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Preliminary Results from a Phase 1 Study of APVO436, a Novel Anti-CD123 x Anti-CD3 Bispecific Molecule, in Relapsed/Refractory Acute Myeloid Leukemia and Myelodysplastic Syndrome

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Aptevo, its vendors, and participating clinical sites have systematically reviewed the data presented in this poster presentation. The data provided are taken from an ongoing clinical study, and as such, the data are preliminary. The results cannot be considered final until the data has been verified, cleaned and locked at completion of the study.

Disclosures

- Watts – Membership on an entity's Board of Directors or advisory committees (Bristol Myers Squibb, Genentech, Jazz Pharmaceuticals, Rafael Pharma, Takeda), Research Funding (Aptevo Therapeutics)
- Lin – Research Funding (Abbvie, Aptevo, Astellas Pharma, Bio-Path Holdings, Celgene, Celyad, Genentech-Roche, Gilead Sciences, Incyte, Jazz, Mateon Therapeutics, Ono Pharmaceutical, Pfizer, Prescient Therapeutics, Seattle Genetics, Tolero Pharmaceuticals, Trovagene)
- Wang – Consultancy (Astellas, MacroGenics, PTC Therapeutics, Genentech, Abbvie, Jazz Pharmaceuticals, Bristol Myers Squibb (Celgene)), Speakers Bureau (Stemline, Pfizer)
- Mims – Other: Data Safety Monitoring Board (Jazz Pharmaceuticals), Membership on an entity's Board of Directors or advisory committees (Syndax Pharmaceuticals, Abbvie, Kura Oncology), Other: Senior Medical Director for Beat AML Study (Leukemia and Lymphoma Society), Consultancy (Agios), Speakers Bureau (Novartis)
- Cull – Research Funding (Aptevo Therapeutics)
- Patel – Consultancy (Agios), Consultancy and Speakers Bureau (Celgene), Honoraria (DAVA Pharmaceuticals, France Foundation)
- Shami - Research Funding (Aptevo Therapeutics)
- Walter - Research Funding (Aptevo Therapeutics)
- Cogle - Membership on an entity's Board of Directors or advisory committees (Bristol Myers Squibb), Research Funding (Aptevo Therapeutics)
- Chenault, MacPherson, Chunyk, McMahan, Gross – Current Employment and current equity holder in publicly-traded company (Aptevo Therapeutics)
- Stromatt – Current equity holder in publicly-traded company (Aptevo Therapeutics)

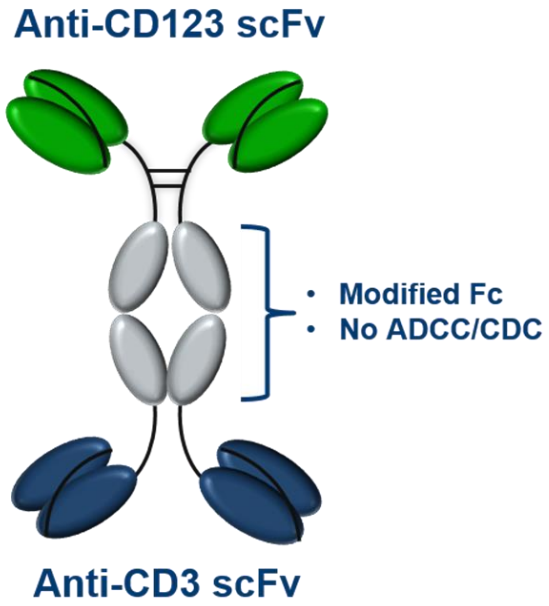
Background

Tumor target:

- High expression of CD123 (IL-3 receptor alpha-chain) on AML/MDS blasts and leukemic stem cells, but not on normal hematopoietic stem cells

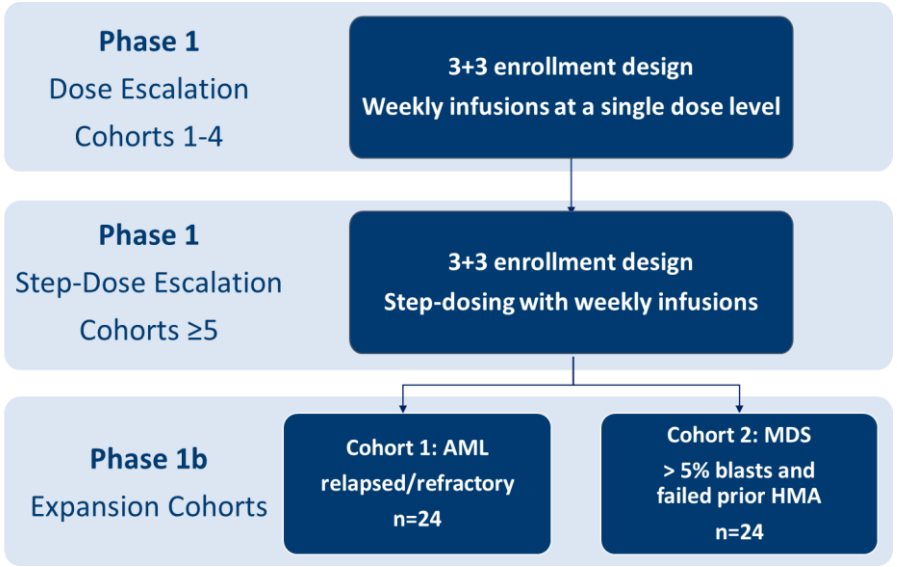
Pre-clinical activity of APVO436:

- Depleted CD123+ cells in AML patient samples *ex vivo* (Godwin et al. ASH 2017)
- Reduced leukemia engraftment in a systemic AML xenograft model (Comeau et al. AACR 2018)
- Reduced peripheral CD123+ cells in non-human primates with minimal cytokine release (Comeau et al. AACR 2019)
- Extended half-life in non-human primates supports I.V. dosing in clinical setting



Study Design

- Ongoing Phase 1/1b dose-escalation study in R/R AML and MDS
- Endpoints: safety, immunogenicity, pharmacokinetics, pharmacodynamics, and clinical activity
- Mitigate infusion related reactions (IRR) and cytokine release syndrome (CRS)
  - Premeds: diphenhydramine, acetaminophen, and dexamethasone
  - Infusion duration over 20-24 hours for 1st dose and increasing step doses of APVO436 followed by observation period; subsequent infusions at the same dose over 4-8 hours



Single Dose Level (mcg): Cohort 1 (0.3), Cohort 2 (1.0), Cohort 3 (3.0), Cohort 4 (9.0)
Step Dosing (mcg): Cohort 5 (6→9→12), Cohort 6a (6→9→12→18), Cohort 6b (6→12), Cohort 7 (6→12→18→24)

Demographics and Exposure

Characteristic	Statistic	All Patients (N=32)
Age	Median (Range)	67 (18, 81)
Female	N (%)	15 (47%)
Prior Lines of Therapy	Median (Range)	3 (1, 13)
Disease		
MDS	N (%)	7 (22%)
AML Primary	N (%)	21 (66%)
AML Therapy Related	N (%)	4 (13%)
Cytogenetic Risk		
Favorable	N (%)	3 (9%)
Intermediate	N (%)	7 (22%)
Poor	N (%)	6 (19%)
Unknown	N (%)	16 (50%)

Summary of Treatment Exposure	32 Patients Mean (SD)
Doses Administered	8.5 (8.3)
Treatment Duration (days)	54 (59)

Data cut-off October 30, 2020

Treatment-Related Adverse Events

Treatment-Related Adverse Events*	All (N=32)	Grade ≥ 3 (N=32)
IRR/CRS**	11 (34%)	5 (16%)
Fatigue	5 (16%)	1 (3%)
Diarrhea	3 (9%)	
Fever	3 (9%)	
Anemia	2 (6%)	2 (6%)
Flushing	2 (6%)	
Hypotension	2 (6%)	
Nausea	2 (6%)	1 (3%)
Peripheral Edema	2 (6%)	
Rigors/Chills	2 (6%)	
Treatment-Related Serious Adverse Events		
IRR/CRS	8 (25%)	4 (13%)

*Treatment-related AE and SAE events occurring in 2 or more patients

**Infusion Related Reaction/Cytokine Release Syndrome

Toxicity grading is based on CTCAE criteria version 5.0

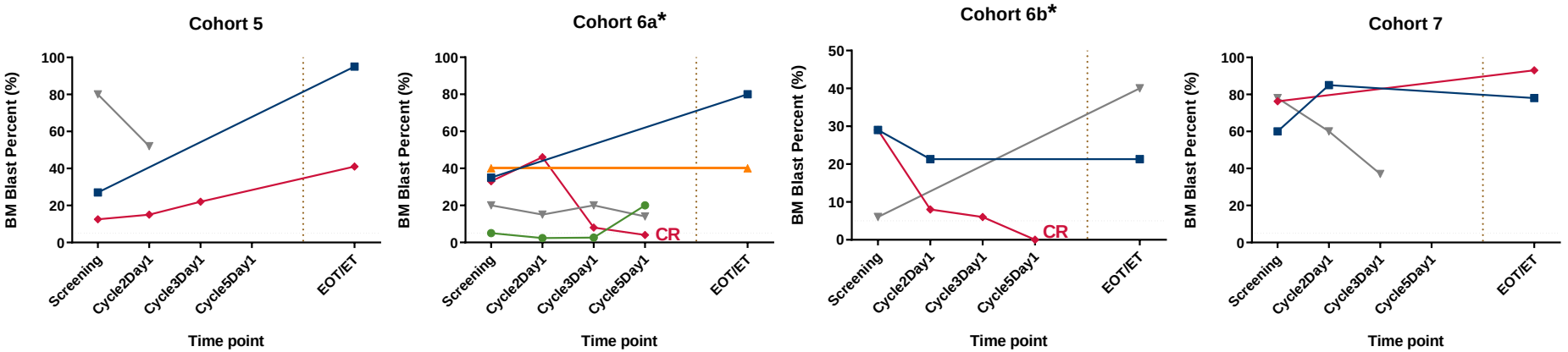
34% of patients experienced one or more IRR/CRS events (Grade ≥ 3 reported in 16%)

- Most common symptoms were dyspnea, fever, hypotension, hypoxia, tachycardia, and rigors/chills
- 3/11 patients received tocilizumab to treat IRR/CRS

Data cut-off October 30, 2020

Bone Marrow Blasts

- Percentage of blasts in bone marrow aspirates are plotted over time for patients in cohorts receiving a highest dose of ≥ 12 µg (N=14 evaluable for changes from baseline)
- Reduction of bone marrow blasts observed in several patients
- Two patients had Complete Remission (CR) with reductions in bone marrow blasts from 29% to 0% (Cohort 6b) and from 33% to 4% (Cohort 6a), respectively. Absolute neutrophil and platelet counts for both patients met CR criteria. Both patients remain on study.



* Cohorts 6a and 6b tested different step dosing regimens

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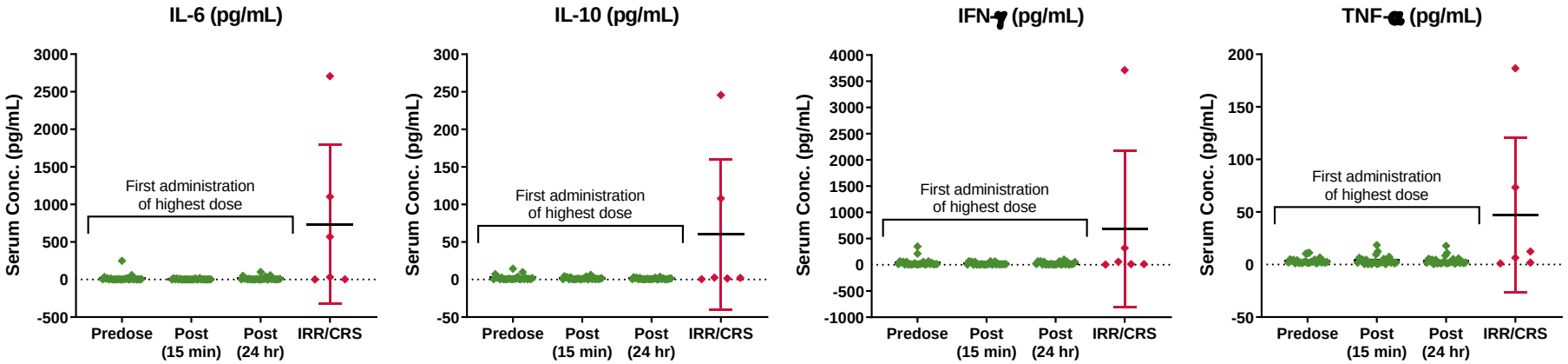
Serum Cytokines

- Cytokines were not elevated during scheduled collections
- Elevated cytokines were observed during adverse events of IRR/CRS
  - No correlation observed between highest cytokine concentrations and dose level or grade of event



Data shown for scheduled collections (green) around the first administration of the highest dose (N=26). Peak cytokine levels (red) observed at unscheduled collections during IRR/CRS events are shown for comparison (N=6 events in 4 patients).

Data cut-off October 30, 2020

Summary

- Administration of APVO436, through doses of 24 µg, was tolerated with a manageable safety profile
- 2 patients had Complete Remission (CR) with marrow blasts decreasing from 29% to 0% (Cohort 6b) and from 33% to 4% (Cohort 6a), respectively. Absolute neutrophil and platelet counts for both patients met CR criteria.
- Cytokines were not significantly elevated unless there was a concurrent adverse event of IRR/CRS (infusion related reaction/cytokine release syndrome)
- Preliminary data suggest no evidence of treatment-induced anti-drug antibodies (ADA)
- Majority of PK data are below the limit of quantitation of the assay
- Dose escalation and optimization of the dosing regimen continues

Thank you to clinical site staff and to patients and their families for participation on this study.