LadRx Corp

OTCQB:LADX
CORPORATE OVERVIEW
January 2023
Non-Confidential

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Management and Board

Stephen Snowdy, PhD
CEO

- Recently joined LadRx
- PhD Neurobiology University of North Carolina
- Full-cycle experience: napkin drawings to global product launch
- 20 years of experience in medical executive management
    - Venture capital
    - Medical devices
    - Pharma
    - IPO
    - Public company management

Gilad Gordon, MD
R&D/Regulatory Consultant

- Oncology development expert
- 30 years experience developing cancer treatments
- Directly responsible for 50 INDs, hundreds of clinical trials

John Caloz
CFO

- 30+ years of CFO experience in life sciences sector
- Occulogix, IRIS Int'l, Synarc, Phoenix Int'l Life Sciences

Board of Directors

- **Jennifer Simpson, PhD**

LadRx Chair of the Board. CEO of Panbela Therapeutics. Former CEO of Delcath, Oncology Lead at Imclone, Product Director Oncology Marketing at Ortho Biotech

- **Joel Caldwell**

Chair of Audit Committee. 30 years of experience in tax, finance, and auditing.

- **Cary J. Claiborne**

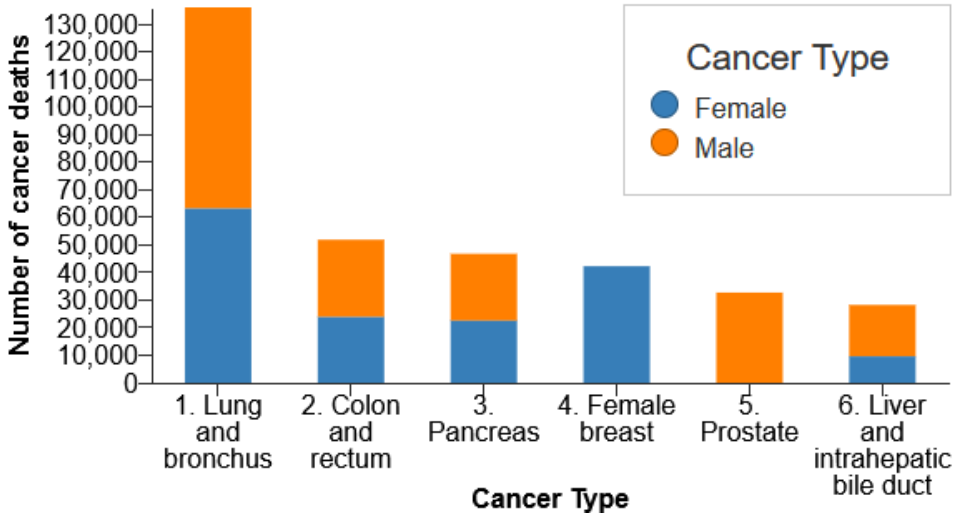
Chair of the Compensation Committee. CEO of Adial Pharmaceuticals Inc. Former CEO of Prosperity Capital Management, LLC.

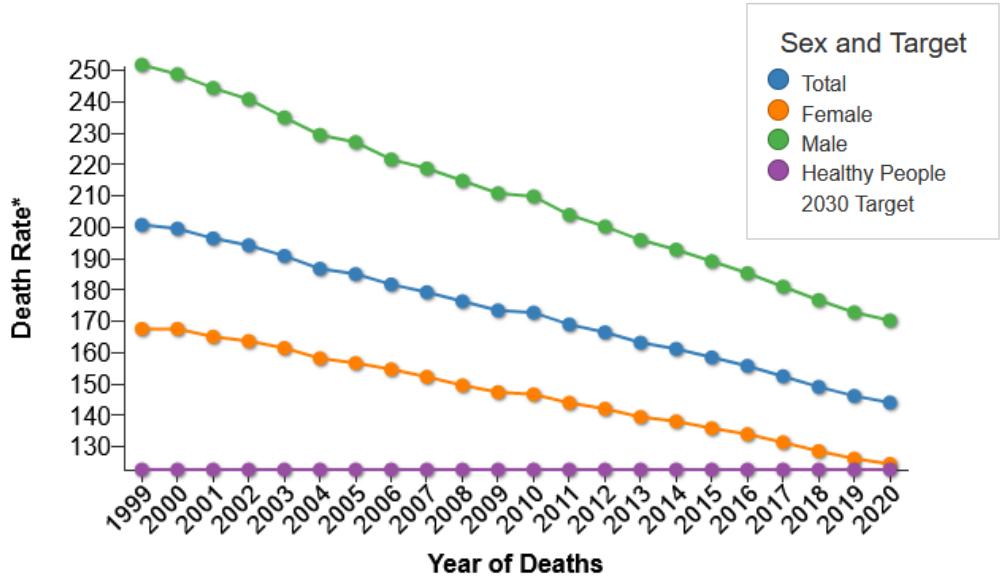
Cancer is a massive burden

In 2019, cancer claimed over 10 million lives worldwide[1]

Leading attributable causes (approx. half of cancers are attributable) are smoking, alcohol use, and high BMI[1]

Cancer is the second leading cause of death in the US, behind heart disease[2]





Graphs Adapted from Center for Disease Control, "An Update on Cancer in the United States"

1. "The Global Burden of Cancer…", The Lancet. August 20, 2022. 400:10352. 563-591
2. Center for Disease Control, "An Update on Cancer in the United States"

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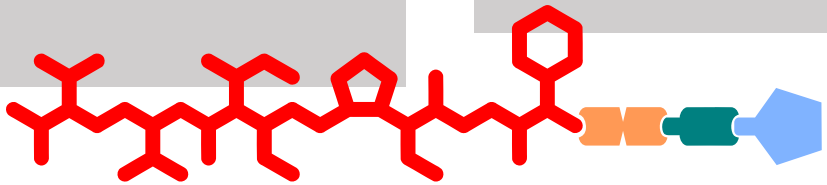
Investment Highlights

LadRx has developed elegant tumor targeting and release molecules called LADR that are based on small molecular entities (no complex antibodies or nanoparticles) allowing for higher dosing and lower off-target tox



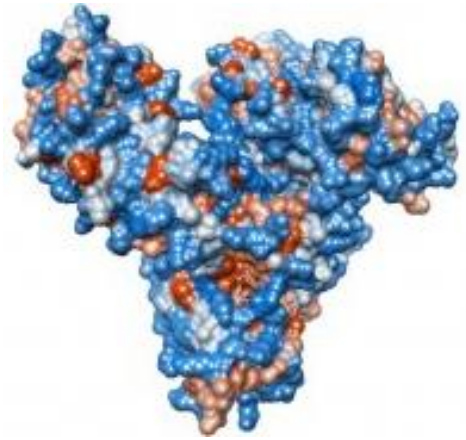
LadRx is stage-diversified, with LADR-based drugs stretching from registrational Phase 2 in pancreatic cancer to late pre-clinical next-gen drugs

- First LADR drug Aldoxorubicin has been licensed to Immunity Bio for $343+ million in milestones and royalties, contingent on regulatory approvals and commercial milestones
- Next-gen LADR-based drugs are nearing readiness for IND
- Small and virtual to minimize cash use
- Strong, broad, and global patent portfolio
- Potential short-to-mid upside with licensed product Arimoclomol expected to go to FDA for NDA in 3Q2023 (licensed by KemPharm)

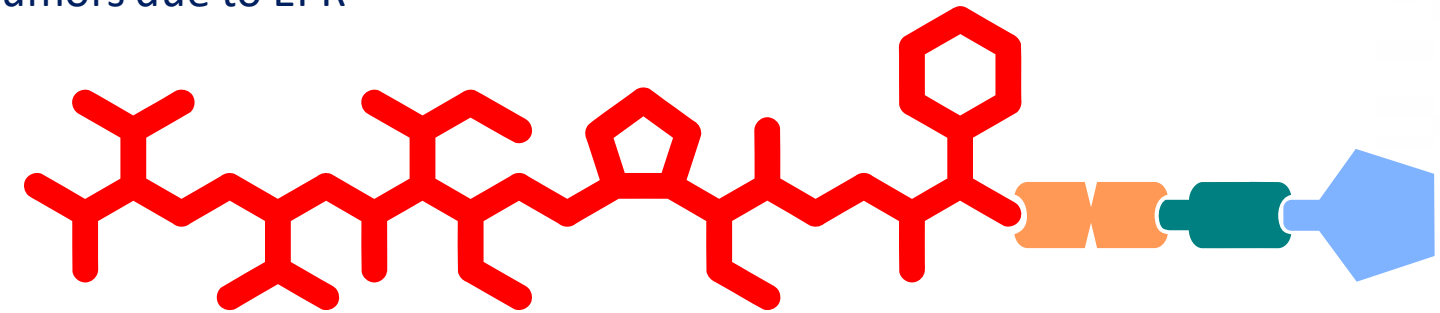
LADR=Linker-Activated Drug Release

LADR-based drugs take advantage of circulating albumin as trojan horse:

- Major source of amino acids for tumors*
- Tumors use as carrier for metabolites, hormones, nutrients*
- Undergoes macropinocytosis*
- Accumulates in tumors due to EPR*
- Long half life*



LADR:



Ultra High Potency Drug Payload

- Payloads are effective in the nanomolar range
- Similar to those used for approved ADCs (auristatins and maytansinoids)

Cleavable Linker

- Novel linker keeps the highly potent drug payload inactive until the conjugate reaches the tumor
- The linker is then cleaved when exposed to lower pH in tumor and intracellular environments

Targeting

- Ensures rapid and selective binding to circulating serum albumin
- Serum albumin transports the LADR™ drug to the tumor

* Kratz, F. Albumin as a drug carrier. J Cont Rel (2008) 132:171-183

Near-term potential milestone/royalty payments and a pipeline of additional next-gen candidates

Aldoxorubicin	Doxorubicin reformulated with our LADR technology to improve therapeutic index. Licensed to Immunity Bio for up to $343M in potential milestones in addition to royalties on sales*. Positive results in non-randomized trial, enrolling randomized trial. Readying for Phase II Glioblastoma.
LADR 7, 8, 9, 10	Next-gen LADR technology with highly potent nanomolar chemotherapeutic payloads based on auristatin and maytansinoids. Extensive pre-clinical data in-silico, in-vitro, and in-vivo in multiple cancer models and CMC data. IND-ready in approx. 12-18 months from funding and initiation
Arimoclomol	Therapy for Niemann-Pick Type C, licensed to KemPharm. CRL received from FDA; Type A meeting held; submit NDA 3Q23.

*Contingent on certain regulatory approvals and commercial milestones

Aldoxorubicin: 1st Gen LADR-Based Drug Has Proven Higher Dosing with Improved Safety in Human Trials Compared to Native Doxorubicin

Doxorubicin maximum dosing is 75 mg/m^2, limited mostly by cardiotoxicity[1]

When attached to LADR backbone, doxorubicin has been dosed in humans at 250 equiv mg/m^2 (3.3x higher), with lower toxicity, including cardiotoxicity[2]

- **LADR allows for 3X higher dosing or more of doxorubicin**
- **Aldoxorubicin crosses the Blood-Brain Barrier**
- **Tumor targeting and release with the simplicity of a small molecule**
- **In the case of next-gen LADRs 7-10, MTDs are ~10 higher than that of non-LADR versions**

[1]accessdata.fda.gov

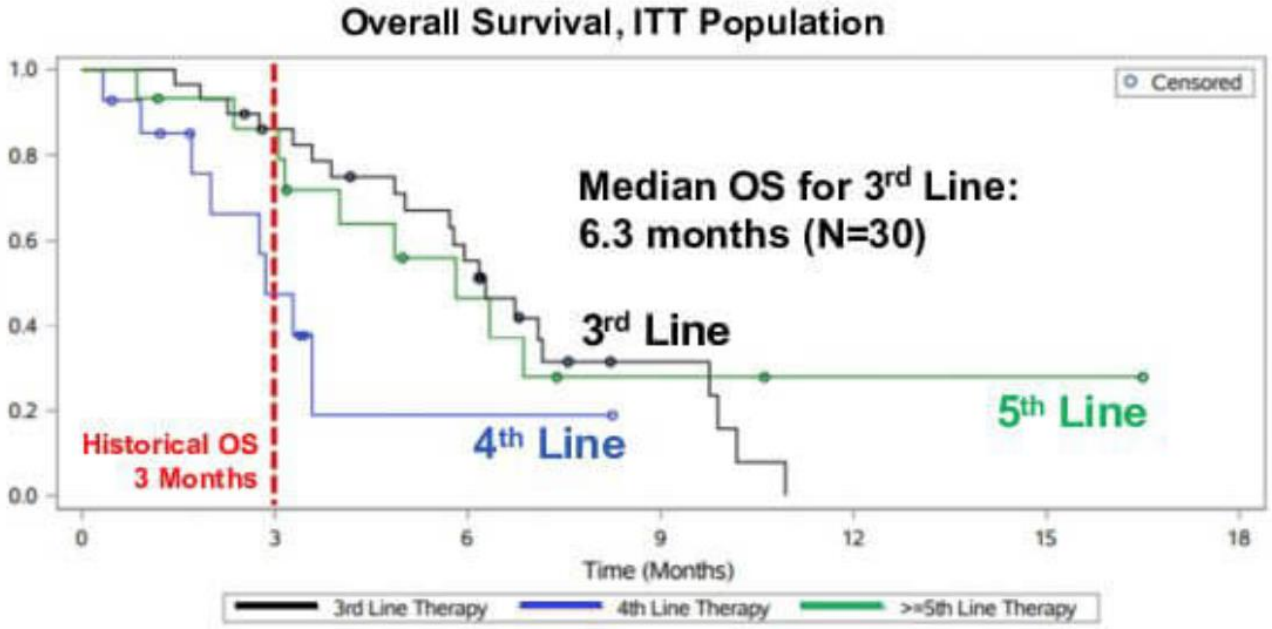
[2]Gong, J, Hendifar, A. et al. Aldoxorubicin: A tumor-targeted doxorubicin conjugate for sarcomas. Drug Dev Des Ther (2018) 12:777-786

Aldoxorubicin: 1st Gen LADR Partnered with ImmunityBio
Trials have proven safety of higher dosing and efficacy

Aldoxorubicin	Preclinical	Phase 1	Phase 2	Phase 3
Recurrent Glioblastoma	P2A trial completed Immunity Bio moving into combo P2			
Soft Tissue Sarcoma	P3 showed safety/dosing, Immunity Bio considering next steps			
Immunity Bio: Trials of Combination of Aldoxorubicin and Immunotherapy				
Pancreatic Cancer (QUILT88)	Registrational Ph 2, positive interim data, enrollment ongoing			
Recurrent Glioblastoma	Readying IND for P1/P2			

ImmunityBio Metastatic Pancreatic Cancer Study QUILT-88

Pancreatic cancer will be diagnosed in 62k people in 2022 in the US, and will claim approximately 50K lives. Five-year survival is only 10%, and mean survival after 3 lines of therapy is 3 months[1]



Median OS for ITT (≥ 3rd, 4th and 5th line): 5.8 months (N=61)

QUILT 88 study is a randomized, three cohort, open-label registrational-intent study to evaluates the efficacy and safety of standard-of-care chemotherapy versus stand-of-care chemo in combination with PD-L1 t-haNK, Anktiva, and aldoxorubicin in subjects with locally advanced or metastatic pancreatic cancer.[2]

Graph adapted from Immunity Bio ASCO GI Cancer Symposium poster presented January 2022

[1]American Cancer Society. Cancer Facts and Figures 2022
[2]www.clinicaltrials.gov

Next-Gen LADRs : LADR 7, 8, 9, 10

- High-throughput screening yielded four compounds selected for evaluation:
  - LADR 7: Auristatin-E with Ketone Linker
  - LADR 8: Auristatin-E with Ester Linker
  - LADR 9: Maytansine with Ketone Linker
  - LADR 10: Maytansine with Ester Linker

- Auristatins and Maytansinoids are highly potent microtubulin inhibitors with IC50 values in the low nanomolar range. They are too toxic to use as untargeted drugs with systemic exposure.

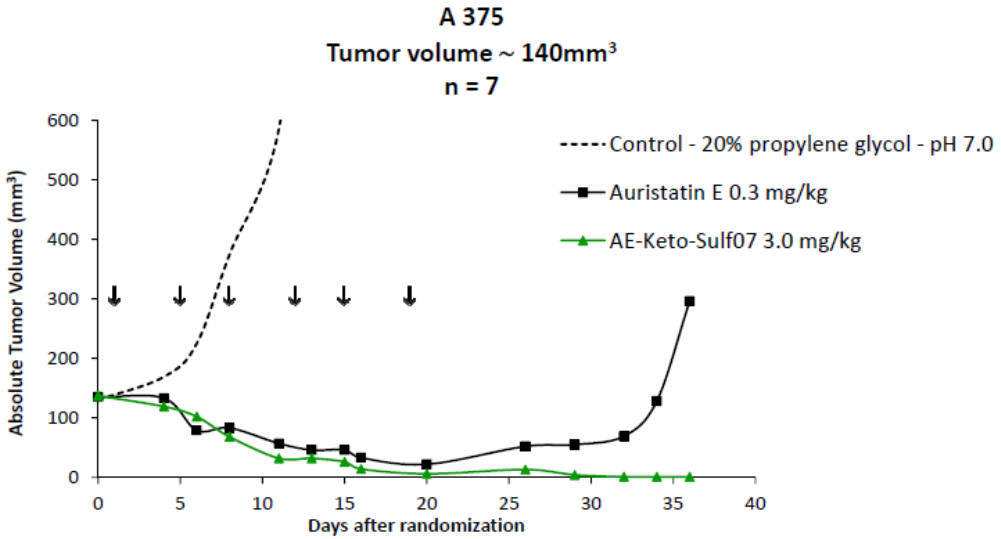
- Auristatin-E and Maytansine are currently approved in the form of ADCs as Adcetris ($700m sales in 2021, SeaGen) and Kadcyla ($2b sales in 2021, Genentech)

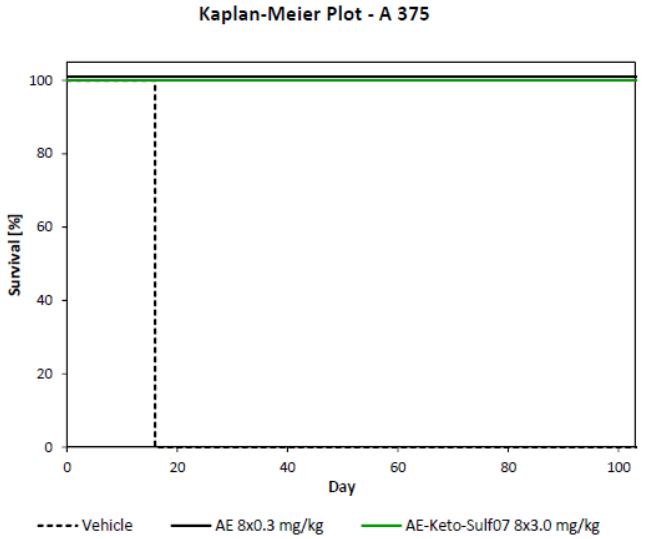
  - Adcetris: Hodgkin Lymphoma 3rd line+ or failed ASCT, Systemic Anaplastic Large Cell Lymphoma 2nd line+

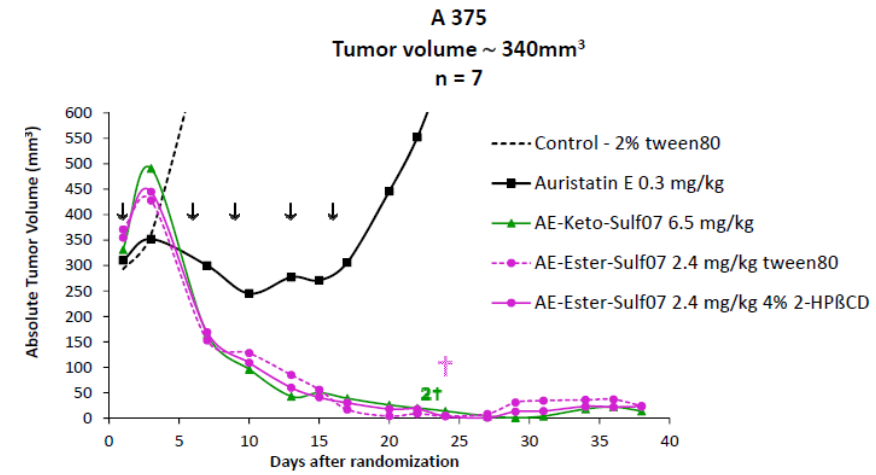
  - Kadcyla: HER2 Positive MBC 2nd Line+

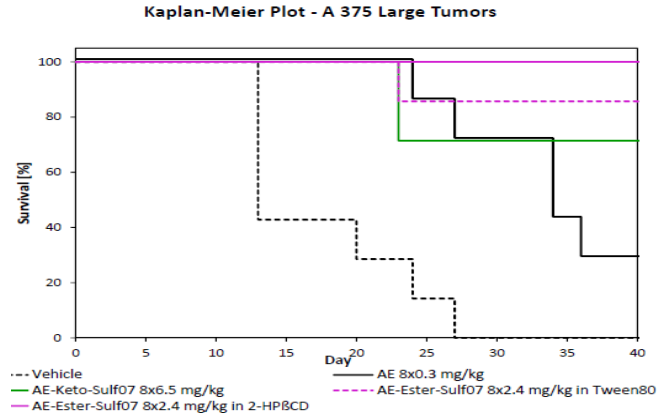
  - LADR system capable of delivery many times as much chemotoxin compared to antibodies

LADRs 7 and 8 are powerful anti-cancer drugs in multiple PDX/CDX cancer models: Melanoma

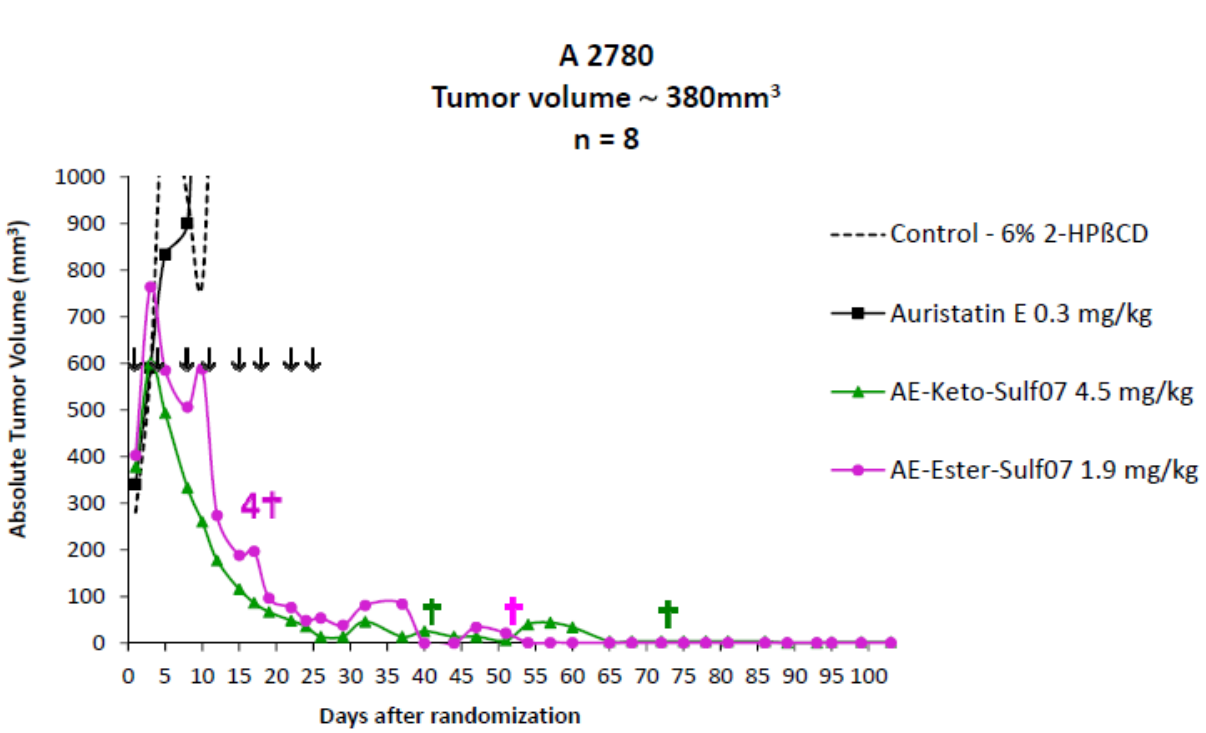


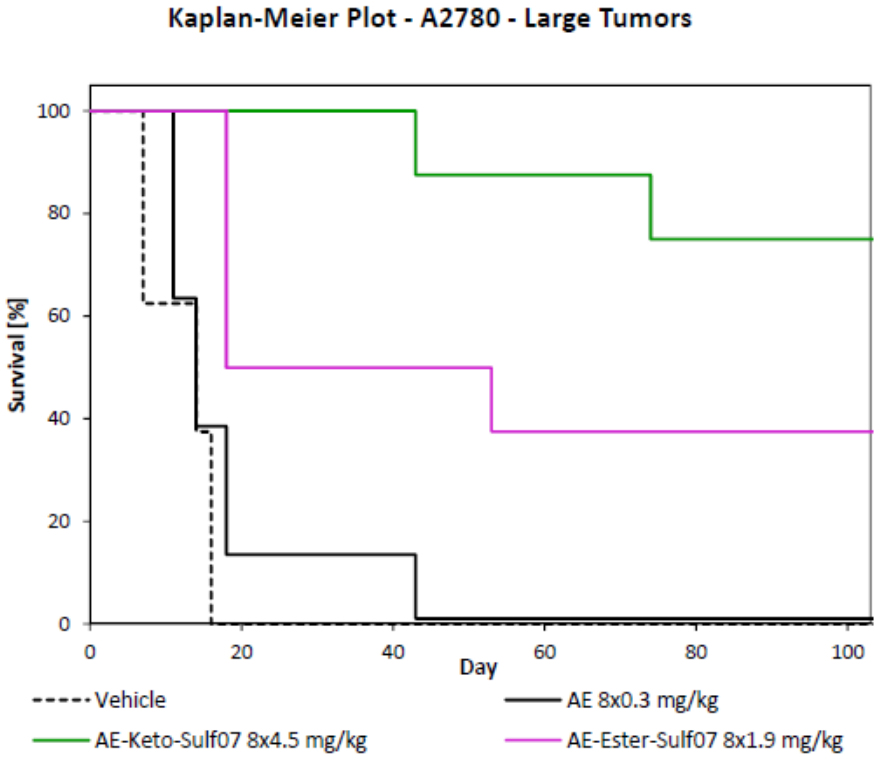




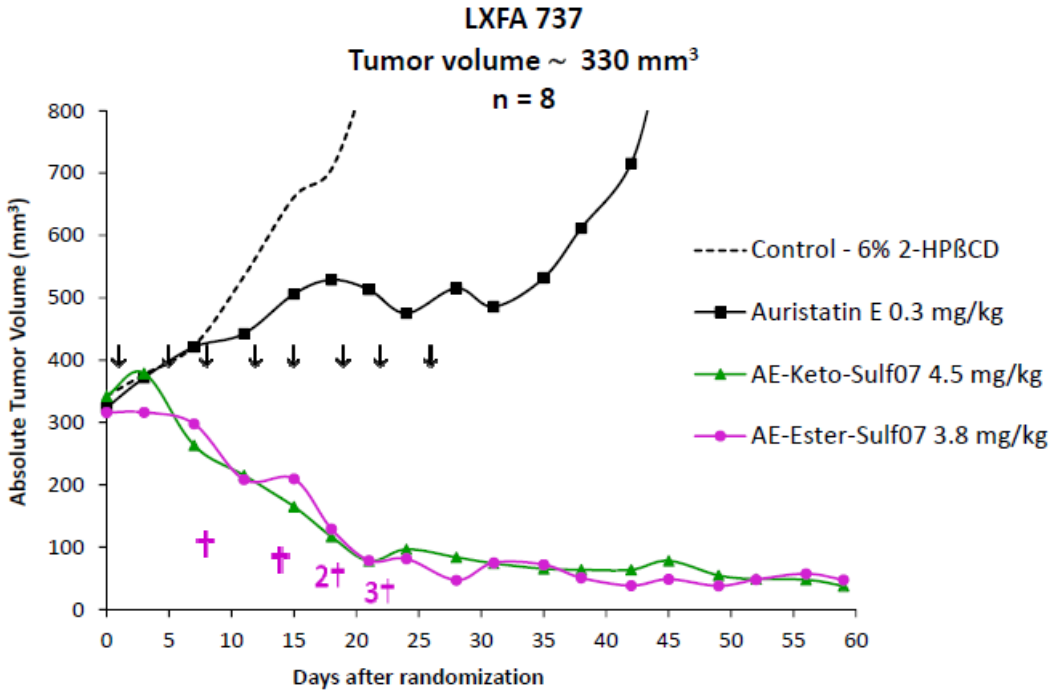


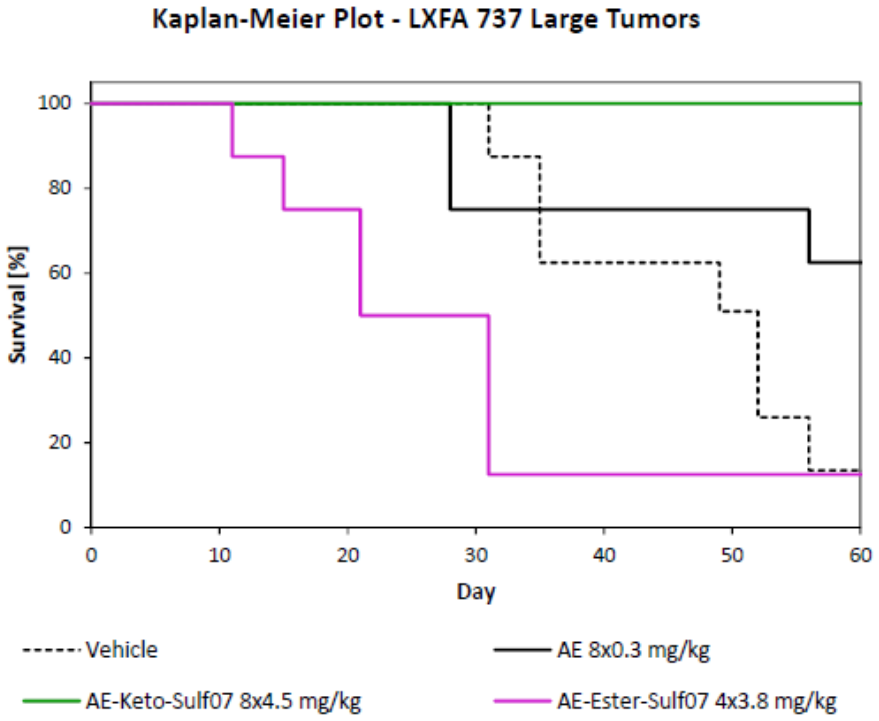
LADRs 7 and 8 are powerful anti-cancer drugs in multiple PDX/CDX cancer models: Ovarian





LADRs 7 and 8 are powerful anti-cancer drugs in multiple PDX/CDX cancer models: Non-Small Cell Lung Cancer





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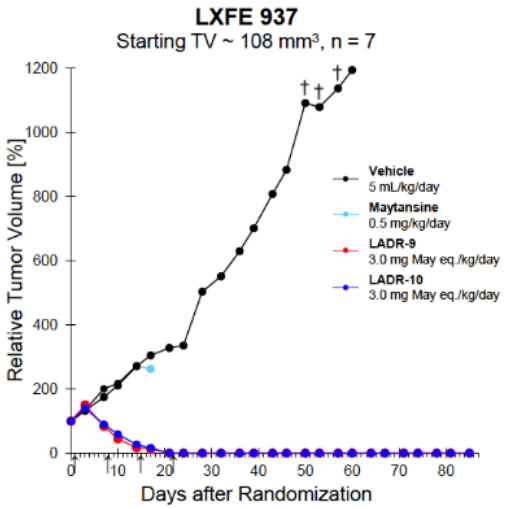
…As are LADRs 9 and 10

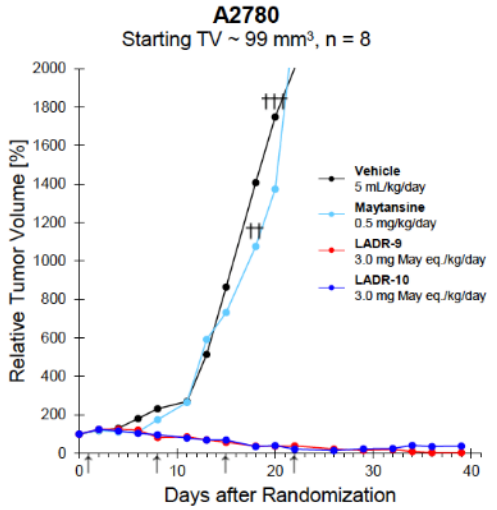
Overview of the antitumor activity of maytansine and both albumin-binding drugs in various human PDX and CDX xenograft tumor models in nude mice

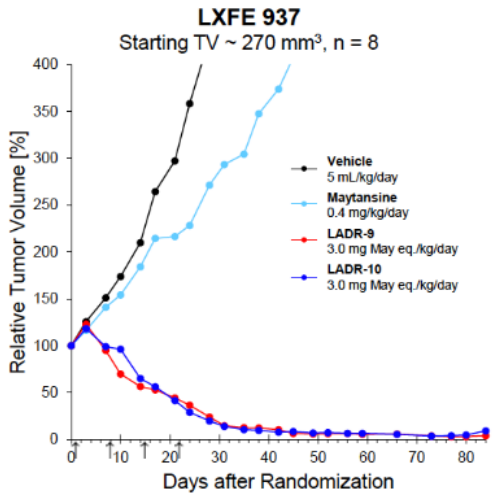
maintained complete remission
complete remission
partial remission
stable disease
partial progressive disease
progressive disease
toxic dose
not available

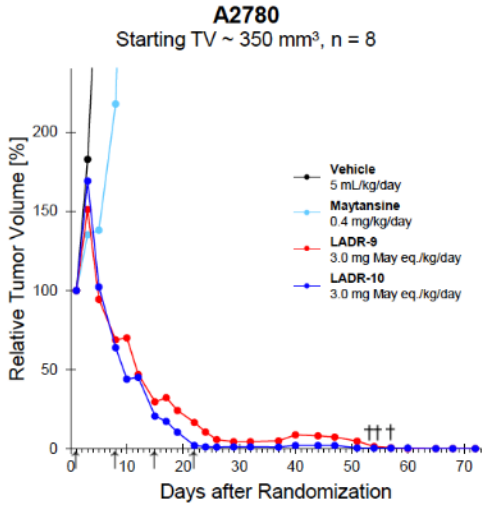
		Median start tumor volume [mm³]	Number of animals per group	Days of observation after last treatment	Maytansine 0.4 mg/kg (1xqWx4)	Maytansine 0.5 mg/kg (1xqWx4)	LADR-9 2.0 mg May eq./kg (1xqWx4)	LADR-9 3.0 mg May eq./kg (1xqWx4)	LADR-10 2.0 mg May eq./kg (1xqWx4)	LADR-10 3.0 mg May eq./kg (1xqWx4)	
Lung	LXFE 937	108	7	63		(7/-)		(-/-)	(1/2)	(-/-)	*
		270	8	63	(-/7)			(2/-)		(-/-)	*
	LXFA 737	331	8	37	(1/-)			(4/-)		(1/-)	
Breast	MDA-MB 231	76	7	41		(-/1)	(1/-)		(-/-)		
	MDA-MB 468	73	7	35		(7/-)		(3/-)		(7/-)	
		87	7	39	(3/-)			(-/-)		(1/-)	
Ovarian	A2780	99	8	17		(-/8)		(2/-)		(2/-)	*
		350	8	51	(-/7)			(-/2)		(-/1)	*
Renal	RXF 631	109	7	42		(-/4)			(-/-)		
		98	7	34	(-/1)			(-/-)		(-/-)	
Head & Neck	HN 10114	103	1	36							
	HN 10913	117	1	32							
	HN 11142	110	1	39							
	HN 11269B	115	1	36							
	HN 11204B	99	1	31							

The experiments were evaluated based on the T/C values (by LOCF; MCR <5 %, CR 5-10 %, PR >10-50 %, SD >50-75 %,>75-125 % PP, >125 % PD). The compounds were administered i.v. in a solution of 20 % propylene glycol in 10 mM sodium phosphate buffer (pH 7.0). The pattern fill (dots) indicates a regrowth of tumors towards the end of the experiment. In parentheses, the number of deaths related to toxicity and tumor growth, respectively, are shown. *denotes the experiments shown in detail.









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All Four LADR Candidates Meet Initial Development Criteria

	Auristatin LADR™s (LADR-7 and LADR-8)	Maytansinoid LADR™s (LADR-9 and LADR-10)
Selective Binding to Albumin and Stable in Plasma	✓	✓
Payload Releases at pH 4	✓	✓
Robust Anti-Tumor Activity in Multiple Tumor Types	✓	✓
Durable Responses Averaged 60–90 Days	✓	✓
Demonstrated Superiority Over Control Group With Parent Compounds	✓	✓
Highly Effective Even in Large Tumor Models	✓	✓
Initial Toxicology Results do not Preclude Continued Development	✓	✓

Next-gen LADR Progress Towards IND

- ✓ Stability in plasma (mouse, rat, dog, monkey, human)
- ✓ pH-dependent release
- ✓ Rat and mouse MTD
- ✓ In-vitro efficacy
- ✓ In-vivo efficacy (small and large tumor PDX and CDX)
- ✓ Non-GLP rodent tox
- ✓ CMC

  GLP Mfg Run

  GLP rodent tox

Time to IND 12-18 months from project funding

Potential milestones and royalties from KemPharm for Arimoclomol

KemPharm Milestones and Royalties

KemPharm: Potential milestones and royalties on arimoclomol

Niemann-Pick disease ("NPC")

- Orphazyme filed an NDA with the FDA with Priority Review and received a Complete Response Letter on June 17, 2021; they held a Type A meeting with the FDA in Oct 2021
- KemPharm acquired assets of Orphazyme on May 31, 2022
- KemPharm now formulating a plan to address the FDA's additional data needs and expects to file an NDA 3Q2023

Potential Catalysts for 2023-1H24

3Q23: KemPharm NDA submission to FDA for arimoclomol

2023: Immunity Bio to begin trial in glioblastoma[1]

1H24: Immunity Bio NDA submission for Aldoxorubicin[1]

1H24: IND submission for LADR7

2H24: First-in-human for LADR 7

1. LadRx management's estimate derived from limited IBRX public information

Summary

LadRx has developed an efficient delivery platform for chemotherapeutic agents that takes advantage of the concentration of albumin in solid tumors. Being small molecules, the agents are easier/cheaper to manufacture than macromolecules, confer solubility, and crosses the blood-brain barrier.

LadRx has also developed highly potent chemotherapeutic agents to couple with its LADR delivery platform, and demonstrated high potency and safety in multiple in-vitro and in-vivo cancer models

The first-gen LADR asset, Aldoxorubicin, has been licensed to Immunity Bio for $343m in milestones and royalties*, and is delivering positive clinical results in a registrational Phase II trial in pancreatic cancer

The next-gen LADR products are close to readiness for IND

LadRx also has near-term milestone and royalty potential from Arimoclomol, a product for Niemann-Pick Type C

*Contingent on certain regulatory approvals and commercial milestones