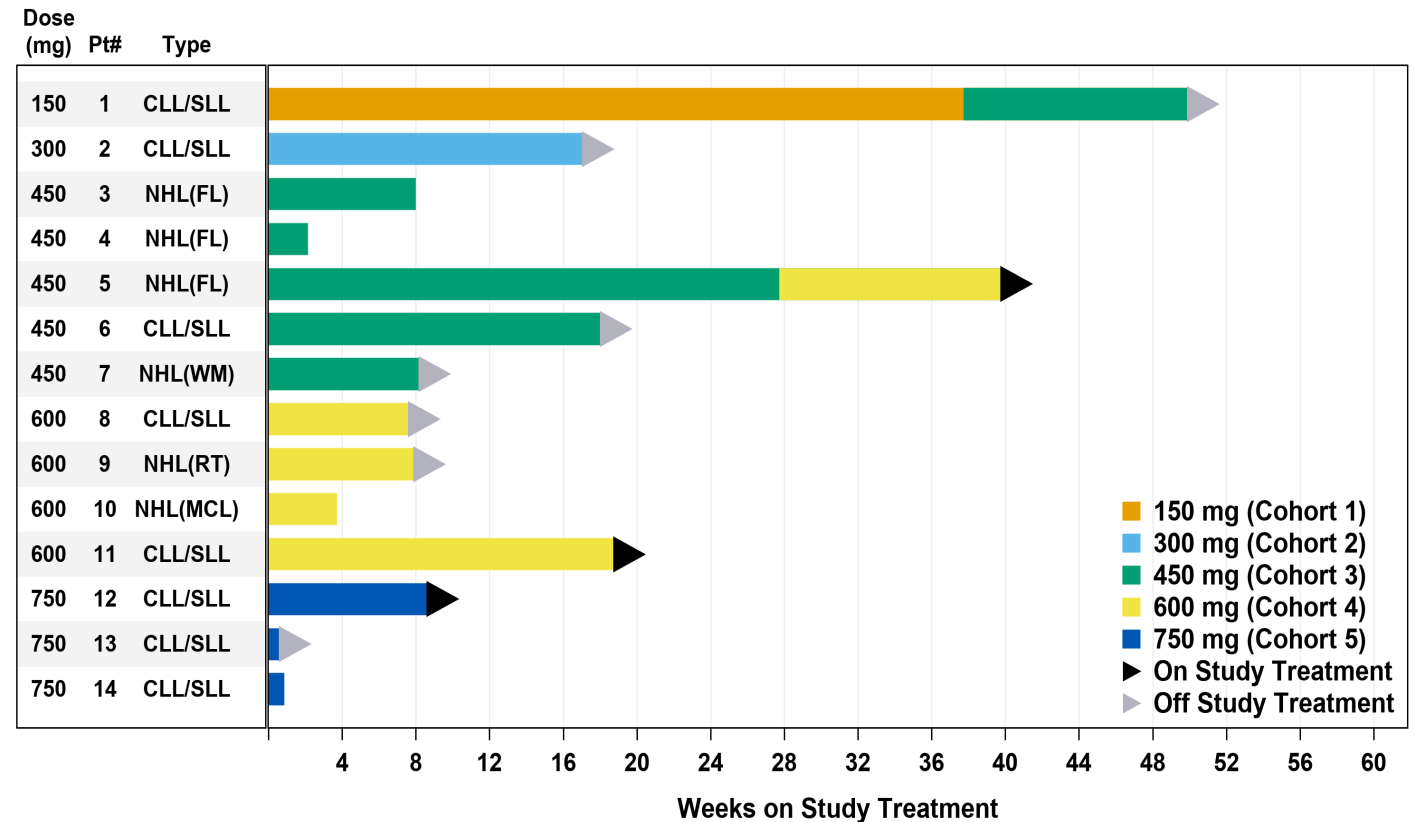
Relapsed or refractory CLL/SLL & NHL who failed or are intolerant to 2 or more lines of established therapy, or for whom no other treatment options are available

Cohort	Dose	Status
1	150 mg BID	Completed ✓
2	300 mg BID	Completed ✓
3	450 mg BID	Completed ✓
4	600 mg BID	Completed ✓
5	750 mg BID	Ongoing
6	900 mg BID	Planned



Patient Demographics		Cohorts 1 to 5 (N=14)*
Median Age (Range), Years		61.5 (55, 79)
Sex, N (%)		
Male		9 (64.3%)
Female		5 (35.7%)
Ethnicity, N (%)		
Not Hispanic or Latino		11 (78.6%)
Hispanic or Latino		2 (14.3%)
Not Reported		1 (7.1%)
Race, N (%)		
White		13 (92.9%)
Black or African American		1 (7.1%)
ECOG Score, N (%)		
0 -Normal activity		7 (50.0%)
1 -Symptoms, but ambulatory		7 (50.0%)
Disease Type, N (%)		
CLL/SLL		8 (57.1%)
NHL		6 (42.9%)
Relapsed or Refractory, N (%)		
Relapsed		6 (42.9%)
Refractory		3 (21.4%)
Both Relapsed and Refractory		5 (35.7%)
Intolerant to Prior Therapy, N (%)		7 (50%)
Median Number of Lines of Prior Therapy (Range)		4 (1, 12)
Chemotherapy, N(%)		13 (92.9%)
Targeted and Immunotherapy, N (%)		
Anti-BCL2 (venetoclax)		6 (42.9%)
BTK-Inhibitor (ibrutinib, acalabrutinib, AVL-292)**		8 (57.1%)
PI3K-Inhibitor (idelalisib, duvelisib)		3 (21.4%)
Proteasome Inhibitor		2 (14.3%)
Other Kinase Inhibitor		1 (7.1%)
Antibody		14 (100%)
Cellular		2 (14.3%)
Immunomodulatory Agent		4 (28.6%)
Steroid		5 (35.7%)
Other		1 (7.1%)
Radiation		3 (21.4%)
Autologous Stem Cell Transplant		1 (7.1%)

CG-806 has been Administered to Patients in Cohorts 1-5 Over Multiple Cycles

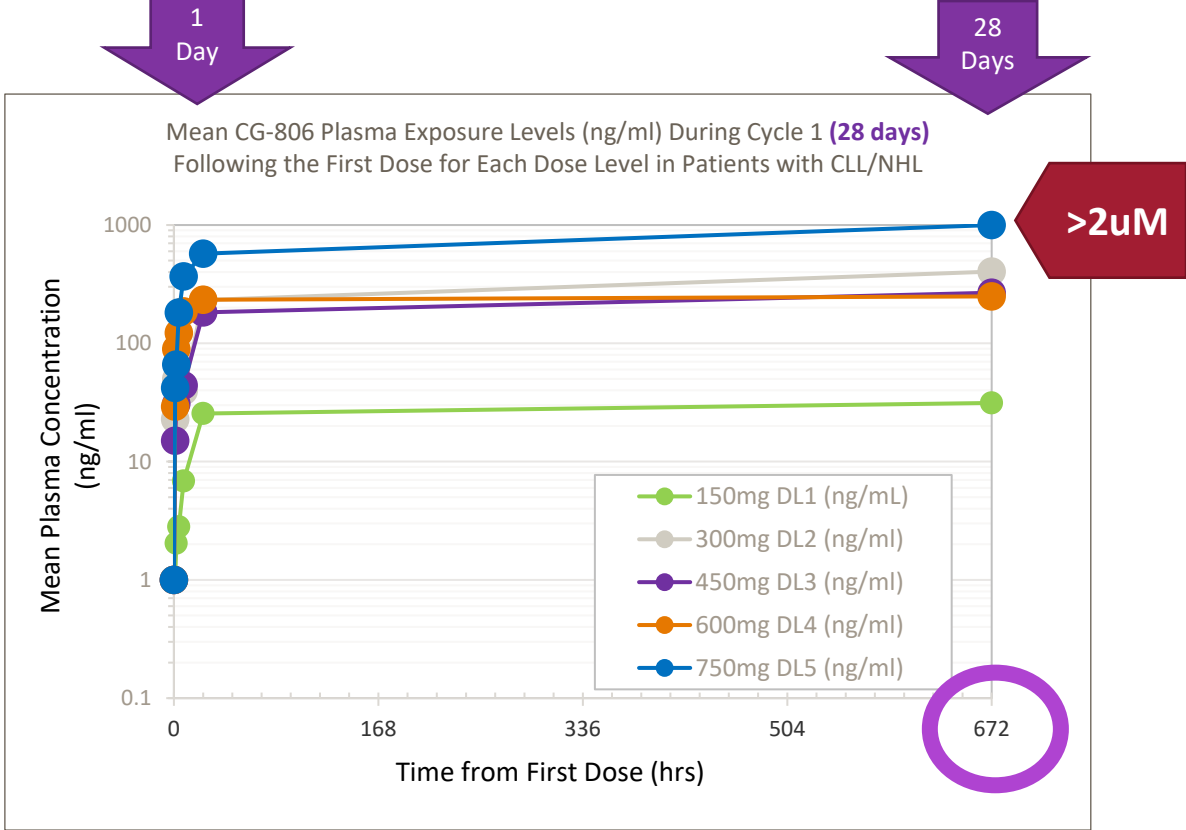
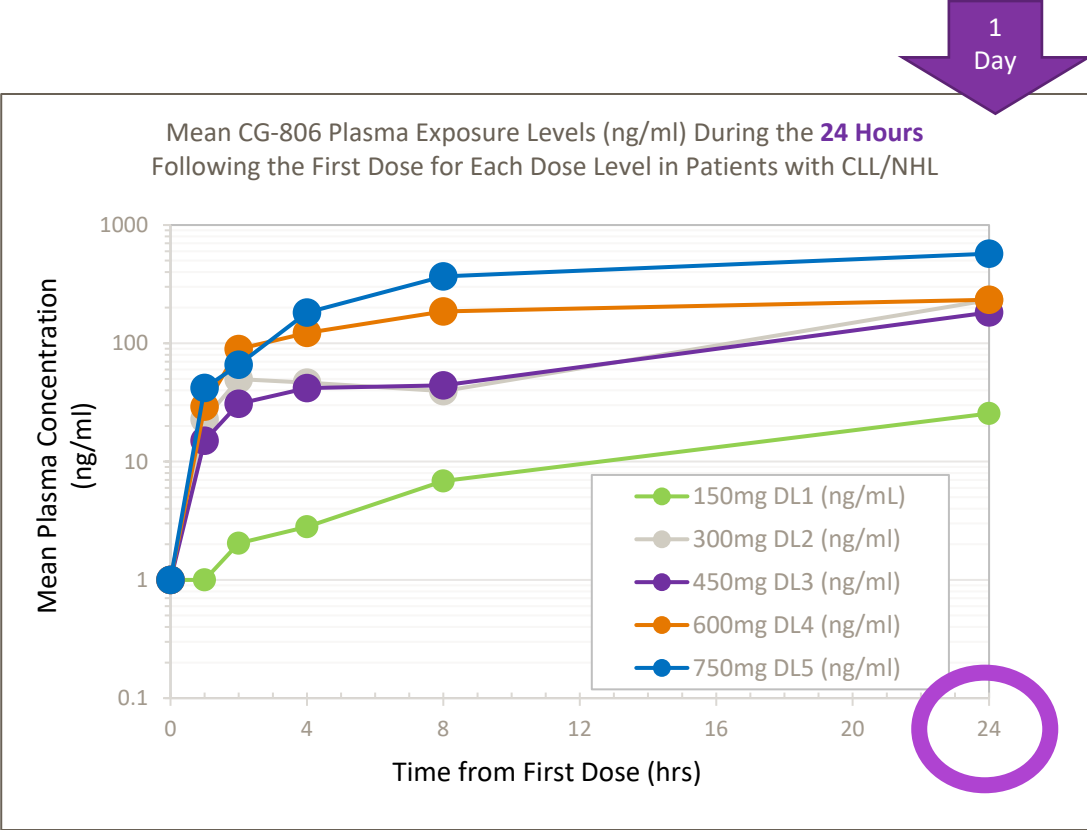


*Data-cut date: Nov 2, 2020

** Six patients had ibrutinib (IBR), one had IBR and acalabrutinib, one had IBR and AVL-292



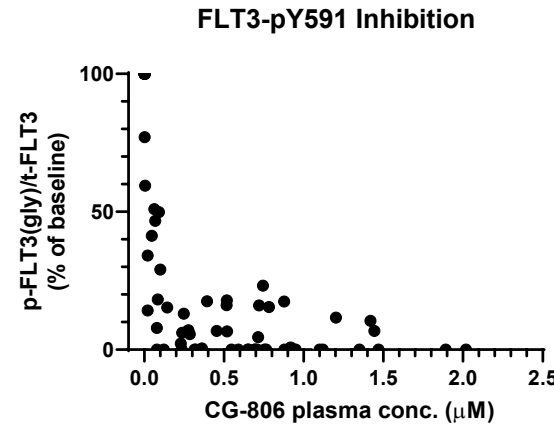
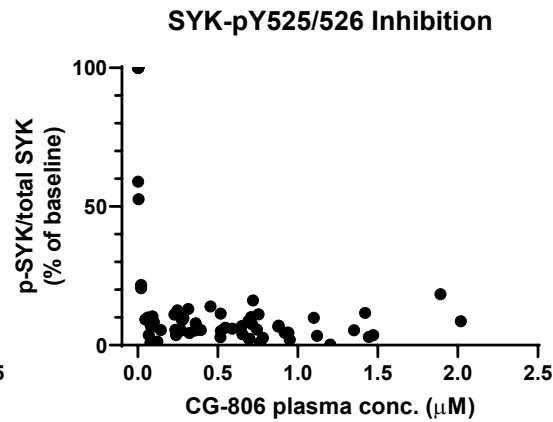
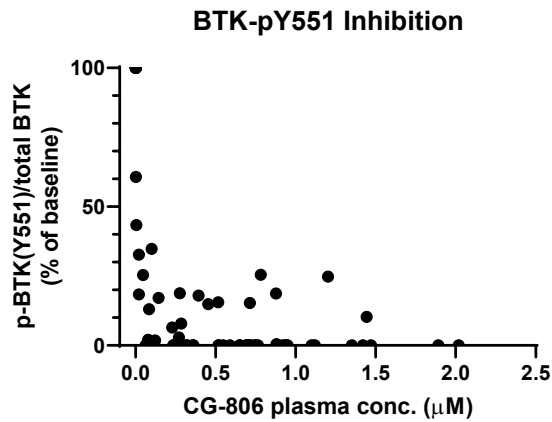
CG-806 Pharmacokinetic Profile



- CG-806 demonstrated dose related pharmacokinetics during the first 24 hours after initiation of dosing and the end of Cycle 1
- CG-806 achieved a steady state plasma concentration >2µM at the end of Cycle 1 at the dose of 750mg BID



CG-806 Pharmacodynamic Inhibition on Target Kinases FLT3, BTK, ERK, PDGFR and SYK as demonstrated by a Plasma Inhibitory Activity (PIA) Assay



Plasma samples from patients in Cohorts 1 – 5 (n=13) were used in PIA assay:

- EOL-1 cells were used as a reporter cell line and treated for 6 hours with plasma collected from patients at the indicated timepoints and then subjected to whole cell lysis and immunoblotting
- Densitometry analysis determines kinase activity as a function of dose

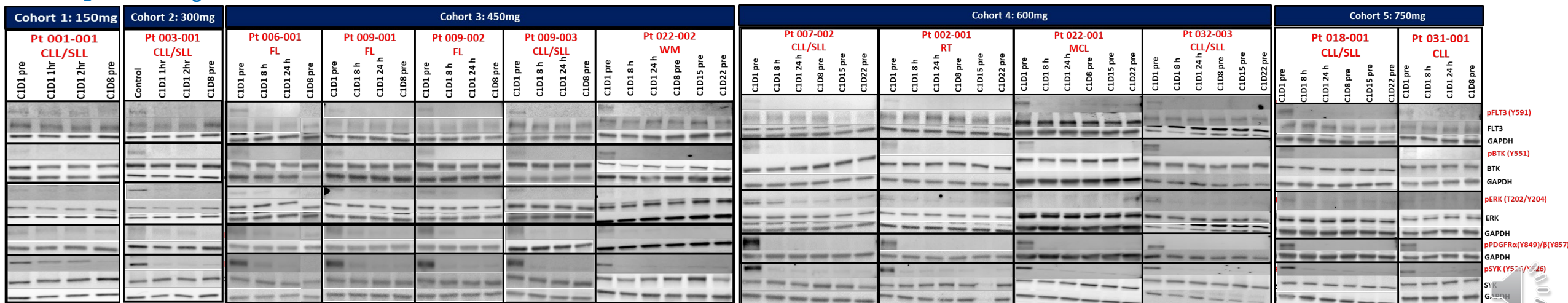
Cohort 1
150mg

Cohort 2
300mg

Cohort 3 : 450mg

Cohort 4 : 600mg

Cohort 5 : 750mg



CG-806 Related Treatment Emergent Adverse Events

Preferred Term	Cohorts 1 to 5 (N=14)*		
	Any Grade, N (%)	Grade 3, N (%)	Grade 4, N (%)
Nausea	6 (42.9%)	0	0
Vomiting	5 (35.7%)	0	0
Diarrhoea	4 (28.6%)	1 (7.1%)	0
Neutropenia or ANC decreased	4 (28.6%)	2 (14.3%)	1 (7.1%)
Fatigue	3 (21.4%)	0	0
Aspartate aminotransferase increased	2 (14.3%)	0	0
Headache	2 (14.3%)	1 (7.1%)	0
Insomnia	2 (14.3%)	0	0
Leukocytosis (Lymphocytosis) **	2 (14.3%)	2 (14.3%)	0
Abdominal distension	1 (7.1%)	0	0
Alanine aminotransferase increased	1 (7.1%)	0	0
Blood bilirubin increased	1 (7.1%)	0	0
Blood lactate dehydrogenase increased	1 (7.1%)	0	0
Chronic kidney disease	1 (7.1%)	0	0
Constipation	1 (7.1%)	0	0
Dehydration	1 (7.1%)	0	0
Dysarthria	1 (7.1%)	0	0
Dysphagia	1 (7.1%)	0	0
Frequent bowel movements	1 (7.1%)	0	0
Hyperglycaemia	1 (7.1%)	0	0
Hypertension	1 (7.1%)	0	1 (7.1%)
Hypoaesthesia	1 (7.1%)	0	0
Hypocalcaemia	1 (7.1%)	0	0
Hypokalaemia	1 (7.1%)	0	0
Hyponatraemia	1 (7.1%)	0	0
Hypophosphataemia	1 (7.1%)	0	0
Impaired gastric emptying	1 (7.1%)	0	0
Lethargy	1 (7.1%)	0	0
Muscle spasms	1 (7.1%)	0	0
Muscular weakness	1 (7.1%)	0	0
Myalgia	1 (7.1%)	0	0
Neuropathy peripheral	1 (7.1%)	0	0
Pain	1 (7.1%)	0	0
Paraesthesia	1 (7.1%)	0	0
Platelet count decreased	1 (7.1%)	0	0
Pruritus	1 (7.1%)	0	0
Sinus bradycardia	1 (7.1%)	0	0
Sinus tachycardia	1 (7.1%)	0	0
White blood cell count decreased	1 (7.1%)	1 (7.1%)	0

* No Grade 5 TEAEs related to CG-806 as of Nov 2, 2020

** Confirmed as lymphocytosis by central laboratory results

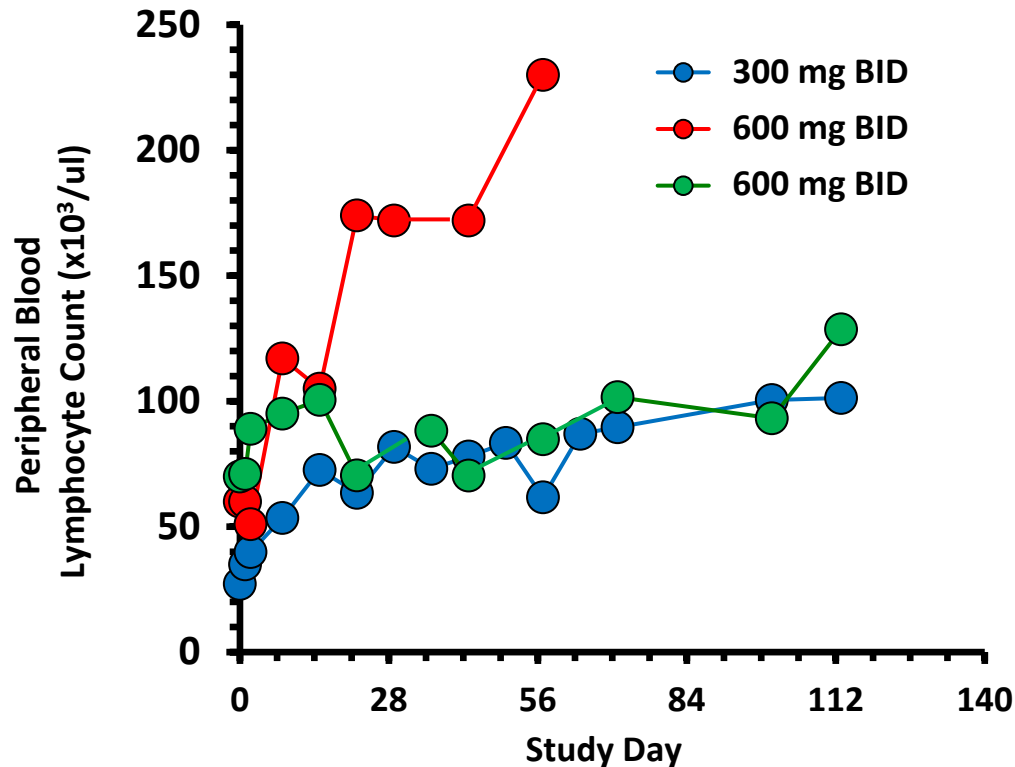
CG-806 Safety and Tolerability Profile

- CG-806 generally well tolerated across all dose levels and multiple cycles
- Several CLL/SLL patients experienced on-target lymphocytosis. Of these, two were scored as CG-806-related Grade 3 TEAEs.
- Two heavily pre-treated and rapidly progressing patients were placed on Dose Level 5 and did not complete even one week of dosing:
 1. One patient (Dose Level 5, 750 mg BID) experienced Grade 2 dysarthria, which was scored as “possibly related” to study drug.
 - *Patient had extensive lymphadenopathy in the head and neck area*
 2. One patient (Dose Level 5, 750 mg) experienced a Grade 3/4 hypertension, which was scored as “possibly related” to study drug and DLT, requiring expansion of 750 mg BID dose level to 6 patients.
 - *Prior to dosing, patient had new onset hypertension during screening (Grade 1) and on C1D1 (Grade 2)*
 - *After two doses (24 hrs) the patient had low CG-806 plasma levels (< 0.35µM); less than many patients who were treated at lower dose levels.*
 - *Analysis of all other patients and their exposure levels identified no correlative effect on blood pressure*



CG-806 Demonstrates Pharmacologic On-Target Activity in CLL/SLL Including Modest Reductions in Tumor Size

CG-806 Induced Lymphocytosis in CLL/SLL Patients



Treatment Case Studies in Different B-Cell Malignancies

Case A: A 60-year-old white female with grade 1 follicular lymphoma, who received 2 prior regimens (bendamustine/obinutuzumab, rituximab), received CG-806 at 450mg BID for 7 cycles, and was then dose-escalated to 600mg BID. After 5 weeks at the higher dose, her **previously enlarging lymph nodes showed no further growth**. Treatment is ongoing now in Cycle 10.

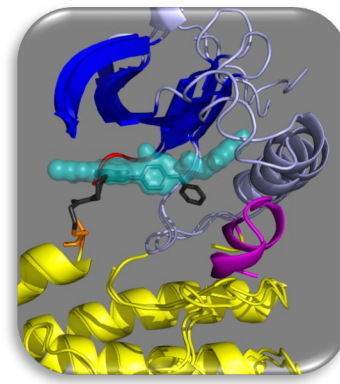
Case B: A 68-year-old white female with SLL, who received 3 prior regimens (bendamustine/rituximab, idelalisib/rituximab, lenalidomide/obinutuzumab), was treated with CG-806 at **450mg BID and noted a 10% tumor reduction** after 8 weeks. The patient is no longer on study.

Case C: A 61-year-old white female with 17p-deleted CLL, who received 4 prior lines of treatment (including veltuzumab, alemtuzumab, and ibrutinib), received CG-806 at **600mg BID and showed immediate on-target lymphocytosis followed by a 27% tumor reduction after 8 weeks** representing her best response to date. At 16 weeks, the tumor size remains below baseline. Treatment is ongoing now in Cycle 5.

As of data-cut date: 2 Nov 2020



CG-806 Clinical Summary



- **CG-806 Uniquely and Selectively Inhibits Clusters of Clinically Validated Kinase Targets**
 - Potently targets driver kinases of lymphoid AND myeloid malignancies (BTK and FLT3)
- **Phase 1 Ongoing in R/R CLL & NHL Lymphoid Cancer Patients**
 - Oral delivery achieved human steady state PK levels known to be effective in murine tumor models
 - CG-806 was generally well-tolerated in patients over multiple cycles
 - Prior to treatment, one patient developed Grade 2 hypertension which worsened to Grade 4 shortly after starting CG-806 at 750 mg BID. This was scored as a DLT and required expansion of the dose level to 6 evaluable patients
 - Pharmacodynamic studies of patient plasma documented inhibition of phospho-SYK, -BTK and -ERK in the BCR signaling pathway
 - CG-806 treatment led to significant on-target lymphocytosis in 3 classic CLL patients and, as of the data cutoff date of 02 Nov 2020, modest decreases in lesion measurements in 2 CLL/SLL patients
- **Findings Supported Clinical Development in Patients with AML and Allowed Selection of a Potentially Pharmacologically Active Starting Dose at 450 mg BID for AML Patients**
 - Phase 1 ongoing in R/R AML patients

Acknowledgements

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To learn more, please go to:
<http://aptose.com/news-media/presentations>

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