UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **February 28, 2019**

MERSANA THERAPEUTICS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**001-38129**	**04-3562403**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

840 Memorial Drive Cambridge, MA 02139 Cambridge, MA	**02139**
(Address of principal executive offices)	(Zip Code)

(Registrant's telephone number, including area code): **(617) 498-0020**

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company x

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. x

Item 8.01 Other Events.

The slides attached as Exhibit 99.1 hereto and incorporated by reference in this Item 8.01 have been excerpted from Mersana Therapeutics, Inc.'s investor presentation.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Corporate presentation slides.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

MERSANA THERAPEUTICS, INC.

By: /s/ Eva Jack
Eva Jack
Chief Business Officer

Date: February 28, 2019

Unleashing the Targeted Power of ADCs

February 2019

Legal Disclaimer

This presentation contains "forward-looking" statements within the meaning of federal securities laws. These forward-looking statements are not statements of historical facts and are based on management's beliefs and assumptions and on information currently available to management. Forward-looking statements include information concerning the Company's business strategy and the design, progression and timing of its clinical trials.

Forward-looking statements generally can be identified by terms such as "expects," "anticipates," "believes," "could," "seeks," "estimates," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," "would" or similar expressions and the negatives of those terms. These forward looking statements include, among other things, statements about the initiation, cost, timing, progress and results of the Company's current and future research and development activities, preclinical studies and clinical trials; the timing of, and the Company's ability to obtain and maintain, regulatory approvals for its product candidates; and the Company's ability to quickly and efficiently identify and develop additional product candidates. The Company's operations involve risks and uncertainties, many of which are outside its control, and any one of which, or combination of which, could materially affect its results of operations and whether the forward-looking statements ultimately prove to be correct. Factors that may materially affect the Company's results of operations and whether these forward-looking statements prove to be correct include, among other things, that preclinical testing may not be predictive of the results or success of ongoing or later preclinical or clinical trials, that the development of the Company's product candidates and new platforms will take longer and/or cost more than planned and that the identification of new product candidates will take longer than planned, as well as those listed in our Annual Report on Form 10-K filed on March 28, 2018, with the Securities and Exchange Commission ("SEC"), our Quarterly Report on Form 10-Q filed with the SEC on November 13, 2018, and subsequent SEC filings. Except as required by law, the Company assumes no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future.

Copies of the Company's Quarterly Report on Form 10-Q and our other SEC filings are available by visiting EDGAR on the SEC website at http://www.sec.gov.

Leadership Team

Highly Experienced in Oncology and Business

Management Team

Anna Protopapas
Chief Executive Officer

MILLENNIUM

Eva Jack
Chief Business Officer

pulmatrix
MedImmune
AstraZeneca

Michael Kaufman Ph.D.
Senior Vice President, CMC

MERCK
MILLENNIUM
Biogen

Timothy Lowinger, Ph.D.
Chief Scientific Officer

Bayer

David Spellman
Chief Financial Officer

VERTEX
MILLENNIUM

Dirk Huebner, M.D.
Chief Medical Officer

Bristol-Myers Squibb
MILLENNIUM
genzyme
Roche
BOSTON BIOMEDICAL

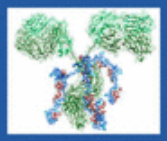
Board of Directors

David Mott *Chairman*	Lawrence Alleva *Director*	Willard Dere, M.D., FACP *Director*	Andrew Hack, M.D, Ph.D. *Director*	Kristen Hege, M.D. *Director*	Anna Protopapas *Director*
NEA	pwc	AMGEN, Lilly, THE UNIVERSITY OF UTAH	editas MEDICINE	Celgene	MILLENNIUM

Building a Leading ADC Company

XMT-1536 – Lead Asset in Proof-of-Concept Development

- Validated NaPi2b target
- First-in-class potential
- On track to achieve POC in 2019



Robust Discovery Effort Matching Target to Appropriate Platform

- Plan to disclose next clinical candidate in 2H 2019

Four Differentiated, Proprietary ADC Platforms

- Dolaflexin
- Dolasynthen
- Alkymer
- Immunosynthen

Wholly-owned Assets and Partnering Opportunities

- Product candidates and platform collaborations

Dolaflexin

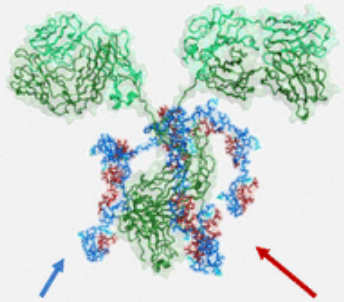
Platform That Yielded XMT-1536

Mersana THERAPEUTICS

Novel Dolaflexin Platform Technology

Designed to Expand Therapeutic Index vs Other ADC Platforms

Significantly Higher Drug to Antibody Ratio (DAR)



Fleximer® Polymer

- High DAR
- Optimal PK and drug-like properties
- Efficacy - against low antigen expressing tumors

DolaLock Payload

- Controlled bystander effect for greater efficacy and tolerability

DolaLock is Designed to Enhance Efficacy and Tolerability

Benefit of bystander effect for greater efficacy

AF-HPA:
Initial release after internalization in antigen expressing cell. Initial release product highly potent and freely cell permeable

Intra-tumor metabolism

AF: Non cell permeable Active metabolite – highly potent and trapped in tumor; improved systemic tolerability

Locked in tumor
High intracellular potency with high systemic tolerability

XMT-1536

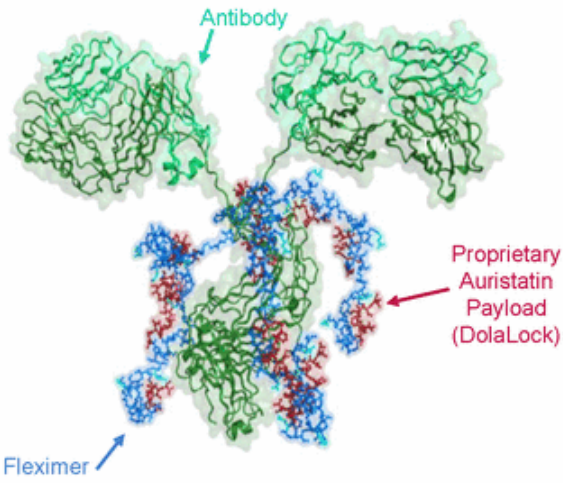
NaPi2b Targeted Therapy
Designed to Enhance Efficacy and Tolerability

Mersana
THERAPEUTICS

XMT-1536: A Dolaflexin ADC Targeting NaPi2b

First-in-class Molecule, Target Expressed in Cancer Types with High Unmet Medical Need

- **Validated Drug Target**
  - Transmembrane sodium-phosphate transporter
  - Expressed in 87% of NSCLC adenocarcinoma, 96% of serous ovarian adenocarcinoma, 91% of papillary thyroid carcinoma[1]
  - Limited normal tissue expression
- **In-licensed Novel anti-NaPi2b Antibody**
- **Mersana Retains Full Global Rights[2]**



[1] Lin *et al*, *Clin Cancer Res* 2015, 21:5139-5150;
[2] Excluding Brazil

XMT-1536 is a First-in-Class Opportunity for a Clinically Validated Target

Lifastuzumab vedotin

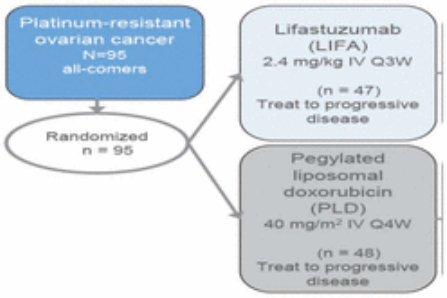
Genentech-developed ADC using Seattle Genetics vc-MMAE platform

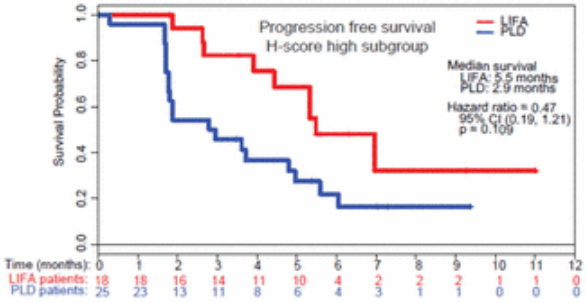
Pre-clinical and clinical tolerability limited by vc-MMAE toxicity	Appropriate target for ADC development but need for better tolerated platform
No significant target-related toxicity in either ovarian or lung patients	
~40% overall response rate (ORR) in ovarian cancer in Phase 1; low NSCLC ORR in Phase 1	Evidence of efficacy but need for more potent platform
Ovarian cancer Phase 2 with positive trends on all efficacy endpoints	
Development discontinued by Genentech	First-in-class opportunity for XMT-1536

Banerjee et al. Ann Oncol. 2018 Apr 1;29(4):917-923

Genentech Ph 2 Data Provided Clinical Validation of NaPi2b Target

NaPi2b ADC Shows Favorable Outcome in Platinum Resistant Ovarian Cancer Compared to Standard of Care

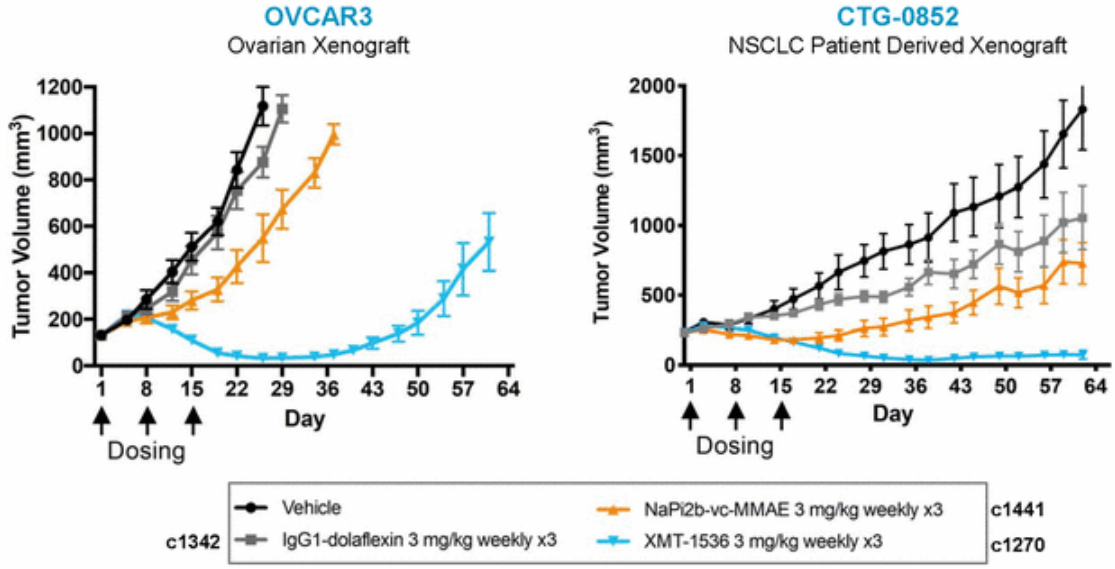




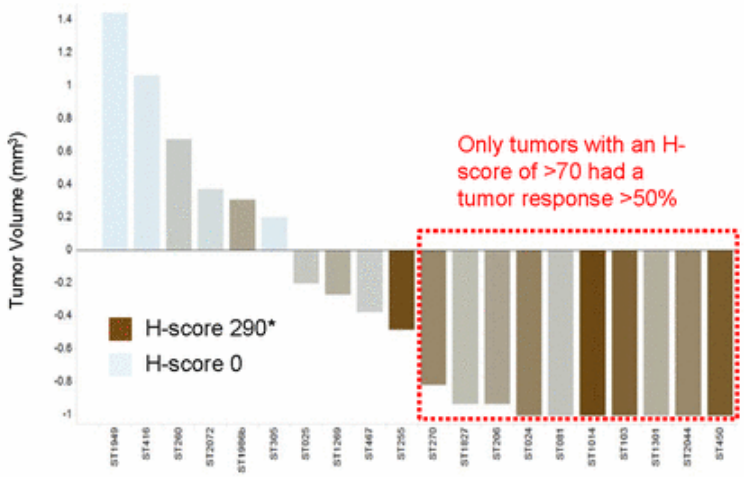
Group	ITT (n=95)		NaPi2b 2/3+ (n=85)		NaPi2b 3+ (n=70)		NaPi2b median H-score high (n=43)	
Arm	LIFA *n=47*	PLD *n=48*	LIFA *n=42*	PLD *n=43*	LIFA *n=31*	PLD n=39	LIFA *n=18*	PLD *n=25*
ORR	34%	15%	36%	14%	42%	13%	44%	8%
Median PFS (months)	5.3	3.1	5.3	3.4	5.3	3.3	5.5	2.9
HR	0.78 (0.34)		0.71 (0.24)		0.66 (0.21)		0.47 (0.11)	

Banerjee et al. Ann Oncol. 2018 Apr 1;29(4):917-923

XMT-1536 Data Show Improved Efficacy to Genentech ADC in Head to Head Preclinical Studies



NaPi2b Expression Levels Have Been Predictive of Response to XMT-1536 in Ovarian Cancer Patient Derived Models



- Proprietary research assay validated and used for retrospective evaluation of patients
- Preclinical data demonstrate NaPi2b expression highly correlated with response
- ~60% of ovarian cancer patients estimated to have NaPi2b expression with H-score #>70, associated with deep responses in PDX models

R. Mosher et al, AACR-NCI-EORTC International Conference, October 2017

*Semi-quantitative measure of antigen expression; ranges from 0-300

XMT-1536: Targeting NaPi2b Addresses Two Areas of Significant Unmet Clinical Need

	Ovarian Cancer	Non Small Cell Lung Cancer (NSCLC)
Incidence (U.S.)	~24,000[1]	~189,000[4]
Deaths Per Year (U.S.)	~14,000[2]	~ 132,000[5]
Frontline SOC	Debulking surgery plus systemic chemotherapy	PD1 + chemotherapy
Area of Unmet Need	Resistant to platinum based therapy	Following PD1 + platinum treatment failure
Target Population Treatment Options	(Platinum Resistant OC) Single agent chemotherapy, e.g. PLD, weekly Paclitaxel, Topotecan, Gemcitabine, PARP	(2nd Line NSCLC Adenocarcinoma) Docetaxel, Premetrexed, Gemcitabine, or Docetaxel + Ramucirumab
Approximate Treatment Outcome	ORR ~10-20%[3] med PFS ~ 3-4 mos[3] med OS ~12 mos[3]	ORR ~10-20%[3] med PFS ~ 3–4.5 mos[3] med OS ~ 8-10 mos[3]

[1]Based on CancerMPact® Patient Metrics for US, Western Europe, and Japan, accessed in March 2018.
[2]https://cancerstatisticscenter.cancer.org#!/
[3]Hanna et al. JCO 2004 & Garon, Lancet 2014 & Pujade, JCO 2014 & Gordon, JCO 2001 & Rose, Gynecol Oncol 2003 & Sehouli, JCO 2011 & Mutch, JCO 2007 & Ferrandina, JCO 2008.
[4]Globoscan 2012 & SEER.
[5]Estimate based on 85% NSCLC incidence and total lung cancer death cases in the US in 2017 of 155900 deaths

XMT-1536 Dose Escalation Ongoing

Target to Complete Dose Escalation and Initiate Dose Expansion Cohorts in 1H 2019

2018 / 1H 2019 | **1H 2019** | **2H 2019 / 1H 2020**

Dose Escalation: 3 week dosing			Dose Escalation: 4 week dosing		
	Dose, mg/ m²	Dose, mg/ kg		Dose, mg/ m²	Dose, mg/ kg
DL4	20.0	*0.54*	DL4-A	20.0	*0.54*
DL5	30.0	*0.81*	DL5-A	30.0	*0.81*
DL6	40.0	*1.08*	Further Dose Escalation		

Phase 1 Dose Escalation

- Ongoing in ovarian and lung cancers and certain rare tumors (endometrial, papillary renal, papillary thyroid and salivary duct)
- Currently dosing IV every 4 week cycles until disease progression or unacceptable toxicity
- No pre-selection for NaPi2b expression; retrospective testing based on archival tissue

1H 2019 Anticipated Milestones

Establish Recommended Go Forward Dose & Regimen

Report Dose Escalation Data

Initiate Expansion Cohorts

- Platinum-resistant ovarian cancer
- NSCLC Adenocarcinoma in PD1 failure

Execute on Expansion Studies

Dolaflexin Safety Profile Easily Monitored; High Consistency between Early Clinical and Preclinical Data

Current Clinical Study Data Show:

No observations of toxicities associated with other ADC platforms to date

- No evidence of clinically relevant neutropenia, neuropathy, ocular toxicity or pneumonitis

Dolaflexin Platform Characteristics

- Favorable PK profile
- Highly stable in circulation
- Transient AST[1] elevations that can be clinically monitored and managed with dose and regimen modifications

No observation of on-target toxicities to date

Preclinical Studies Demonstrate Depletion of Kupffer Cells Results in Transient AST Elevations

- Kupffer cells are involved in AST clearance; transient elevation is consistent with a change in clearance kinetics by hypertrophy of Kupffer cells in liver
- Transient elevations of AST were observed preclinically in animals and were not associated with hepatic necrosis based on histopathology
- AST elevations peak at day 8 and return to baseline by next dose and as Kupffer cells recover

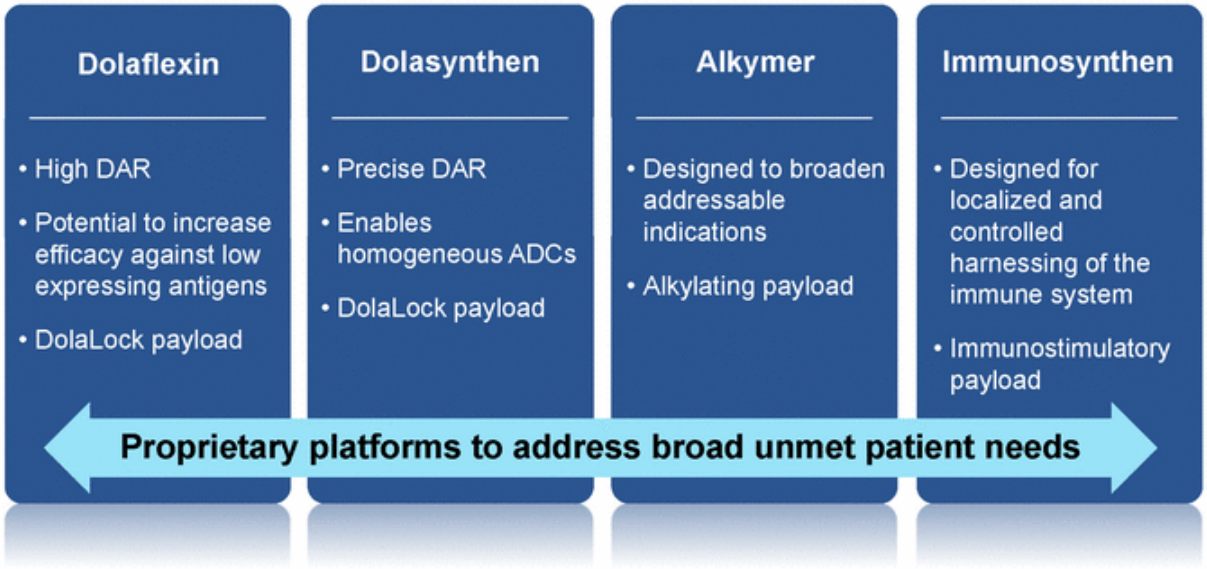
[1]AST: Aspartate aminotransferase; Also known as serum glutamic oxaloacetic transaminase (SGOT)

ADC Platforms

Leveraging Our ADC Platforms to Generate a Differentiated Pipeline of ADCs

Mersana THERAPEUTICS

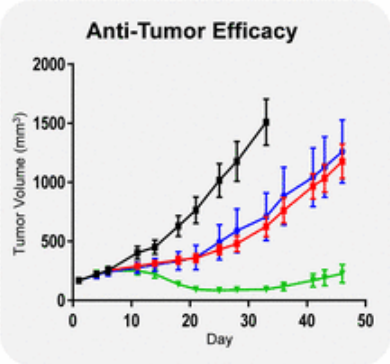
Using Highly Differentiated ADC Platforms to Create a Pipeline of Clinically Meaningful Candidates

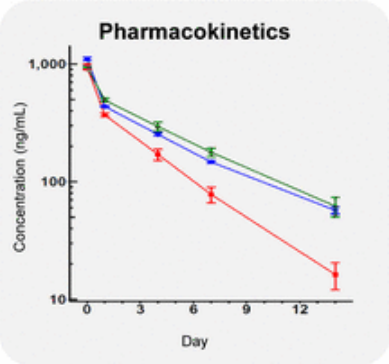


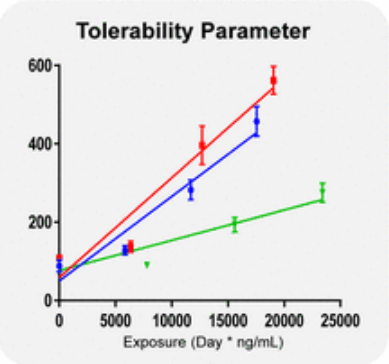
Dolasynthen: Precise Control to Create Optimal ADC

Critical Attributes Matched to Antibody and Target

Antibody — Bioconjugation Site / Technology — Aqueous solubility — Charge balance — Drug load per scaffold — DolaLock AF-HPA







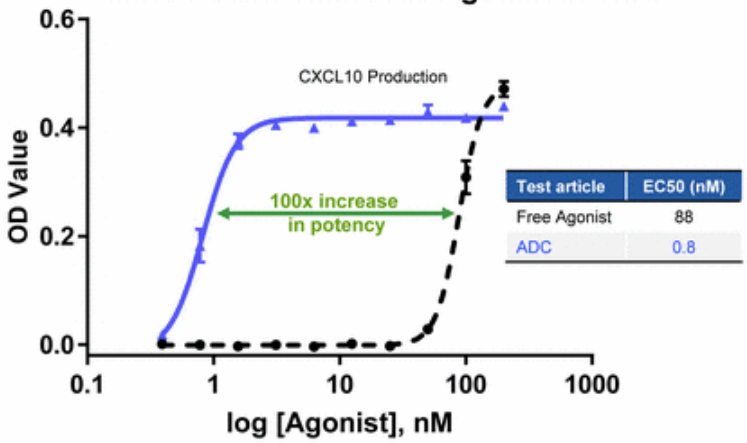
Vehicle — Dolasynthen ADC 1 — Dolasynthen ADC 2 — Dolasynthen ADC 3

Immunosynthen: Leveraging our ADC Expertise &Technologies for Targeted Delivery of a Potent Immunostimulatory Payload

Therapeutic Opportunity

- ADCs can ideally address the challenge of systemic delivery and tolerability of immunomodulatory payloads
- Specifically deliver STING agonists to targeted cells while increasing systemic tolerability
- Significantly improve potency and provide safe and convenient dosing regimens

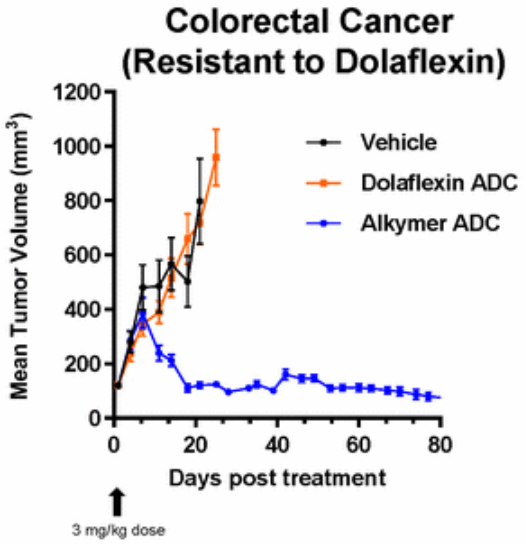
Synthemer-STING ADC is >100x More Potent Than Free Agonist In Vitro



Test article	EC50 (nM)
Free Agonist	88
ADC	0.8

Expanding Indications: Alkymer

A DNA Alkylation Platform with Increased Therapeutic Index



- Some tumor types do not respond to auristatin
  - e.g. colorectal cancer, pancreatic cancer, certain hematological cancers
- DNA alkylators are active in auristatin[1]-resistant tumors
- Competitor efforts in DNA damage (cross-linkers, double-strand breakers, and one alkylator) have been limited by very low tolerability

[1] Dolaflexin employs a proprietary payload of the auristatin class

Corporate Summary

Mersana
THERAPEUTICS

Key Goals & Milestones

XMT-1536	• Select go forward dose and initiate expansion cohorts in 2Q 2019 • Planning to report Phase 1 dose escalation data in 2Q 2019 • Data from expansion cohorts in 2020
ADC Candidate	• Planning to disclose next clinical candidate in 2H 2019 • Initiation of Phase 1 Dose Escalation for our next clinical candidate in 1H 2020
R&D	• Continue to leverage our proprietary, differentiated platforms to build a robust pipeline of ADC candidates • Disclose progress on platforms and programs at scientific meetings
Corporate	• Proactively evaluate potential for strategic collaborations that maximize the value of Mersana's pipeline and platforms • Continue to recruit and retain top talent and maintain a culture focused on scientific excellence, execution and patient needs

Robust Pipeline Focused on Clinically Meaningful Cancer Therapies

	Target	Discovery	Preclinical Development	Phase 1
Preclinical/Clinical Pipeline:				
XMT-1536	NaPi2b			
ASANA BIOSCIENCES	5T4			
EMD SERONO	Multiple Undisclosed			
Discovery Pipeline:				
1H 2020 IND	Undisclosed			
Immunosynthen	Undisclosed			
Others	Undisclosed			

$70.1M in cash* as of Q4 2018 extends cash runway into 2020

*Cash, cash equivalents and marketable securities as of December 31, 2018

Unleashing the Targeted Power of ADCs