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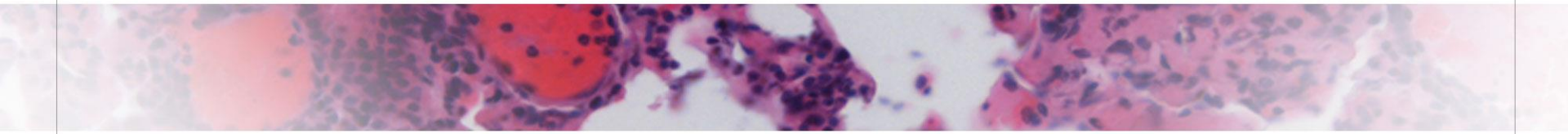


Poster #2971

Clinical and Biological Evaluation of the Novel CD30/CD16A Tetravalent Bispecific Antibody (AFM13) in Relapsed or Refractory CD30-Positive Lymphoma with Cutaneous Presentation: A Biomarker Phase Ib/IIa Study (NCT03192202)

Ahmed Sawas, MD[1]
Pei-Hsuan Chen[2], Mikel Lipschitz[2], Scott Rodig, MD PhD[2], George Vlad, PhD[1]

[1]Columbia University Medical Center, New York, NY; [3]Brigham & Women's Hospital, Boston, Massachusetts; Boston, MA.

Main Findings

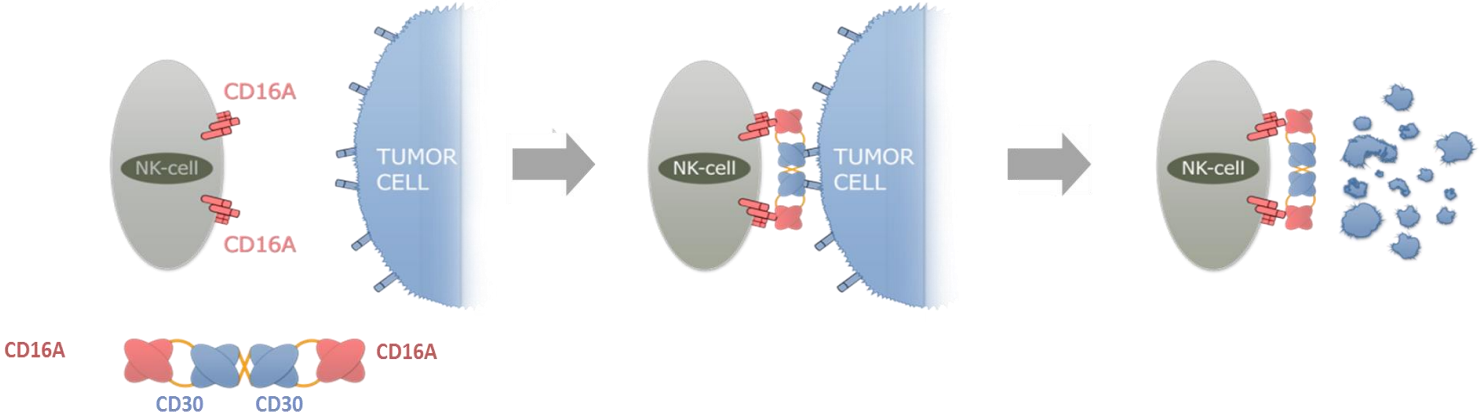
- AFM13 is active in CD30 expressing lymphomas
- AFM13 is well tolerated in patients
- Biomarker studies demonstrate that AFM13 is able to recruit and activate NK cells

Disclosures:

AS :*Roche:* Current equity holder in publicly-traded company; *Affimed:* Research Funding; *Daiichi Sankyo:* Speakers Bureau; *Seattle Genetics:* Speakers Bureau; *Gilead:* Speakers Bureau; *Flatiron Health:* Current Employment. **PC:***Affimed:* Research Funding. **ML :***Affimed:* Research Funding. **SR :***Bristol Myers Squibb:* Research Funding; *Merck:* Research Funding; *Affimed:* Research Funding; *KITE/Gilead:* Research Funding; *Immunitas:* Current equity holder in private company, Membership on an entity's Board of Directors or advisory committees.

Background

- AFM13 is a CD30/CD16A targeting high affinity bispecific tetravalent antibody that engages and activates NK cells and macrophages.
- This study evaluates AFM13's clinical and immunological activity.
- The study examines the immunologic changes in the tumor and in peripheral blood (PB) as a function of the dose and method of administration of AFM13.



Methods:

- Population : subjects with relapsed or refractory CD30 expressing lymphoma with cutaneous involvement
- A second cycle was administered if there was no progression of disease.
- Response assessment performed by mSWAT, photography, PET imaging and peripheral blood flow cytometry.
- Skin biopsies, whole blood and plasma were collected: pretreatment, day 5 post first dose, week 4 and week 8 of therapy.
- Tumor biopsies were analyzed and evaluated by a pathologist and IHC image analyzer to characterize immune cell subpopulations.
- Peripheral blood samples were analyzed by flow cytometry.

Cohort	Dosage	Total Exposure
Cohort 1	1.5 mg/kg	12mg/kg
Cohort 2	7.0 mg/kg	56mg/kg
Cohort 3	7.0 mg/kg CIVI*	56mg/kg
Cohort 4	200 mg	1600mg
AFM13 was administered weekly for 8 weeks		

*1 mg/kg loading over 1 hour followed by 6mg/kg as continuous infusion for 5 days per week

Results: clinical results displayed by cohort, disease, toxicity and response

Cohort	Disease	Toxicity	Response
1.5 mg/kg IV weekly	S-ALCL Alk-	No AE	PR
	T-MF	No AE	POD
	C-ALCL	Rash (G4), Skin infection (G3)	CR
7 mg/kg IV weekly	MF	IRR (G1)	SD
	T-MF*	IRR (G1)	SD
	T-MF	Skin infection (G3), IRR (G1)	Not assessed
7 mg/kg CIVI	T-MF	No AE	PR
	S-ALCL Alk-*	No AE	PR
	MF	No AE	POD
200 mg weekly	T-MF	No AE	PR
	MF	No AE	SD
	PTCL-NOS	No AE	SD
	T-PLL*	No AE	SD
	AITL	No AE	POD
	T-MF*	No AE	PR

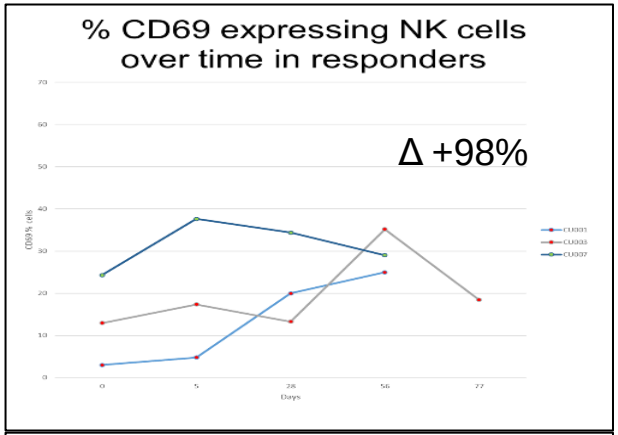
The ORR is 42%

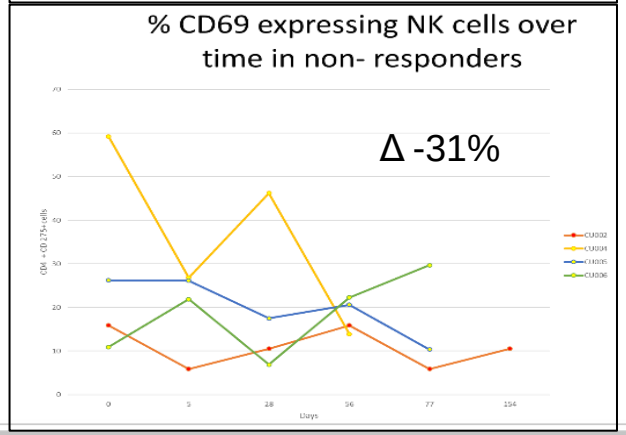
*Patients progressed on Brentuximab vedotin prior to AFM 13 exposure

AE: Adverse Events
AITL: Angioimmunoblastic T-cell lymphoma
C-ALCL: Cutaneous Anaplastic Large Cell lymphoma
CR: Complete Response
PR: Partial Response
POD: Progression of Disease
PTCL-NOS: Peripheral T-cell lymphoma not otherwise specified
MF: Mycosis Fungoides
S-ALCL Alk-: Systemic Anaplastic Large Cell Lymphoma-ALK negative
SD: Stable Disease
T-MF: Transformed Mycosis Fungoides
T-PLL: T-cell Prolymphocytic Leukemia

Results: serial flow cytometry biomarker results

- Decrease in circulating NK cells during therapy with post therapy recovery, by following cells CD56+ CD3- , CD56+ CD16+ and NKp46+.
- Increase CD69 expression on circulating NK cells from responders vs. non-responders.
- Circulating CD4+ CD25+ T cells (Tregs) decrease in responders vs. non-responders.



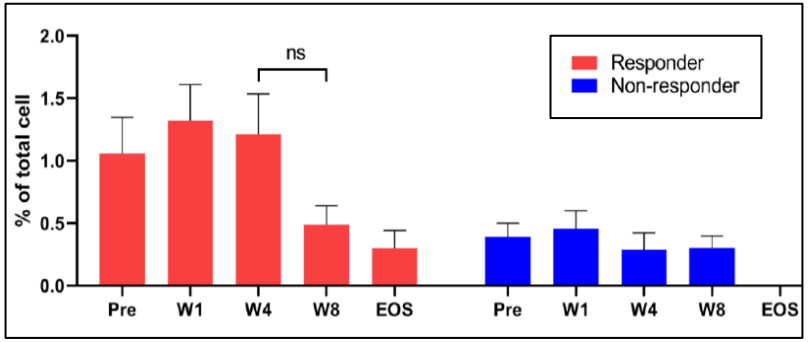


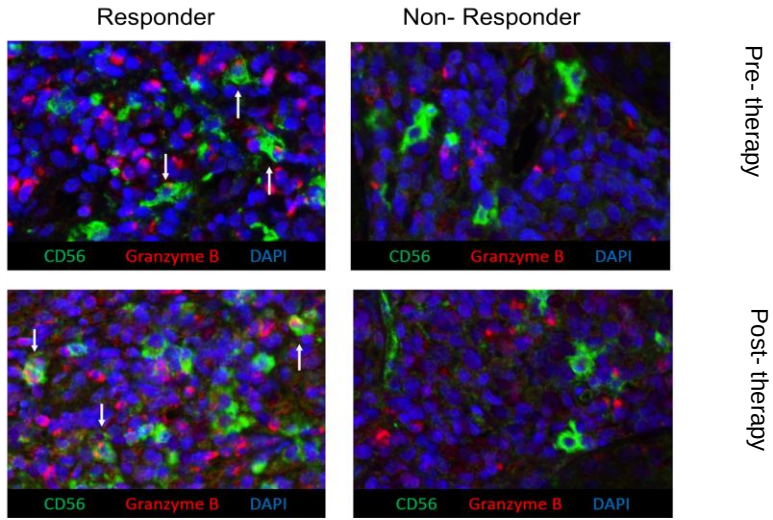
Results: serial tumor tissue IHC biomarker

- Tumor biopsies showed increased infiltration of CD56+ NK cells pre therapy in responders vs. non-responders.

- NK cell (green) cytotoxicity through the expression of Granzyme B (red) was seen in responders vs. non-responders by comparing pre therapy tumor biopsy (top panel) to W4 tumor biopsy (bottom panel).

- No change in CD68 expressing cells (not shown).





Conclusion:

- AFM13 demonstrated ORR of 42%.
- AFM13 is well tolerated.
- AFM13 is active post brentuximab vedotin failure.
- Possible correlation between response and tumor NK cell infiltration pre therapy.
- A phase II multicenter international study of AFM13 in PTCL and T-MF is accruing (NCT04101331).

Skin response in a T-MF patient left knee and left inner thigh