

UNMASKING CANCER CELL CAMOUFLAGE

COMPANY PRESENTATION | August 2022

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Company Highlights

Differentiated Pipeline	 Novel, next generation potential across three programs in solid and hematological malignancies Lead candidate DSP107 designed to target CD47/SIRPα and 41BB specifically and conditionally in the tumor microenvironment Versatile MIRP platform targeting innate and adaptive immunity
Multiple Near- Term Catalysts	 Anticipated data readouts for DSP107 in Q2 2023 in NSCLC (phase II) and in Q4 2022 in heme malignancies (phase I) Dose escalation portion of Phase I/II data demonstrates favorable preliminary safety profile and monotherapy activity in solid tumors Expected IND filing for DSP502 and DSP216 in 2024
Cash Runway	 Raised ~\$110 million to date Investors include aMoon, BVF, DAFNA, Cancer Focus Fund
Experienced Leadership	 Experienced leadership and executive team with track record of success Supported by leading scientific advisory board

Experienced Leadership Team





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aulos

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Versatile Multifunctional Immunotherapeutic Platform for Solid and Hematological Malignancies

MULTIFUNCTIONAL IMMUNE RECRUITMENT PROTEIN (MIRP)

Enabled us to design dual-targeting fusion proteins capable of:



Inhibiting key evasion markers on cancer cells



Activating innate and adaptive anti-tumor immunity





MIRP Platform - Customized, Modular and Flexible Design





Enhanced, Tumor-Localized Immune Cell Recruitment & Activation With Potential to Improve Safety and Efficacy

PVR inhibitor –

Dual PD1/TIGIT

inhibition with DNAMI

potentiation potential

PD-L1 inhibitor –

Active IgG1 Fc -

Half-life extension

DSP (Dual Signaling Protein)

Combined checkpoint inhibition and immune co-stimulation

4-1BB activator – CD47-conditional T-cell activation

CD47 inhibitor – Trimeric binding for cancer specific blocking



DSP107



DSP-Fc (Dual Signaling Protein With Fc Domain)

Dual checkpoint inhibition for tumoricidal response

DSP502



CD47 inhibitor –

Avidity driven for *cancer specific* blocking

HLA-G inhibitor – Inhibition of LILRB1,LILRB2

Inactive Fc – Half-life extension potential

DSP216



Wholly Owned, Focused and Differentiated Pipeline

Program	Targets	Indications	Discovery	Preclinical	Phase 1	Phase 2	Phase 3	Anticipated Milestones
D0D107	CD47	Advanced Solid Tumors, NSCLC	$DSP107 \pm ate$	zolizumab*				Phase II interim data Q2/23
DSP107	4-1BB	AML / MDS	DSP107 ± aza	ncitidine + veneto	clax			Phase Ib interim data Q4/22
DSP502	PVR PD-L1	Oncology						IND submission H1 2024
DSP216	HLA-G CD47	Oncology						IND submission H2 2024



*Clinical trial collaboration and supply agreement with Roche for the PD-L1 inhibitor atezolizumab (TECENTRIQ®)



Key Anticipated Milestones



DSP107

MIRP Type	DSP
Targets	CD47, 4-1BB
Primary Cell Target	mø macrophages, T cells
Mechanism of Action	Unleash mø via 'Don't Eat Me' blockade, Activate 4-1BB+ T cells

DSP107 – Differentiated CD47 Targeting Compound

First-generation CD47 blocking agents are mainly active in hematological malignancies and limited by anemia

Dual MOA designed to activate innate and adaptive immunity

Favorable safety without hematological toxicities observed **Strongly positioned** for treatment of solid and <u>hematological malignancies</u>

Phase I data demonstrates unique and differentiated features



Triggering T and NK-cell infiltration into tumor microenvironment



No binding to red blood cells observed



Increasing tumor necrosis (red) and immune cell infiltration (blue)



Trimeric Structure Design For Tumor Selectivity and Improved Safety

Trimeric ligand ends designed to enable:

Cancer selective binding to overexpressed CD47 on tumor cells, minimizing RBC binding and associated toxicities

2

Conditional 4-1BB mediated T cell activation dependent on trimeric binding to CD47 on cancer cells



3 SIRPα for CD47 Checkpoint Targeting

DSP107 Structure Designed to Safely Unlock 4-1BB Potential Phase I/II Data Demonstrated Absence of 4-1BB Related Hepatotoxicity



Designed for Synergistic Innate & Adaptive Immune Activation



DSP107 Potential as a Monotherapy and in Combination Therapies







Preclinical Studies Support Differentiated Potential Dual MoA

Dual MOA designed to activate innate and adaptive immunity **Favorable safety** without hematological or hepatotoxicities in NHP observed

Monotherapy potential for treatment of solid and hematological malignancies

Comprehensive preclinical package demonstrated differentiated features



Triggering cancer cell death by phagocytosis as a single agent

Inducing 4-1BB activation, T-cell proliferation and killing potential against cancer cells Demonstrating single agent anti tumor activity in mice models



DSP107 Clinical Program



Enrolling sites: Pittsburgh, Colorado, Kansas, Thomas Jefferson; Sites under evaluation: San-Diego, Augusta, Chapel Hill, University of Texas





Lead site: MD Anderson Cancer Center

RP2D: Recommended Phase 2 dose; NSCLC: Non-small cell lung cancer; MDS: Myelodysplastic syndromes; AML: Acute myeloid leukemia



Hematological

Trial Design and Key Inclusion Criteria

Part 1 – Monotherapy and Combination Dose Escalation in Advanced Solid Tumor Patients





Trial Design:

- Patients with advanced solid tumors (N=30) not suitable for curative therapy and without approved treatment options
- IV administration once weekly
- Accelerated dose escalation in single patient cohorts followed by standard 3+3 design

Key Inclusion Criteria:

- Histologically confirmed advanced solid tumor with no approved therapeutic options
- Age 18 years or older
- ECOG performance status 0 or 1
- Measurable disease per RECIST v 1.1

Patients With Advanced Solid Tumors

Nearly Half Failed Prior Immunotherapy and/or Cold Tumors

Characteristics	
Total number of patients	N = 23 (cohorts 1 – 7)
Sex	10 (43%) ♀; 13 (57%) ♂
Age	Median 63 (Range 29-78)
Tumor types	
Colorectal	7 (30%)
Pancreas	5 (22%)
Head and Neck	3 (13%)
NSCLC	1 (4%)
Ovarian	2 (9%)
Rare tumor types	5 (22%)
Previous lines of therapy	Median 3 (Range 2-8)
PD1/PD-L1 experienced	11 (48%)

Well Tolerated Without DLTs, Hematological or Hepato-Toxicities

Summary

- DSP107 doses up to and including 10 mg/kg well tolerated
- No DLTs and no treatment-related SAEs
- No hematological toxicities
- No hepato-toxicities
- Very few AEs considered related to DSP107 and almost all mild or moderate in severity
- Most related AEs Grade 1-2 in severity. Only 2 related Grade 3 AEs – transient hypertension and fatigue (at EOT visit)

Now treating patients with DSP107 and Atezolizumab combination

Treatment-Related AEs in \geq 2 Patients

Total No of Patients	N = 23 (cohorts 1 - 7)	
Treatment-related AEs (any grade)	n (%)	
Any	16 (70)	
IRR*	7 (30)	
Diarrhea	4 (17)	
Fatigue	4 (17)	
Nausea	3 (13)	
Constipation	2 (9)	

*IRRs Grade 1-2 in severity. Easily abrogated (except 10-004 and 11-012 who withdrew consent) in subsequent infusions by reduced rate of infusion and concomitant IV fluids.



Receptor Occupancy Data Showed Immune Cell Target Engagement With No RBC Binding

Dose dependent target engagement achieved with 100% receptor occupancy on circulating immune cells observed from 3 mg/kg





DSP107 Does Not Bind Red Blood Cells

Resulting in Favorable Safety Profile With No Anemia or Antigen Sink Issues



On RBCs CD47 protein complex is anchored to cytoskeleton resulting in its immobilization and low affinity of DSP107 to the monomeric CD47

IMMUNITY.

DSP107 Treatment Resulted in Tumor Necrosis

Key paired biopsies data

- All biopsies collected from hepatic metastases pre-treatment and following cycle 2 (6 doses)
- H&E stained slides assessed by independent, blinded pathologist and by objectively by IF
- In 3 out of 6 paired biopsies significant increase in necrotic (dead) tumor tissue was observed – confirmed objectively by IF
- Necrosis associated with immune cell infiltration; no evidence of vascular necrosis

Patient Number	Dose (mg/kg)	Tumor type	Timepoint	% Necrosis (H&E)	% Necrosis (IF)
11.001	0.3	Colorectal	Screening	0	0
11-001			6 weeks	65	28
		Calamatal	Screening	2	2.1
11-002	0.3	Colorectal	6 weeks	35	22
10-003	1	Pancreatic	Screening	10	10
			6 weeks	50	26.6
12 005	1	Donomotio	Screening	4	4.9
13-005	I	Pancreatic	6 weeks	3	5.25
13-007	2	Neuroendocrine	Screening	0	0
	3	GI	$6 \text{ weeks} 50 26$ $Screening 4 4$ $6 \text{ weeks} 3 5.2$ $Be \frac{Screening}{6 \text{ weeks}} 0 6$	0	
11.010	10	Appendiceal	Screening	15	10.75
11-010	10	carcinoma	6 weeks	15	15.17

Case Study: Increased Tumor Necrosis Associated With Immune Cell Infiltration



Paired biopsy from colon carcinoma patient (11-001) in dose level 4 (0.3 mg/kg) pre- treatment and following cycle 2 (6 doses)



Case Study: Paired Biopsies Demonstrated Adaptive Immune Engagement in Ongoing Clinical Trial

6-wks post DSP107 treatment



Paired biopsy from colon carcinoma patient (11-001) in dose level 4 (0.3 mg/kg) pre- treatment and following cycle 2 (6 doses). Quantification of multiplex image analysis from biopsy stains.

Significant infiltration of T cells and NK cells in both the tumor compartment and at the tumor margin following DSP107 treatment

Best Overall Response After DSP107 Monotherapy



^Necrosis inductions evident in on-treatment biopsy; § Patient withdrawn



DSP107 Phase I/II Data: Favorable Preliminary Safety and Activity in Advanced Solid Tumors

Clinical Overview

- DSP107 as monotherapy and in combination with Atezolizumab is being evaluated in a dose escalation trial
- 23 patients with diverse solid tumors have been treated with DSP107 monotherapy with 22 patients evaluable for efficacy analysis
- Now treating patients with DSP107 and Atezolizumab
- Phase Ib in r/r AML and MDS is ongoing assessing the safety of DSP107 monotherapy, DSP107 with Azacitidine and DSP107 with Azacitidine plus Venetoclax

Key Findings

- Low-grade AEs with no DLTs, no hematological toxicities and no hepato-toxicities
- Receptor occupancy data suggesting lack of RBC binding and immune cell engagement
- Increased immune cell infiltration into the tumor and tumor necrosis
- 50% DCR in difficult to treat phase I patients

Next steps: Further evaluate safety and efficacy of DSP107 monotherapy and combination with SOC therapies



DSP107 Highlights



MOA

- CD47 inhibition (Cancer specific)
- 4-1BB activation (CD47-conditional)



Differentiation

- Activates both adaptive and innate immunity
- No RBC binding observed
- Potentially favorable safety profile suitable for combination therapy



Clinical Opportunities

- Solid tumors
 - DSP107 \pm atezolizumab (intended to enhance T cell activation)
- Hematological Malignancies
 - DSP107 \pm azacytidine + venetoclax (intended to enhance eat me signal)



Potential Efficacy - Preclinical

- Activates T cells, increases IFNγ secretion and anti-tumor killing
- Increased macrophage phagocytosis of tumor cells
- Augments mAbs' ADCP phagocytosis of cancer cells
- Potential efficacy as monotherapy and synergistic activity in combination

Potential Safety - Preclinical

- No binding to human RBCs observed
- No CD47 related hematological toxicities observed
- No 4-1BB related hepato-toxicities observed



Preliminary Clinical Data

- Well tolerated
- No DLTs
- No hematological toxicities
- No hepato-toxicities

Preliminary efficacy signals as a monotherapy in solid tumors

- Paired biopsies demonstrate tumor necrosis
- Stable disease achieved in eleven of twenty-two patients (50%)



DSP502

MIRP Type	DSP-Fc
Targets	PVR, PD-L1, FcR
Primary Cell Target	NK cells, T effector cells
Mechanism of Action	Dual checkpoint inhibition designed to unleash NK and T-cells, ADCC

Dual Checkpoint Binding Aimed at Enhancing Selectivity and Synergistic Immunity



Dual binding to overexpressed checkpoints may enable high tumor specificity



Potential anti-tumor immunity via simultaneous checkpoint inhibition of PVR and PD-L1



Active Fc may extend half-life and enhance ADCC activity



Novel, Potential Next-Generation Approach to Checkpoint Inhibition

- PVR is a ligand for inhibitory (TIGIT, CD96) and stimulatory (DNAM1) immune checkpoint receptors
- Tumor cells overexpress PVR to evade immune surveillance
- Overexpression of PVR is associated with resistance to checkpoint therapy in NSCLC and melanoma patients
- Inhibition of TIGIT/PVR is efficacious in combination with PD1 blockade
- PD1 inactivates DNAM1 stimulatory activity



Synergistic Dual Checkpoint Inhibition for Robust Anti-tumor Immunity



Simultaneous TIGIT, CD96 and PD-L1 inhibition with DNAM1 costimulation for enhanced anti-tumor immunity



Designed to activate both, T cells and NK cells

Effect	Dual PVR and PD-L1 Targeting (KAHR's approach)	TIGIT Ab* (Competitors)
- TIGIT		~
C D96		_
+ DNAM1		_
P D-1		_

*Company has not undertaken comparative trials of DSP502 against the identified competitors





DSP502 blocks PVR and PD1 signaling for enhanced immune activation and anti-tumor immunity

PDI.

DNAM

PVR

PVRL₂

DSP502

FcR

PD₁

DSP502 – Differentiated TIGIT/PD1 Targeting Compound

Potential next-generation capabilities

Dual MOA designed to activate innate and adaptive immunity **High Tumor Specificity** Concomitant binding to PVR and PD-L1 required for its activity **Designed to Have Unique Features** Multiple functionalities that act simultaneously for synergistic effect





Enhanced NK cells cancer killing potential



Augmented NK cells ADCC activity



Demonstrated potent single agent anti tumor activity

DSP216

MIRP Type	DSP-Fc
Targets	CD47, HLA-G
Primary Cell Target	mø macrophages, T effector cells, NK cells, Myeloid cells
Mechanism of Action	Dual checkpoint inhibition unleash macrophage, NK and Teff

1

2

36

Dual Checkpoint Binding Designed For Enhanced Selectivity and Broad Immunity

Dual binding to overexpressed cancer checkpoints may enable high tumor specificity

- HLA-G and CD47 blockade designed to activate innate and adaptive immunity
- 3 Inactive Fc may extend half-life



HLA-G Blockade Designed To Prevent Immunotolerance Across Immune Cells

- Placenta expressed HLA-G triggers immunotolerance to prevent the mother's immune system from attacking the fetus
- Tumor cells overexpress HLA-G to evade immune surveillance
- HLA-G is a broad-range immune checkpoint that is the main ligand for the LILRB/ILT receptor family
- HLA-G inhibits multiple immune cell subsets and recruits suppressive immune cells to the tumor microenvironment



Dual Targeting Designed For Robust Tumor Selective Innate & Adaptive Immune Activation



HLA-G blockade aims to prevent cancer immunotolerance by **multiple immune cell subsets**



CD47 blockade removes 'don't eat me' signal, triggering macrophage phagocytosis of tumor cells

Effect	HLA-G & CD47 (KAHR's approach)	LILRB1/2 Ab* (Competitors)
E LILRB1 & LILRB2		—
Tumor selectivity	~	_
• Innate & adaptive immunity	~	_

*Company have not undertaken comparative trials of DSP502 against the identified competitors



DSP216 – First-in-Class HLA-G/CD47 Targeting Compound

Potential next-generation capabilities

Dual MOA Designed to activate innate and adaptive immunity **High Tumor Specificity** Concomitant binding to HLA-G and CD47 required for its activity **Designed to Have Unique Features** Prevents cancer immunotolerance by multiple immune pathways

Differentiated mechanism of action



Enhanced phagocytosis cancer-killing



No binding to Red Blood Cells



Polarizes M2 Into M1 Anti-Tumor Macrophages

CORPORATE HIGHLIGHTS

Multifunctional Cancer Immunotherapy Candidates Targeting Innate and Adaptive Immune Cells



NOVEL MIRPsTM

Multifunctional Immuno-Recruitment Proteins – versatile platform targeting both innate & adaptive immunity across cancers



DIFFERENTIATED PIPELINE

- Novel, next-generation potential across three programs

Lead candidate DSP107 –
CD47 inhibition (Cancer specific)
41BB activation (CD47-conditional)



ANTICIPATED MILESTONES -DSP107| Interim Ph II solid tumor mono and combo data Q2 2023 and interim Ph I

hematological malignancy data Q4 2022 -DSP502 & DSP216 | IND 2024



IP

13 families4 granted (US and other territories),73 pending (NP worldwide and PCT stage)



Experienced Leadership

Management team, BOD and SAB comprised of leading experts including technology inventor, Prof. Mark Tykocinski, Dean of the School of Medicine and Provost, Thomas Jefferson University.



Recent Achievements and Milestones

Achievements To Date	Date
Financing	
\$5 million – Cancer Focus Fund to finance DSP107 clinical trial in blood cancers	May 2021
\$56.6 million – Round E financing	June 21-22
Clinical	
Completion of DSP107 monotherapy dose escalation in DSP107_001 solid tumor phase I study	Dec 2021
Completion of first DSP107+Tecentriq cohort under clinical trial collaboration with Roche	Jan 2022 <
Initiation of DSP107_002 AML/MDS phase Ib study	Feb 2022
Corporate	
Composition of matter patent granted in EU and US for DSP107	H2 2021
DSP107 paper published in a high impact peer-reviewed journal	Mar 2022

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KAHR technology inventor; **BOD** Observer; Provost Jefferson Thomas University



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Gur Roshwalb

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Investment manager in Consensus Business Group; 7+ yrs project



Senior Advisor at Flerie Invest; 30+ yrs in pharmaceutical industry

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