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): March 21, 2024

Pyxis Oncology, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-40881**	**83-1160910**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

321 Harrison Avenue **Boston, Massachusetts**	**02118**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's Telephone Number, Including Area Code: 617-221-9059

(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:

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

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

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

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

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, par value $0.001 per share	PYXS	The Nasdaq Global Select Market

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 ☒

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. ☒

Item 2.02 Results of Operations and Financial Condition.

On March 21, 2024, Pyxis Oncology, Inc. ("the Company") issued a press release announcing its financial results for the full year ended December 31, 2023 and provided a corporate update. A copy of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

Item 7.01 Regulation FD Disclosure.

On March 21, 2024, the Company made available an updated corporate presentation on the Company's website. A copy of the corporate presentation is furnished as Exhibit 99.2 to this Current Report on Form 8-K and is incorporated herein by reference.

The information contained in Items 2.02 and 7.01 of this Current Report, including Exhibits 99.1 and 99.2, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference into any other filing with the U.S. Securities and Exchange Commission made by the Company, regardless of any general incorporation language in such filings.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release dated March 21, 2024
99.2	Pyxis Oncology Corporate Presentation dated March 2024
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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 thereunto duly authorized.

Pyxis Oncology, Inc.

Date: March 21, 2024

By: /s/ Pamela Connealy

Pamela Connealy
Chief Financial Officer and Chief Operating Officer

Pyxis Oncology Provides Corporate Update and Reports Financial Results for Fourth Quarter and Full Year 2023

March 21, 2024

PYX-201 Phase 1 Part 1 trial progressing with initial data expected in the fall of 2024

PYX-106 Phase 1 trial progressing with initial data expected 2H 2024

Completed $50 million private placement

Expected cash runway into 2H 2026

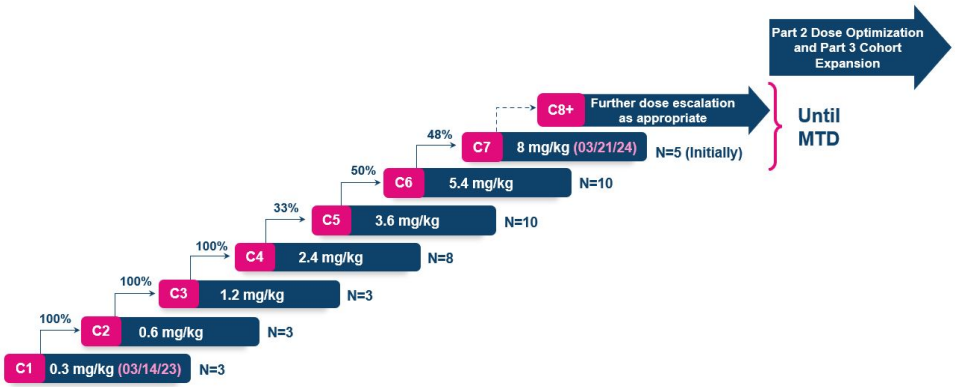
BOSTON, March 21, 2024 (GLOBE NEWSWIRE) -- Pyxis Oncology, Inc. (Nasdaq: PYXS), a clinical stage company focused on developing next generation therapeutics to target difficult-to-treat cancers, today reported financial results for the year and quarter ended December 31, 2023, and provided a corporate update.

PYX-201, a first-in-concept tumor stroma targeting antibody-drug conjugate (ADC) against the stromal Extradomain-B Fibronectin (EDB+FN) target, has dosed 37 patients in 6 cohorts since initiating the Phase 1 trial in March 2023. PYX-201 recently cleared the 21-day Dose Limiting Toxicity (DLT) observation period for ten subjects in Cohort 6 at a dose of 5.4 mg/kg. The Dose Escalation Steering Committee (DESC) met on March 19, 2024, and voted to escalate dosing into Cohort 7 at a dose of 8 mg/kg.

PYX-201 has been well tolerated to date, with no significant evidence of target mediated toxicities experienced by the 37 subjects enrolled and dosed. Approximately 54% of subjects have experienced grade 2, and 6% of subjects have experienced grade 3 treatment emergent adverse events (TEAEs). No subjects have reported TEAEs leading to dosing delay or study drug discontinuation. Another 10-15 subjects are likely to be dosed at either Cohort 7 (8 mg/kg) or future higher dose level cohorts, should PYX-201's profile continue to support further dose escalation.

As we continue to dose escalate, we are focusing ongoing enrollment on four tumor types of high interest, identified through the assessment of several factors, including, but not limited to, IHC target expression data, stromal volume, and unmet medical need: head and neck squamous cell carcinoma (HNSCC), non-small cell lung cancer (NSCLC), ovarian cancer, and pancreatic ductal adenocarcinoma cancer (PDAC).

Dose escalation and subject numbers by dose since initiating the trial in March 2023



“We believe the encouraging PYX-201 safety profile observed to date likely reflects the specificity of target expression within tumor tissue and the potential for a wider therapeutic index given the novel mechanism of action within the tumor microenvironment,” said Lara S. Sullivan, M.D., President and Chief Executive Officer of Pyxis Oncology. “The tumor stroma is a prominent component of many solid tumors, and we believe that PYX-201 could have broad utility in many cancer settings. The global study remains on track with continued investigator enthusiasm and ease of enrollment, and we look forward to announcing initial results in the fall of 2024 with final timing dependent on ongoing continued dose escalation and finalization of subject scans.”

Dr. Sullivan added, “We are also continuing to enroll our Phase 1 study evaluating PYX-106, a fully human immunotherapy antibody candidate that is designed to block the activity of Siglec-15 in subjects with NSCLC and other tumors of interest. We look forward to initial results from this program in 2H 2024.”

Program and Corporate Updates

- **PYX-201 in the PYX-201-101 trial:** To date, 37 subjects have been dosed, and we are currently enrolling Cohort 7 at 8 mg/kg. In the fall of 2024, we plan to report efficacy, safety, pharmacokinetics (PK), pre-clinical insights, the plan for the next development phase, and the likely timing of associated catalysts.
- **PYX-106 in the PYX-106-101 trial**: Phase 1 trial focusing on NSCLC and other tumor types. Study dosing is ongoing with 21 subjects dosed to date and Cohort 5 is fully enrolled at 8 mg/kg administered once every two weeks. Preliminary data is anticipated in 2H 2024.
- **In Feb. 2024, completed a $50M PIPE** with participation from new and existing institutional investors, including Deep Track Capital, Ridgeback Capital Investments L.P., Blue Owl Healthcare Opportunities, Laurion Capital Management, and StemPoint Capital L.P. Pyxis Oncology intends to use the proceeds to fund the continued development of PYX-201 and for working capital and general corporate purposes.

Anticipated Upcoming Milestones

- PYX-201: Report preliminary Phase 1 data and PK/PD results in fall of 2024
- PYX-106: Report preliminary Phase 1 data and PK/PD results in 2H 2024

Full Year and Q4 2023 Financial Results

- As of December 31, 2023, Pyxis Oncology had cash and cash equivalents, including restricted cash, and short-term investments of $120.8 million. Following the end of fiscal year 2023, we raised gross proceeds of $10.8 million via ATM offering and completed $50 million of private placement. Pyxis Oncology expects to have the resources to fund operations into 2nd half of 2026.
- Research and development expenses were $49.6 million for the year ended December 31, 2023, compared to $86.1 million for the year ended December 31, 2022. The decrease was primarily due to a one-time payment of $17.3 million to acquire exclusive licensing rights for the FACT platform, one-time payment of $10 million to acquire licensing rights to PYX-106 and decrease in contract manufacturing costs for drug products and drug substances by $12.5 million in 2022. This decrease was partially offset by a $5.0 million increase in clinical trial related expenses for our ongoing Phase 1 clinical trials for PYX-201 and PYX-106.
- General and administrative expenses were $32.6 million for the year ended December 31, 2023, compared to $37.4 million for the year ended December 31, 2022. The decrease was primarily related to a reduction in professional and consultant fees partially offset by higher personnel-related expenses, including stock-based compensation.
- Net loss was $73.8 million, or ($1.85) per common share, for the year ended December 31, 2023, compared to $120.7 million, or ($3.65) per common share, for the year ended December 31, 2022. Net losses for the years ended December 31, 2023 and 2022, included $16.9 million and $15.8 million, respectively, related to non-cash stock-based compensation expense.
- As of March 20, 2024, the outstanding number of shares of Common Stock of Pyxis Oncology was 58,133,375.

About Pyxis Oncology, Inc.

Pyxis Oncology, Inc. is a clinical stage company focused on defeating difficult-to-treat cancers. The company is efficiently building next generation therapeutics that hold the potential for mono and combination therapies. PYX-201, an antibody-drug conjugate (ADC) that uniquely targets EDB+FN within the tumor stroma, and PYX-106, a fully human Siglec-15-targeting antibody designed to block suppression of T-cell proliferation and function, are being evaluated in ongoing Phase 1 clinical studies in multiple types of solid tumors. Pyxis Oncology's therapeutic candidates are designed to directly kill tumor cells and to address the underlying pathologies created by cancer that enable its uncontrollable proliferation and immune evasion. Pyxis Oncology's ADC and immuno-oncology (IO) programs employ novel and emerging strategies to target a broad range of solid tumors resistant to current standards of care. To learn more, visit www.pyxisoncology.com or follow us on Twitter and LinkedIn.

Forward-Looking Statements

This press release contains forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995 and other federal securities laws. These statements are often identified by the use of words such as "anticipate," "believe," "can," "continue," "could," "estimate," "expect," "intend," "likely," "may," "might," "objective," "ongoing," "plan," "potential," "predict," "project," "should," "to be," "will," "would," or the negative or plural of these words, or similar expressions or variations, although not all forward-looking statements contain these words. We cannot assure you that the events and circumstances reflected in the forward-looking statements will be achieved or occur and actual results could differ materially from those expressed or implied by these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified herein, and those discussed in the section titled "Risk Factors" set forth in Part II, Item 1A. of the Company's Annual Report on Form 10-K filed with SEC on March 21, 2024, and our other filings, each of which is on file with the Securities and Exchange Commission. These risks are not exhaustive. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date hereof and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and investors are cautioned not to unduly rely upon these statements. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

Pyxis Oncology Contact
Pamela Connealy
CFO and COO
ir@pyxisoncology.com

---tables to follow---

PYXIS ONCOLOGY, INC.

Consolidated Statements of Operations and Comprehensive Loss
(In thousands, except share and per share amounts)

	Year Ended December 31,	
	2023	**2022**
Operating expenses:		
Research and development	$ 49,586	$ 86,129
General and administrative	32,610	37,352
Total operating expenses	82,196	123,481
Loss from operations	(82,196)	(123,481)
Other income, net:		
Interest and investment income	6,630	2,764
Sublease income	1,776	—
Total other income, net	8,406	2,764
Net loss	**$ (73,790)**	**$ (120,717)**
Net loss per common share - basic and diluted	$ (1.85)	$ (3.65)
Weighted average shares of common stock outstanding - basic and diluted	39,904,603	33,033,081

PYXIS ONCOLOGY, INC.

Consolidated Balance Sheets
(In thousands)

	December 31,	
	2023	**2022**
Assets		
Current assets:		
Cash and cash equivalents	$ 9,664	$ 179,293
Marketable debt securities, short-term	109,634	—
Restricted cash	1,472	1,472
Prepaid expenses and other current assets	3,834	5,847
Total current assets	124,604	186,612
Property and equipment, net	11,872	11,165
Intangible assets, net	24,308	—
Operating lease right-of-use assets	12,942	13,602
Total assets	**$ 173,726**	**$ 211,379**
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 3,896	$ 7,097
Accrued expenses and other current liabilities	12,971	24,537
Operating lease liabilities, current portion	1,232	—
Deferred revenue	7,660	—
Total current liabilities	25,759	31,634
Operating lease liabilities, net of current portion	20,099	18,921
Deferred tax liability, net	2,164	—
Total liabilities	48,022	50,555
Commitments and contingencies		
Stockholders' equity:		
Preferred stock	—	—
Common stock	45	34
Additional paid-in capital	411,821	373,225
Accumulated other comprehensive income	63	—
Accumulated deficit	(286,225)	(212,435)
Total stockholders' equity	125,704	160,824
Total liabilities and stockholders' equity	**$ 173,726**	**$ 211,379**

Exhibit 99.2

Building a Leading ADC-Focused Company

PYXIS ONCOLOGY

Nasdaq: PYXS
March 2024

Forward-Looking Statements

This presentation contains forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995 and other federal securities laws. These statements are often identified by the use of words such as “anticipate,” “believe,” “can,” “continue,” “could,” “estimate,” “expect,” “intend,” “likely,” “may,” “might,” “objective,” “ongoing,” “plan,” “potential,” “predict,” “project,” “should,” “to be,” “will,” “would,” or the negative or plural of these words, or similar expressions or variations, although not all forward-looking statements contain these words. We cannot assure you that the events and circumstances reflected in the forward-looking statements will be achieved or occur and actual results could differ materially from those expressed or implied by these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified herein, and those discussed in the section titled “Risk Factors” set forth in Part II, Item 1A. of the Company’s Annual Report on Form 10-K filed with SEC on March 21, 2024, and our other filings, each of which is on file with the Securities and Exchange Commission. These risks are not exhaustive. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date hereof and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and investors are cautioned not to unduly rely upon these statements. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements. We operate in a very competitive and rapidly changing environment. New risks emerge from time to time, and it is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances described in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements contained in this presentation.

Market & Industry Data

This presentation contains estimates, projections and other information concerning our industry, our business and the markets for our product candidates. This information is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties, assumptions and limitations, and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from our own internal estimates and research as well as from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information in this presentation, their estimates, in particular, as they relate to projections, involve numerous assumptions and limitations, are subject to risks and uncertainties and are subject to change. We have not independently verified any of the third-party information. You are cautioned not to give undue weight to any such information, projections and estimates.

Trademarks

This presentation contains references to trademarks and service marks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this presentation may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that the applicable licensor will not assert, to the fullest extent under applicable law, its rights to these trademarks and trade names. We do not intend our use or display of other companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

PYXS: Building the Next Leading ADC-Focused Company

- ADC-Focused with Opportunistic Bets in I/O
- Clinical-Stage Portfolio with 2024 Data Catalysts
- Deeply Experienced Team with Proven Track Record in Both Pharma and Biotech
- Strong Balance Sheet with $173M in Cash Provides Runway into 2H 2026

Executive Leadership Team

Lara Sullivan, MD
CEO

Pam Connealy, MBA
CFO & COO

Ken Kobayashi, MD, FACP
CMO

Jan Pinkas, PhD
CSO

Xiaodong Yang, MD, PhD
Distinguished Research Fellow

Balu Balasubramanian, PhD
CTO

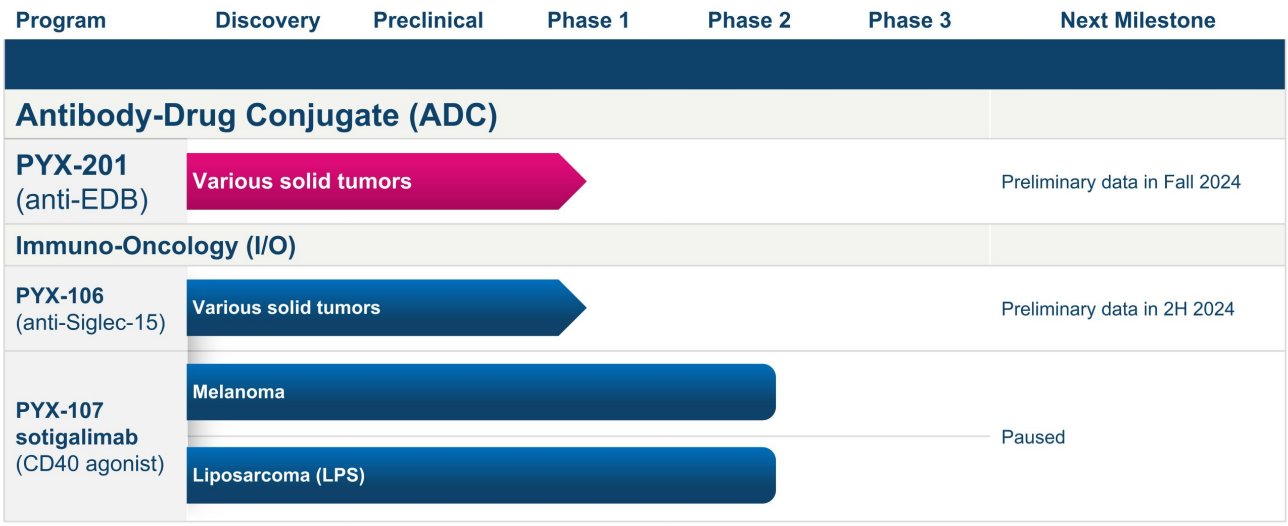
SpringWorks THERAPEUTICS | IMMUNOVANT | KINNATE BIOPHARMA | immunogen | Apexigen | Bristol Myers Squibb™

Pfizer | Genentech A member of the Roche Group | Pfizer | AMGEN | Abgenix | Xcell Strategic Consulting

PYXS Team Members Have Collectively Contributed to >60 Oncology Drug Approvals

PYXIS ONCOLOGY

Pipeline Focused on Difficult-to-Treat Tumors



PYXIS ONCOLOGY

PYX-201 is a First-in-Concept and First-in-Class ADC that Binds to EDB+FN within the Tumor Stroma and may Address Multiple Difficult-to-Treat Tumors

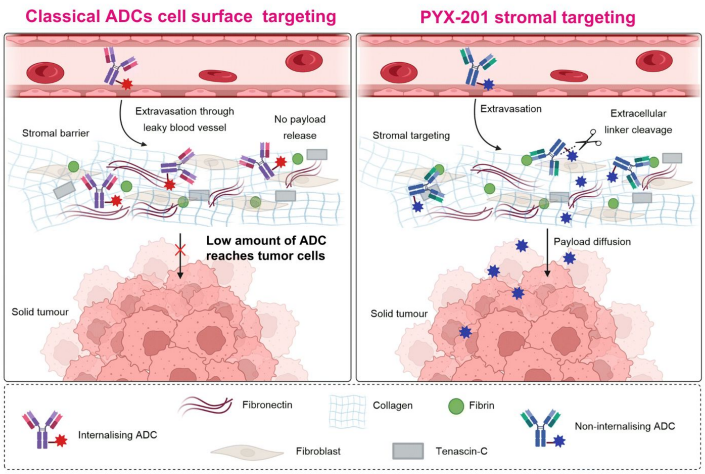
PYX-201 targets an antigen contained within the tumor stroma and releases its payload extracellularly, diffusing into nearby tumor cells

Why target the stroma?

- The stroma provides a lifeline necessary for tumor growth in solid tumors
- Stroma includes the extracellular matrix, tumor vasculature, cancer-associated fibroblasts and mesenchymal stromal cells that make up the TME
- Provides protection, structural support, nutrition and waste product removal; can also enable drug resistance that allows tumor to survive

How to target the stroma and kill cancer cells?

- EDB+FN is a protein upregulated in tumor stroma and associated with tumor growth, angiogenesis, and metastases
- As a result, EDB+FN is highly expressed in many solid tumors and has low expression in normal adult tissue
- PYX-201 targets the stroma via EDB+FN, then releases its toxic payload extracellularly in the tumor microenvironment, presumably diffusing into, and killing, nearby tumor cells



Source: Ashman, et al., Chem. Soc. Rev., 2022,51

Kadcyla (HER-2), Enhertu (HER-2), Padcev (Nectin-4) , Elahere (FRa), Tivdak (TF), Trodelvy (TROP-2)

PYX-201 (EDB+FN)

PYXIS ONCOLOGY

Tumor Stroma is an Exciting Opportunity for ADC Modality

- **Many of the proteases found intracellularly in endosomes and lysosome are also found outside the cell** and are involved in disease pathologies including cancer*

- The **Tumor Micro-Environment (TME) is acidic (i.e., pH between 6.4 to 7.0) compared to normal physiologic pH of 7.4** and immune responses can be attenuated in an acidic TME**

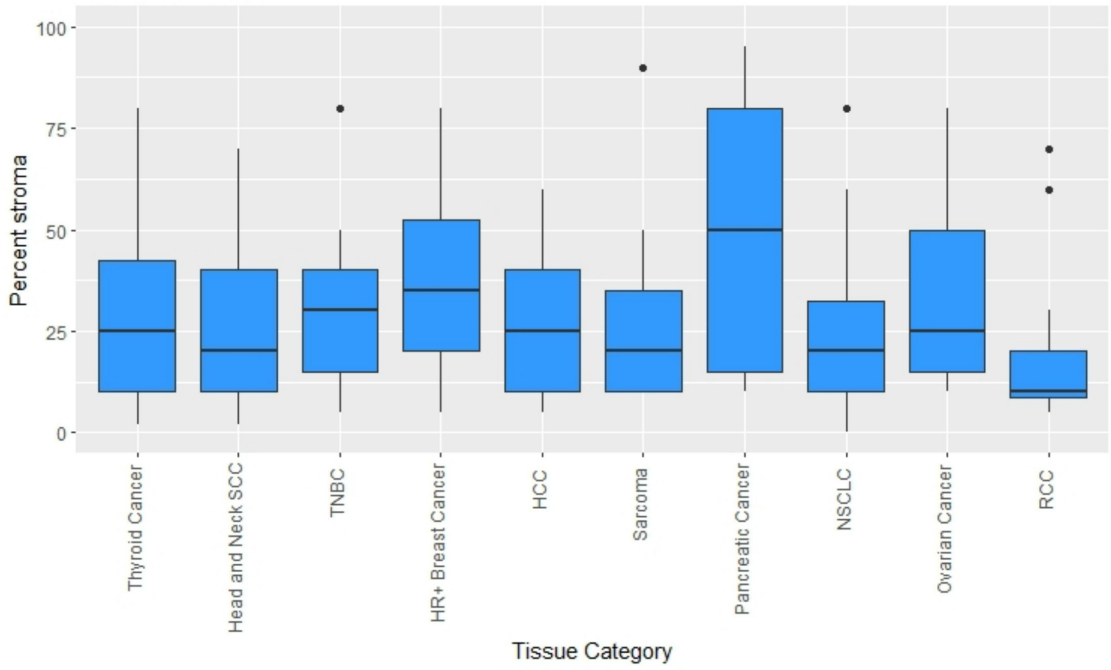
- The acidic TME has been **exploited to develop therapeutic antibodies with tumor selective pH-dependent antigen binding*****

The acidic environment and extracellular proteases in the tumor lead to release of the AUR-0101 (auristatin microtubule inhibitor) payload from PYX-201 in the TME

PYXIS ONCOLOGY

*Yadati, Cells(9) 2020: 1679-1705; ** Boedtkjer, AnnRevPhys(82) 2020: 103-126; *** Chang, PNAS(118) 2021: 1-10

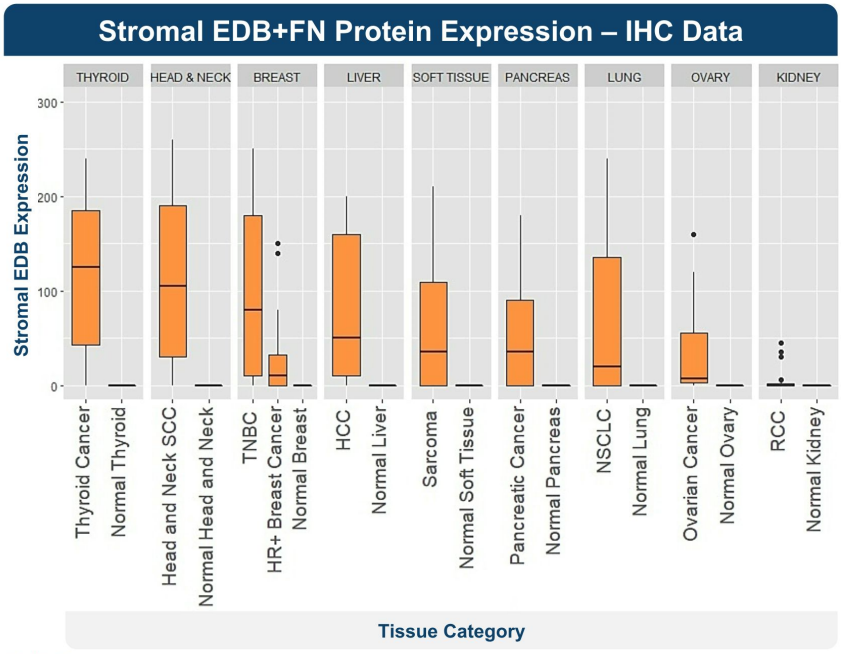
Volume of Stroma is Highly Variable by Tumor Type

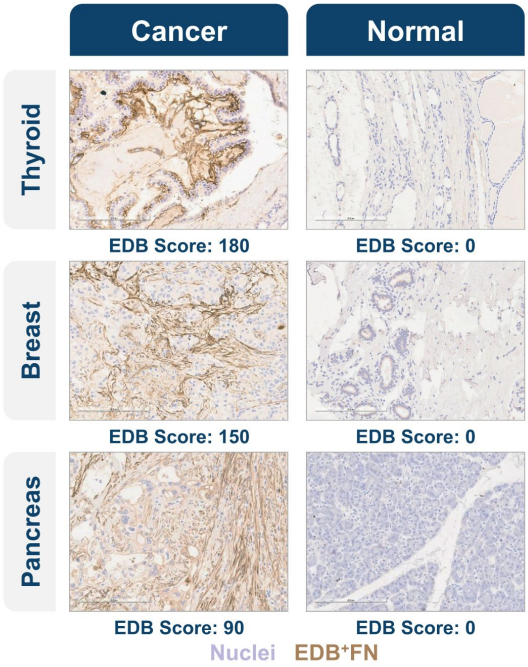


PYXIS ONCOLOGY

Pyxis Oncology Internal Data. Stromal density analysis of tumors via H&E staining.

Immunohistochemistry (IHC) Analysis Demonstrates EDB+FN Protein is Highly Differentially Expressed in Tumor Stroma



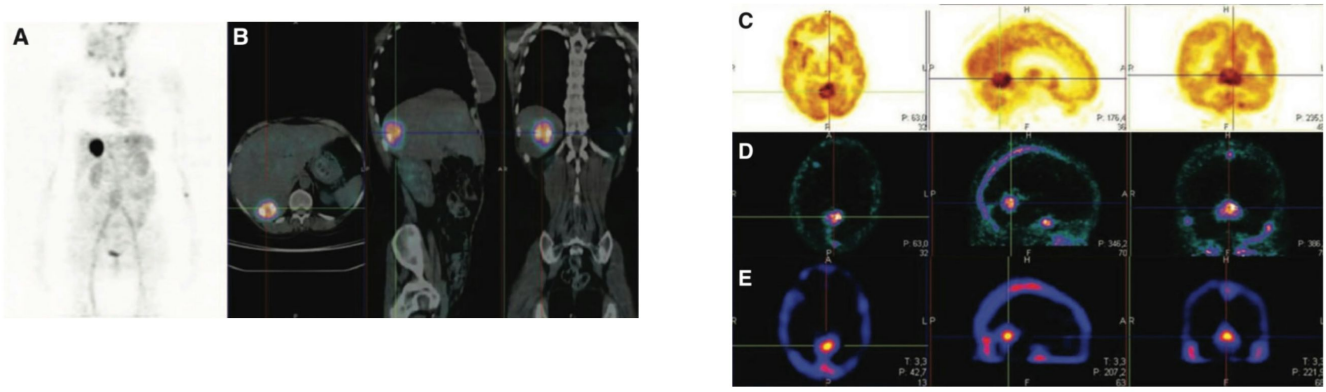


PYXIS ONCOLOGY

Pyxis Oncology Internal Data. EDB+FN protein expression analysis via immunohistochemistry (IHC) of tumor vs. normal stromal tissue.

An EDB-targeted Radio-Conjugate Selectively Accumulates in Tumor with No Accumulation in Normal Tissues

PET imaging using radiolabeled target-antibody fragment shows selective accumulation in hepatic and CNS lesions



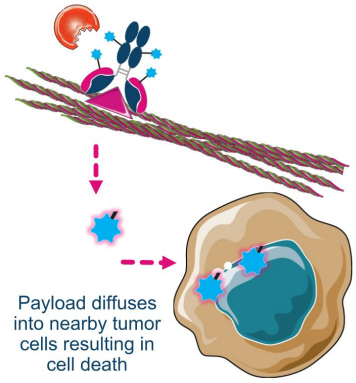
A	B	C	D	E
PET image 24 hours p.i., showing a hepatic lesion with high antibody uptake.	Corresponding transaxial, sagittal, and coronal projections PET/CT fusion images.	FDG PET image of a lesion in the cerebellar region (transaxial, sagittal, and coronal projections).	Corresponding PET images from the diagnostic phase with radio-labeled antibody (24 hours p.i.).	SPECT images posttherapy from the use of radio-labeled antibody (24 hours p.i.).

Poli GL et al 2013, Cancer Immunol Res; 1(2); 134–43

PYX-201 Believed to Act Via Three Distinct Mechanisms to Deliver Powerful Anti-Tumor Activity

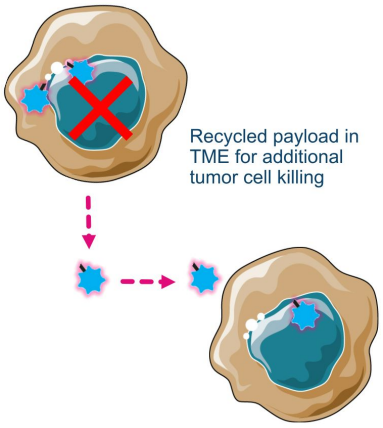
1 Payload Diffuses Into & Kills Tumor Cells

Binding of PYX-201 to EDB+FN within the tumor stroma releases payload



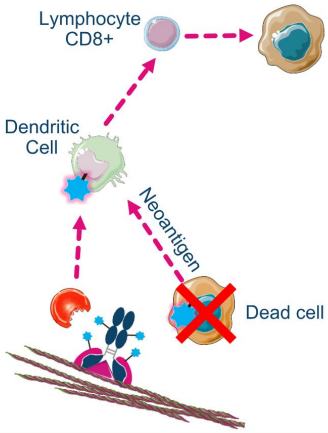
2 Additional Bystander Killing

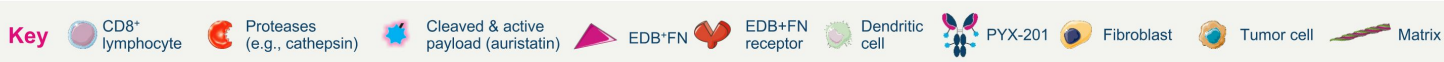
Tumor cell death results in payload re-release into TME for additional killing



3 Immunogenic Cell Death

Released payload also potentiates immune cell infiltration into the tumor





PYXIS ONCOLOGY

Servier medical art: https://smart.servier.com/;

ADC Technical Improvements of PYX-201 vs Other ADCs

- **Conjugation:** Engineered cysteine residues allow for a target DAR of 4 without disrupting the inter-chain cysteine bonds that holds the antibody together

- **Linker:** Optimized val-cit linker that is more stable in circulation (i.e., reduced carboxylesterase cleavage) compared to val-cit linkers used in Adcetris, Padcev, etc.

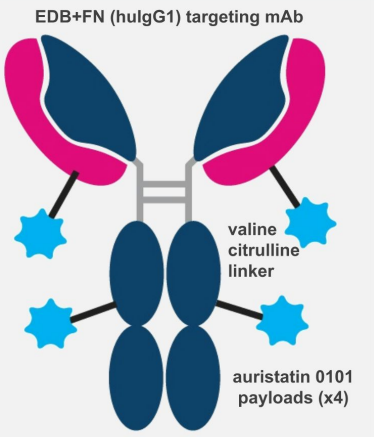
- **Payload:** Optimized auristatin (AUR-0101) selected for enhanced cell permeability and bystander cell killing activity compared to MMAE. AUR-0101 also has improved metabolism and excretion properties compared to MMAE

Incorporating these three areas of technical improvement in PYX-201 demonstrated increased tolerability and stability with lower levels of free auristatin payload in circulation in non-clinical toxicology studies compared to traditional val-cit-MMAE ADCs

PYXIS ONCOLOGY

PYX-201 is Designed for Tolerability and Activity

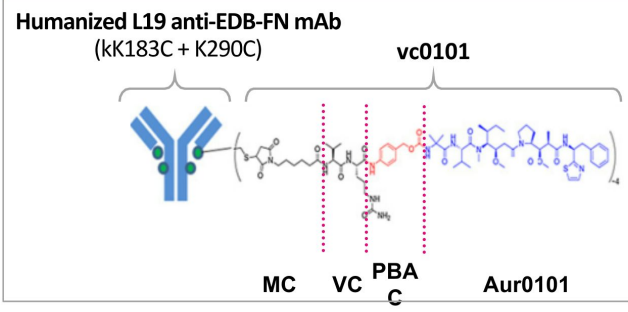
PYX-201 Drug Design



Key improvements of PYXS optimized ADC technology:

- Monoclonal antibody uniquely directed at **Extra-domain B of Fibronectin (EDB+FN)** in the tumor stroma
  - Designed to reduce off-target effects and improve tolerability
- Carries **four Auristatin 0101, microtubule depolymerizing inhibiting payloads**
  - Maximizes tumor-killing and potency
  - Predictable, uniform drug-antibody ratio (DAR) of 4
- **Site-specific**, cathepsin-cleavable, valine citrulline **linkers**
  - Optimized to improve stability in circulation and reduce free payload

PYX-201 Structure



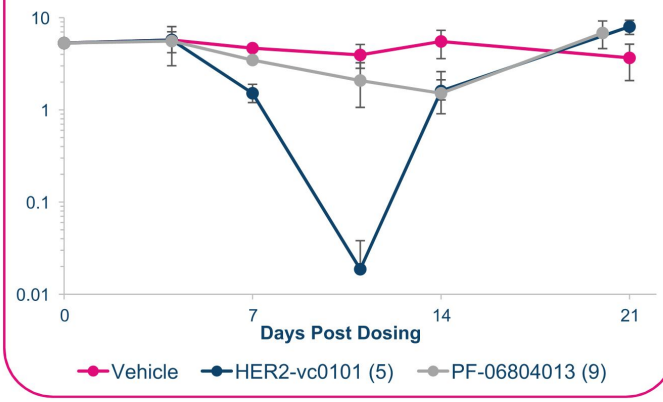
MC-VC-PABC linker construct utilizes a maleimidocaproyl (MC) spacer, a protease (cathepsin)-sensitive dipeptide, valine-citrulline (VC), a self-immolative spacer, para-amino benzyloxycarbonyl (PABC) coupled with the optimized auristatin – Aur0101

PYXIS ONCOLOGY

Potential for Improved Technical Profile of PYX-201 vs. Competitors

Enhanced tolerability in NHP at 10–12 mg/kg (preclinical publications for the HER-2 and EDB ADCs) compared to approved older generation val-cit-MMAE ADCs in NHP of 3 mg/kg (i.e., Adcetris, Padcev etc.)

Neutrophil, Absolute, 10e3/uL



- Minimal effect on neutrophils in NHP with the site-specific HER2 ADC (PF-06804013) at twice the dose (9 vs. 5 mg/kg) as compared to a conventional HER2-vc0101 ADC that induced neutropenia

Summary of EDB-ADC Single-Dose Pharmacokinetics in Mouse and Nonhuman Primate (NHP, Cynomolgus Monkey)

Model	Dose (mg/kg)	Analyte	C_{max} (µg/mL)	$AUC_{0\text{-}tau}$ (µg*h/mL)	Terminal $t_{½}$ (day)	ADC/Ab (%)
Mouse	**3**	Ab	59.6	3,820	4.0	90
		ADC	62.4	3,450	3.4	
NHP	**6**	Ab	159	16,250	6.6	84
		ADC	148	13,700	5.9	
		Payload	0.00012	0.034	NA	NA
	12	Ab	258	24,800	6.1	98
		ADC	268	24,450	5.8	
		Payload	0.00046	0.096	NA	NA

Note: Mouse tau = 336 hours; NHP tau = 504 hours.
Abbreviations: AB = antibody; NA = not applicable.

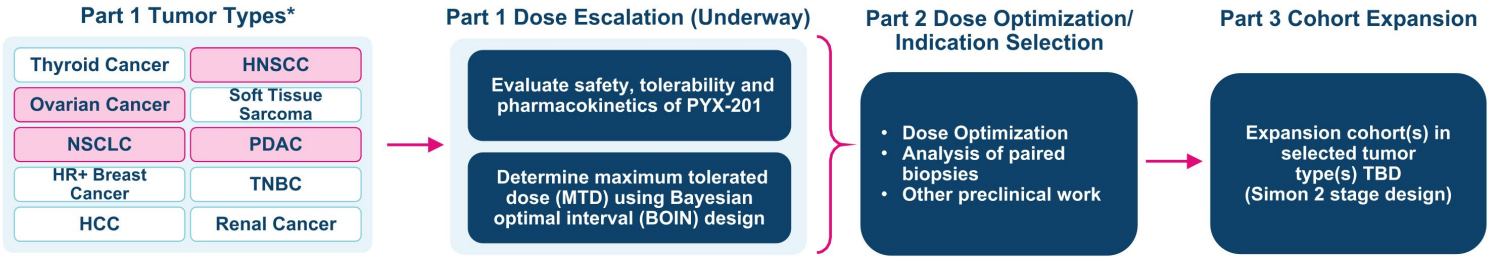
- PYX-201 is highly stable in circulation in mouse and NHP
- Very low levels of free payload in NHP demonstrating increased stability of the modified val-cit linker

PYXIS ONCOLOGY

Graziani, *MolCanTher* (19) 2020: 2068-78; Hooper, *MolCanTher* (21) 2022: 1462-72.

PYX-201-101: Ongoing Open-Label Phase 1 Dose Escalation Study with 10 Solid Tumor Types, Enriched for 4 Histologies

Preliminary data expected Fall 2024



Part 1 Objectives

Primary

- Safety
- Tolerability
- MTD
- Determine doses for dose optimization

Secondary

- ORR, DCR, PFS, DOR
- PK/PD
  - Cmax, Half-life
  - Total antibody, Free payload, Tmax

Part 2 Objectives

- Identify optimized dose
- Determine tumor type(s) for expansion

Part 3 Objectives

- Further evaluate safety and tolerability within the setting of dedicated cohort(s)
- Collect efficacy data (ORR, DOR, DCR, PFS, OS and immunogenicity) within dedicated cohort(s)

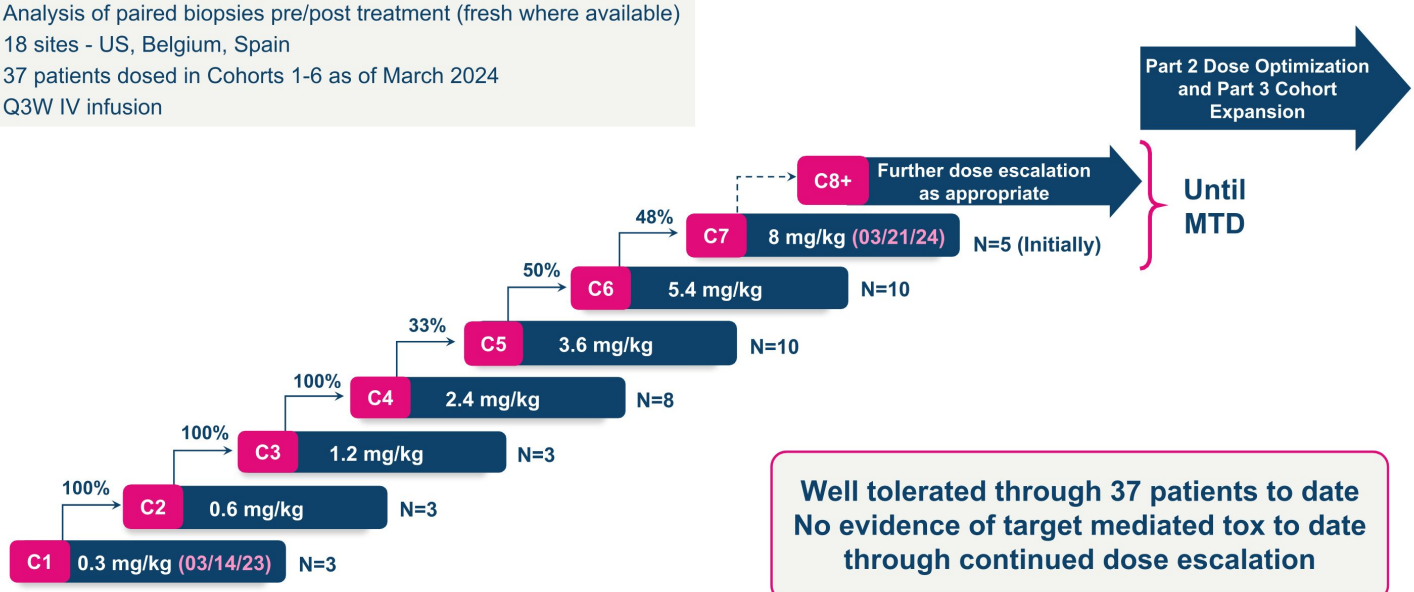
PYXIS ONCOLOGY

* HNSCC: head and neck squamous cell carcinomas; NSCLC: Non-small cell lung cancer; PDAC: Pancreatic ductal adenocarcinoma; TNBC: Triple negative breast cancer; HCC: Hepatocellular Carcinoma

PYX-201 Ongoing Phase 1 Part 1 Dose Escalation Solid Tumor Trial Design

Part 1 Design and Approach

- Determine MTD using Bayesian optimal interval (BOIN) design
- Analysis of paired biopsies pre/post treatment (fresh where available)
- 18 sites - US, Belgium, Spain
- 37 patients dosed in Cohorts 1-6 as of March 2024
- Q3W IV infusion



Well tolerated through 37 patients to date
No evidence of target mediated tox to date through continued dose escalation

PYXIS ONCOLOGY

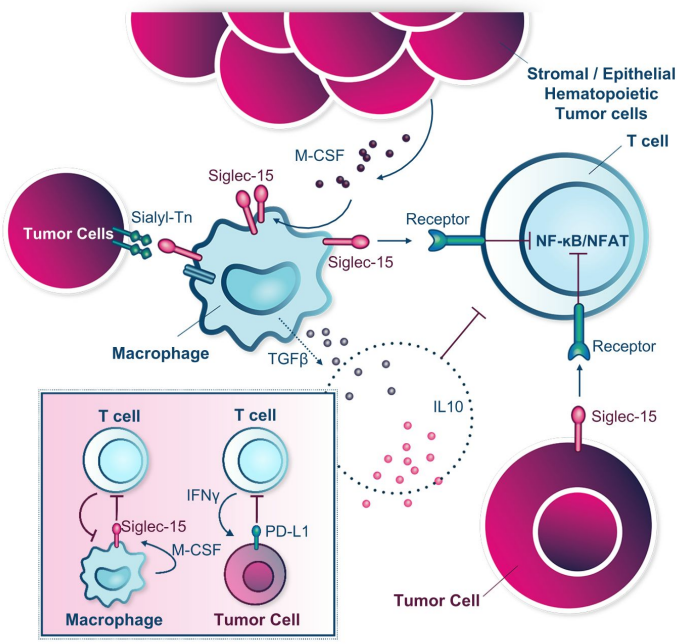
Anti-Siglec-15 (PYX-106): Potential Best-In-Class, Highly Differentiated Fully Human Antibody in NSCLC and Solid Tumors

Higher binding affinity leads to enhanced T cell responses at higher dose levels, empowering the immune system to kill and fend off cancer cells

- **Demonstrates 10-fold higher affinity to human Siglec-15 than benchmark in development**
- **Potent, dose-dependent reversal of Siglec-15-mediated T cell suppression *ex vivo***
- **Well-tolerated in preclinical studies with half-life of 7 days resulting in less frequent dosing**
- **Potential for better exposure and no evidence of anti-drug antibody**
- **Potential to combine with anti-PD-(L)1 or another immunotherapy**

PYX-106 May Address Anti-PD-(L)1 Non-responders in Several Tumor Types

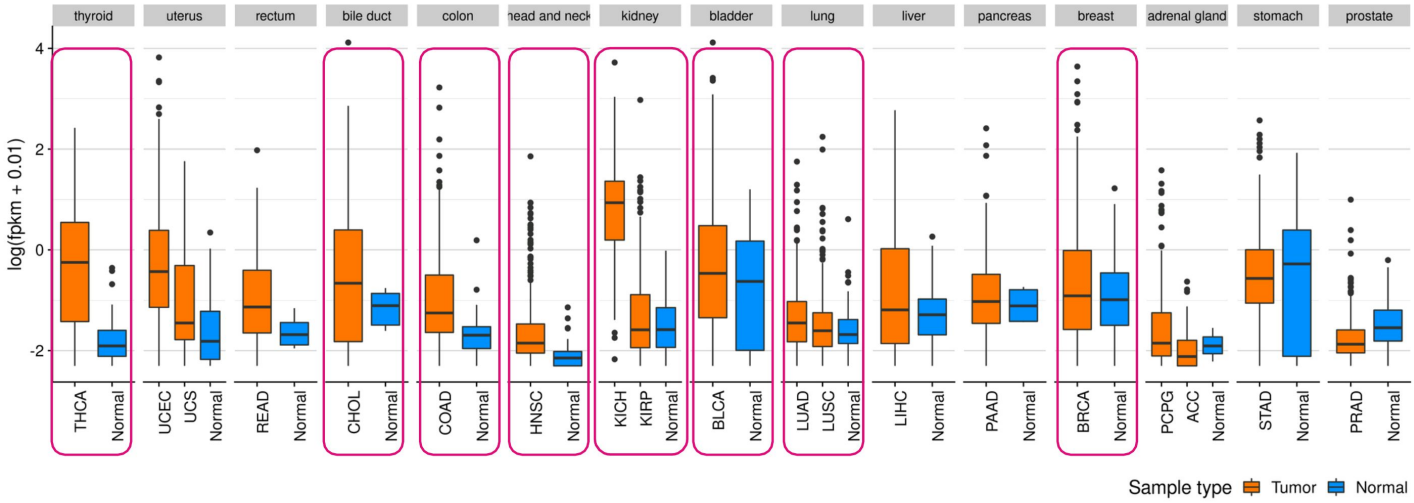
- PYX-106 is a fully human antibody targeting Siglec-15, a differentially expressed immune suppressor that may be a critical immune evasion mechanism in PD-L1-negative patients
  - Target has been de-risked in prior clinical studies
- High binding affinity to a unique epitope and high potency
- Well tolerated in preclinical studies with no evidence of anti-drug antibodies
- Potential to leverage biomarker analysis to target specific patient populations
- Exclusively licensed from Biosion in 2022 for worldwide rights outside of greater China



Sun et al., Clin Cancer Res 2021; Wang et al., Nat Med 2019; Biosion Corporate Presentation; GlobalData; Citeline Informa

PYX-106 Targets Siglec-15, Which is Differentially Upregulated in Multiple Solid Tumors

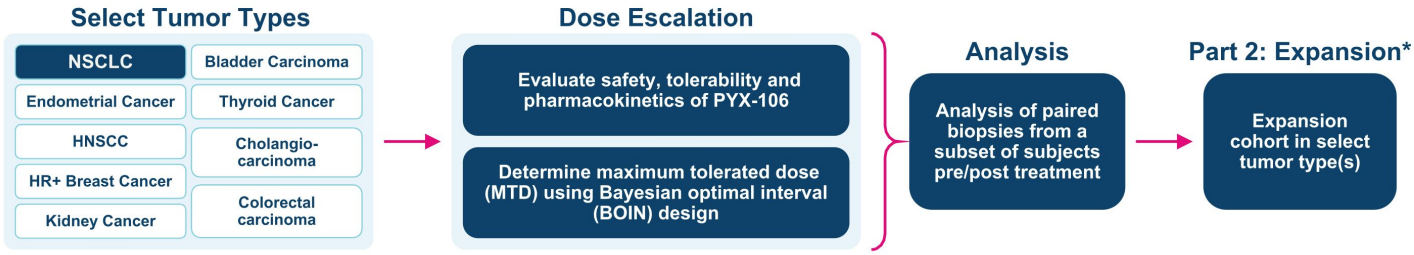
Meaningful Differences in Siglec-15 Expression in Tumor vs. Normal



Showing significant t-test results; TCGA normal grouped with GTEx where available
Pyxis Oncology data

PYX-106-101: An Open-label, Multicenter Phase 1 Study in Patients with Advanced Solid Tumors

Preliminary data expected in 2H 2024



Objectives

- Determine recommended dose(s) of PYX-106
- Evaluate safety and tolerability
- Characterize the pharmacokinetic profile
- Evaluate ORR, DOR, DCR, PFS, OS and immunogenicity of PYX-106

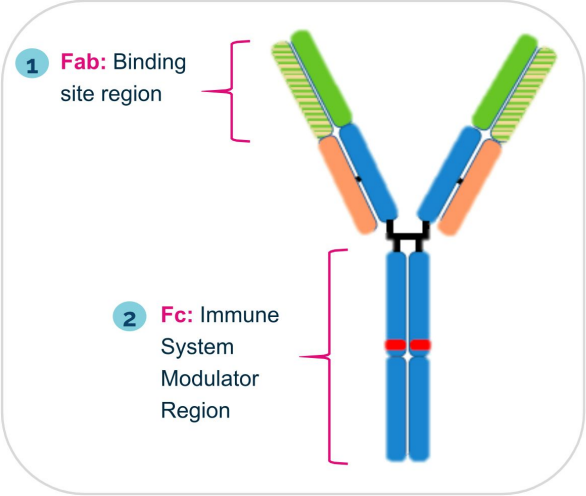
PYXIS ONCOLOGY

* The expansion phase will be triggered by a protocol amendment. The indications, dosing schedules, and assessment timepoints planned for the expansion phase will be determined based on clinical safety, efficacy, biomarker, and pharmacokinetic (PK) data obtained during the dose escalation phase.

PYX-107 (Sotigalimab) is a Potential First- and Best-in-Class CD40 Agonist in Phase 2 that Has Demonstrated Rapid, Deep and Durable Responses

Paused

- Rationally designed with two key modifications for higher potency and improved tolerability
- Potential applicability across a variety of tumor types with high unmet need
- Compelling anti-tumor activity in difficult-to-treat metastatic melanoma patients, including those relapsed or refractory to PD-(L)1 and/or CTLA-4
  - No good treatment option exists for this growing patient population
- Favorable tolerability profile in combination with nivolumab
- Clinical development plan to be announced in Q4 2023

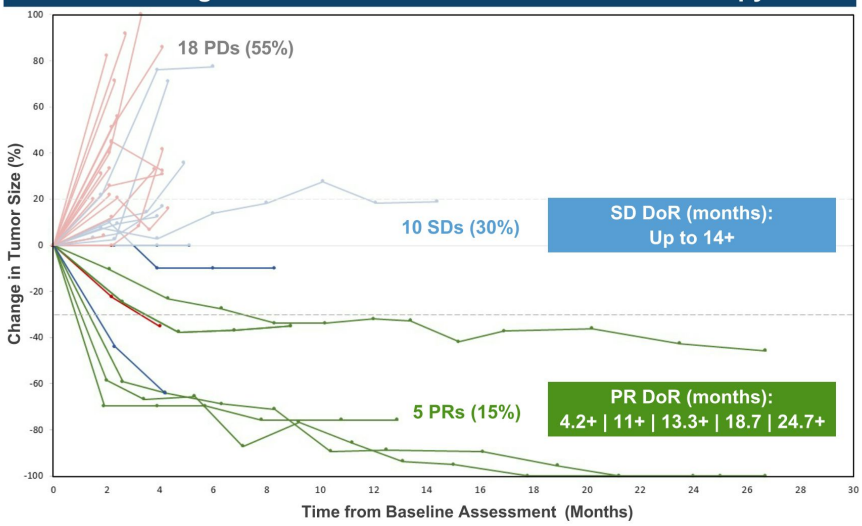


PYXIS ONCOLOGY

Sotigalimab-Nivolumab Demonstrated Activity and Prolonged Responses in PD-1 Blockade Refractory Melanoma Patients in Phase 2 Trial

Paused

Duration of Response with Sotigalimab+Nivolumab in Patients Who Progressed on Prior PD-1/PD-L1 Blockade Therapy



Background

- Patients (n=33) with relapsed/refractory metastatic melanoma with confirmed PD on anti-PD-1 mAb
- 24% received prior anti-CTLA-4

Results Summary

- **Strong activity**
  - 15.2% achieved partial responses (PR) and 30.3% showed stable disease (SD)
- **Well tolerated**
  - Grade ≥3 related TEAEs reported in two patients: transient increases of alanine aminotransferase (2 patients) and aspartate aminotransferase (2 patients)
- **Rapid, deep and durable responses**
  - SD up to 14+ months
  - 4/5 patients had ongoing PRs; median duration of response (DoR) not reached

Data from >500 patients collected across both company-sponsored trials and ISTs; IST data accumulated in a variety of tumor types, including metastatic melanoma, pancreatic, brain, renal, colorectal and ovarian cancer

PYXIS ONCOLOGY

Upcoming Meetings

4 AACR Abstracts: PYX-201 (anti-EDB), PYX-106 (anti-Siglec-15), PYX-102 (anti-KLRG1) in San Diego, April 5-10, 2024

Stifel Virtual Targeted Oncology Days on April 16-17, 2024

RBCCM Global Healthcare Conference in New York, May 14-15, 2024

Jefferies Healthcare Conference in New York, on June 5-6, 2024

BTIG Virtual Biotechnology Conference on August 5-6, 2024

Wells Fargo Healthcare Conference in Boston, September 4-6, 2024

PYXIS ONCOLOGY

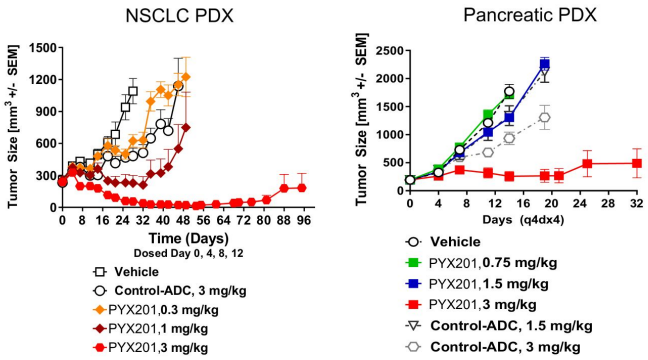
APPENDIX

- PYX-201 & ADC Toolkit
- PYX-106
- APXiMAB Platform & Sotigalimab

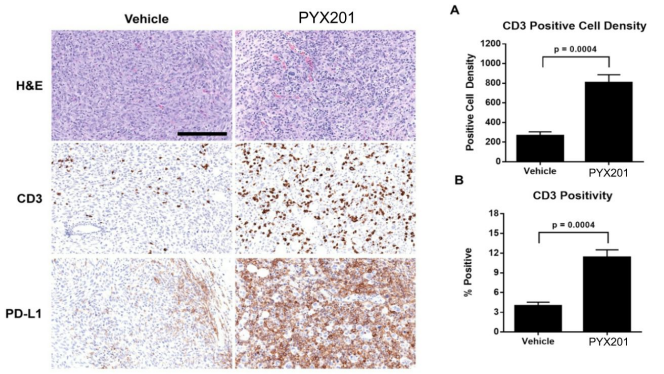
PYXIS ONCOLOGY

PDX Models Demonstrate Dose Dependent Anti-Tumor Activity of PYX-201

PYX-201 is Highly Active in Patient-derived Xenograft (PDX) Models of NSCLC and Pancreatic Cancer



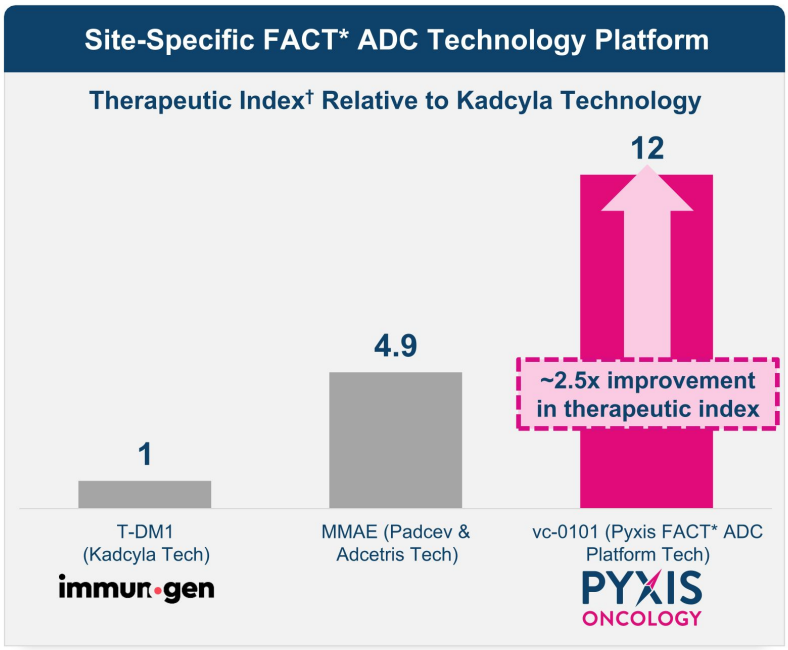
PYX-201 Induces Immunogenic Cell Death & T cell Infiltration (CD3)



PYXIS ONCOLOGY

Source: Mol Cancer Ther, 2022 Sep 6;21(9):1462-1472.

Pyxis Oncology's ADC Platform Demonstrates Superior Therapeutic Index (TI) to Currently Marketed Auristatin Based ADC Products



- Preclinical studies testing trastuzumab-based ADCs demonstrate
  - FACT site-specific conjugation of vc-0101 to engineered cysteine residues exhibited significant improvement in TI

    vs
  - Conventional cysteine conjugation used in Adcetris and Padcev (Graziani, Molecular Cancer Therapeutics, 2020)
- Preclinical improvements in TI with the site-specific conjugated vc-0101 trastuzumab ADC (PF-06804103) predicted
  - That the molecule would have enhanced anti-tumor activity and
  - Be tolerated at higher dose levels compared to traditional vc-MMAE-based ADCs

PYXIS ONCOLOGY

*FACT=Flexible Antibody Conjugation Technology; † TI minimally effective dose vs monkey highest non severe toxic dose (HNSTD).

Pyxis Oncology is Advancing ADC Technology to Create More Active, Better Tolerated Therapies

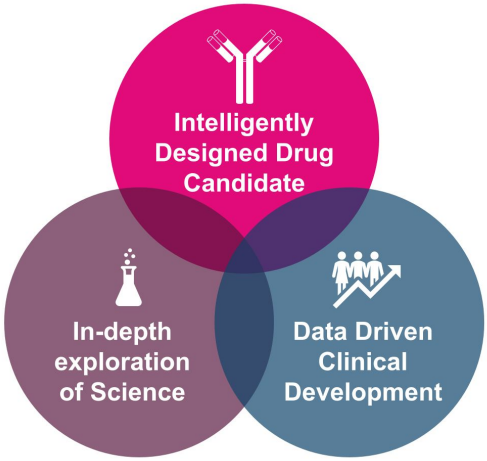
Limitations of First-Generation ADCs		PYXS ADC ToolKit Improvements
Less stable linkers can result in higher levels of free payload in circulation and off-target payload deposition	1 **Linker improvements**	More stable linkers can limit early payload release prior to reaching tumors
Random attachment of payloads to an antibody leads to a more inconsistent drug product and variable DAR	2 **Site-specific conjugation chemistry**	Site-specific conjugation leads to a more consistent drug product and more homogeneous DAR
Less permeable, less potent, lower bystander activity with first generation MMAE payloads	3 **Payload improvements**	Best-in-class auristatin payload AUR0101 engineered for better potency and permeability across cell membrane enables improved bystander effect
Often lower affinity, less specific antibodies	4 **Antibody improvements**	Generates novel, humanized antibodies to a target library, with high affinity and unique binding epitopes

PYXIS ONCOLOGY

DAR: Drug:antibody ratio

PYX-106: A Data Driven Anti-Siglec-15 Therapy

Clinical strategy entrenched in the in-depth understanding of the dynamics between the drug candidate, the tumor microenvironment (TME) and patient impact



A Simultaneous and Multifaceted Approach to Delivering an Impactful Therapy

DIFFERENTIATED DRUG CANDIDATE FROM COMPETITOR

- Fully Human which may limit ADA formation and improve exposure
- Long half-life in monkeys, if similar in humans, would allow for less frequent dosing, maintain exposure and target engagement
- Stronger target binding to human Siglec-15 versus competitor (NC318)
- More potent reversal of Siglec-15-mediated T cell suppression *ex vivo* versus NC318

ACTIONABLE DATA GENERATION AND ANALYSIS

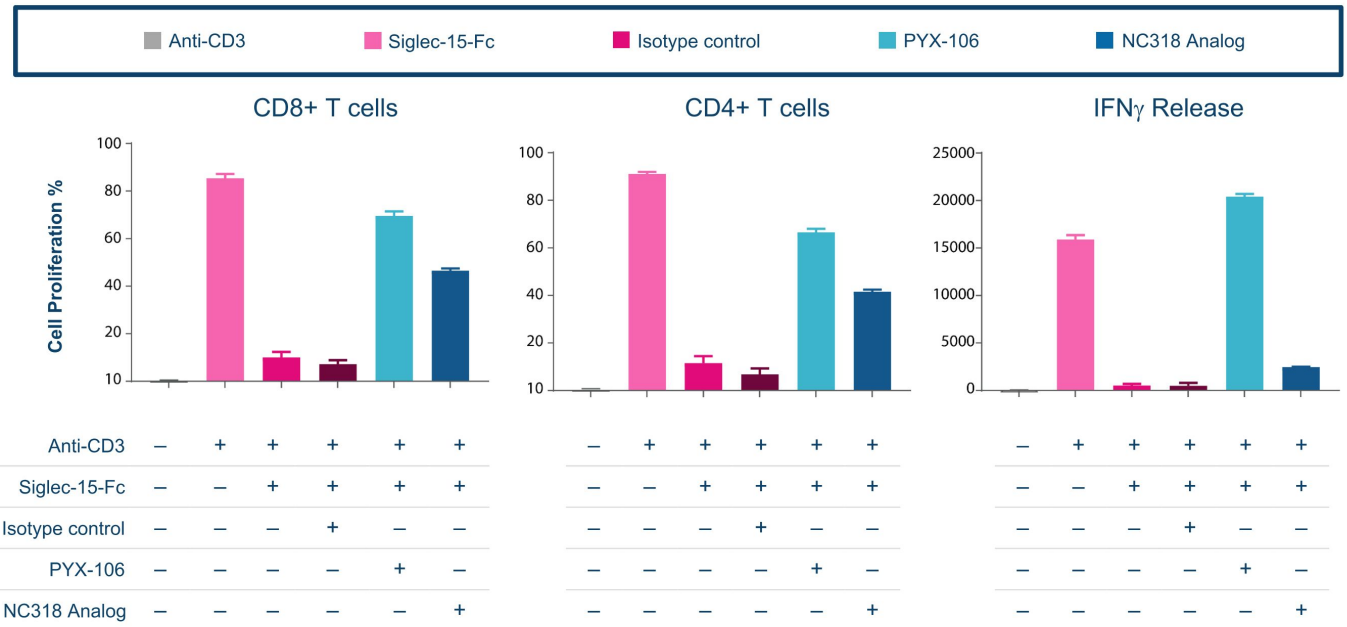
- Demystifying Siglec-15 as a Biomarker to comprehend the role of the target in tumorigenesis
- Discerning the TME to expand knowledge of immune related events during patient response to drug
- Deciphering drug dynamics (PK/PD) to better understand the MOA of the drug in targeting cancer

THOUGHTFULLY DESIGNED CLINICAL STRATEGY

- Diligent Indication Selection to ensure impact in unmet need tumors based on Siglec-15 expression
- Data-driven patient selection for prospective identification of responders
- Differentiated Clinical Development plan for delivering the highest patient benefit and impact

PYXIS ONCOLOGY

PYX-106 Reverses Siglec-15 Mediated T-Cell Suppression and Increases IFNγ Release to Reinvigorate the Immune System

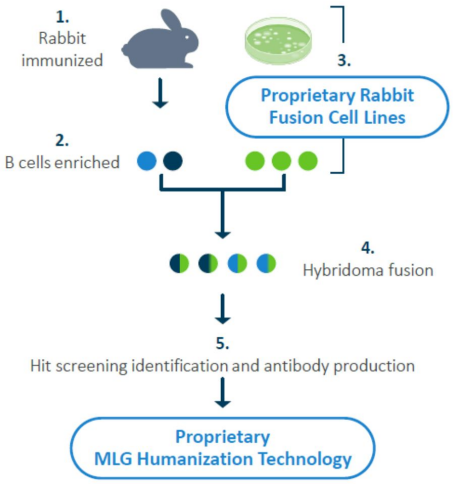


	CD8+ T cells						CD4+ T cells						IFNγ Release					
Anti-CD3	–	+	+	+	+	+	–	+	+	+	+	+	–	+	+	+	+	+
Siglec-15-Fc	–	–	+	+	+	+	–	–	+	+	+	+	–	–	+	+	+	+
Isotype control	–	–	–	+	–	–	–	–	–	+	–	–	–	–	–	+	–	–
PYX-106	–	–	–	–	+	–	–	–	–	–	+	–	–	–	–	–	+	–
NC318 Analog	–	–	–	–	–	+	–	–	–	–	–	+	–	–	–	–	–	+

APXiMAB Platform Facilitates In-House Development of Antibodies to Support Novel ADC Generation via FACT Platform

RABBIT-DERIVED THERAPEUTIC ANTIBODIES

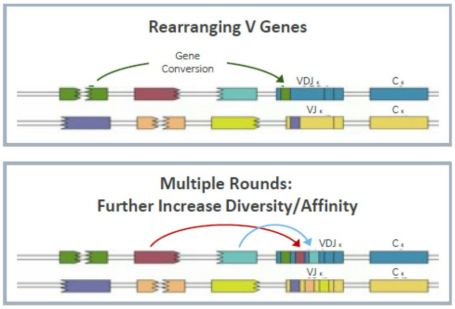
THE PROCESS



UNIQUE MECHANISM

Gene Conversion:

Increased Diversity and Affinity/Specificity



Only occurs in rabbits (and chickens)

THE ADVANTAGES

Broad Antibody Diversity

Increases Likelihood of:

- Identifying candidates for any given target
- Discovering the best antibody for a particular use

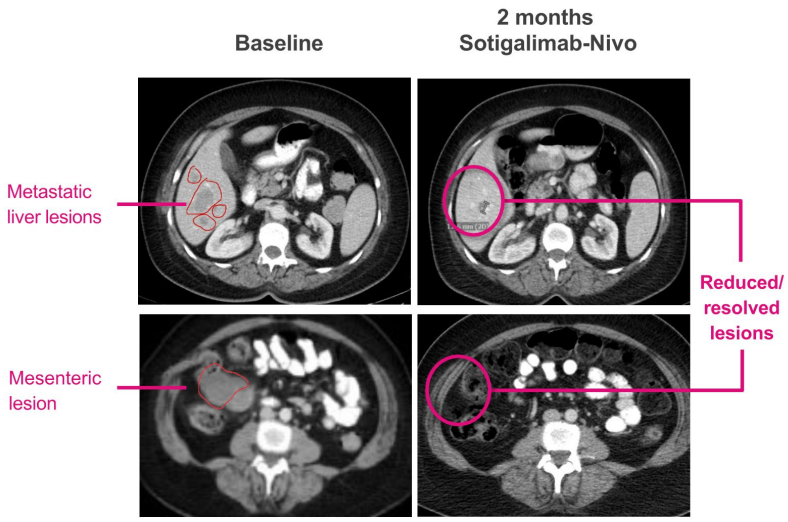
High Antibody Affinity/Specificity

Important for therapeutic antibody binding and staying on target for extended duration

PYXIS ONCOLOGY

Case Study: Patient Achieved a Durable Partial Response (PR) and Resolution of All Lesions on Sotigalimab-Nivolumab

Patient Could Not Tolerate Ipilimumab and Had Highly Progressed, Metastatic Disease with Poor Prognosis and Limited Effective Treatment Options Remaining, with Discussions About Hospice as Next Step



- **Strong activity:** patient responded **only 2 months** after starting sotigalimab-nivolumab (3 cycles of treatment)
- **Good tolerability:** patient **completed ~11 months (15 cycles)** of therapy
- **Lasting durability:** patient **maintained a PR for 25+ months on study** after treatment concluded
  - **At 45.9+ months**, the patient maintained their response, as observed by the PI

PYXIS ONCOLOGY

PI: principal investigator

Results Demonstrate Favorable Tolerability Profile of Sotigalimab

Number (%) of subjects with related grade ≥3 TEAEs (in ≥2 subjects)

Study APX005M-002	Phase 1b			Phase 2 (0.3 mg/kg)				
					Melanoma Patient Cohort			
Related[a] Grade ≥3 TEAE Preferred Term	DL1 (0.03 mg/kg) (N=3)	DL2 (0.1 mg/kg) (N=3)	DL3[b] (0.3 mg/kg) (N=3)	C1[b] (N=53)	C2[b] (N=38)	C3A (N=I4)	C3B (N=28)	Total (N=139)
Alanine Aminotransferase Increased	0	0	0	1 (1.89%)	2 (5.26%)	0	2 (7.14%)	5 (3.60%)
Hypertension	0	0	0	4 (7.55%)	0	0	1 (3.57%)	5 (3.60%)
Gamma-glutamyltranferase Increased	0	0	0	2 (3.77%)	1 (2.63%)	0	1 (3.57%)	4 (2.88%)
Aspartate Aminotransferase Increased	0	0	0	1 (1.89%)	2 (5.26%)	0	0	3 (2.16%)
Dyspnoea	0	0	0	3 (5.66%)	0	0	0	3 (2.16%)
Amylase Increased	0	0	0	1 (1.89%)	1 (2.63%)	0	0	2 (1.44%)
Blood Bilirubin Increased	1 (33.33%)	0	0	1 (1.89%)	0	0	0	2 (1.44%)
Colitis	0	0	0	2 (3.77%)	0	0	0	2 (1.44%)
Cytokine Release Syndrome	0	0	0	0	0	0	2 (7.14%)	2 (1.44%)
Diarrhoea	0	0	0	2 (3.77%)	0	0	0	2 (1.44%)
Fatigue	0	0	0	1 (1.89%)	0	1 (7.14%)	0	2 (1.44%)
Hyperglycaernia	0	0	0	1 (1.89%)	0	0	1 (3.57%)	2 (1.44%)
Lipase Increased	0	0	0	1 (1.89%)	1 (2.63%)	0	0	2 (1.44%)
Pyrexia	0	0	0	0	1 (2.63%)	1 (7.14%)	0	2 (1.44%)

PYXIS ONCOLOGY

Abbreviations: C = cohort, DL = dose level, N = number of subjects enrolled, SAE= serious adverse event: TEAE = treatment-emergent adverse event

[a] Regardless of the relatedness to nivolumab

[b] All 3 subjects from DL3 from phase 1b were also included in phase 2 C1 (1) and C2 (2)

Sotigalimab vs. Other Advanced Clinical Stage CD40 Agonists (Not Exhaustive)

	Apexigen	Celldex	Roche	AbbVie	Seagen	BioNTech	Alligator Bioscience	Eucure
	sotigalimab[1]	**CDX-1140[2]**	**selicrelumab[3]**	**ABBV-927[1]**	**SEA-CD40[4] dacetuzumab**	**BNT-312[5] (GEN1042)**	**mitazalimab[1] ADC-1013**	**YH003[6] (Biocytogen)**
Format	IgG1 humanized mAB	IgG2 fully human mAB	IgG2 fully human mAB	IgG1	IgG1	DuoBody-CD40x4-1BB	IgG1	IgG2 humanized mAB
Fc engineering	Modified to eliminate ADCC (S267E): Reduced FcgRIIIa binding	No	No	Modified to eliminate ADCC (V273Y): Reduced FcgRIIIa binding	Modified to increase ADCC (afucosylated): Increased FcgRIIIa binding	Modified to eliminate binding to Fcg receptors	No	
CD40 epitope	Competes with CD40L (binds cysteine-rich domain 2 [CRD2])	CRD1; not competing with CD40L	CRD1; not competing with CD40L	CRD1; not competing with CD40L	CRD1; not competing with CD40L	Not known	CRD1; not competing with CD40L	CRD1; not competing with CD40L
Requires cross-linking	Yes	No	No	Yes	Yes	No	Yes	
FcγR dependent	Yes (FcgIIbR)	No	No	Yes (FcgIIbR)	yes	No	Yes	
In-vitro activity	High	Weak	High		High	High	High	
In-vivo activity	No binding to mouse CD40	Yes	Yes, not tolerated		Yes	Yes, crosslinks CD40-expressing APC with 4-1BB-expressing T cells	Yes	
Development status	Phase 2	Ph 2 (De-prioritized by company		Phase 2		Phase 1/2		Phase 2

Sources: 1. Smith, Karin, et al,Expert Opinion on Biological Therapy 21.12 (2021): 1635-1646; 2. Vitale, Laura A., et al. Cancer Immunology, Immunotherapy 68 (2019): 233-245; 3. Djureinovic, et al, Cancers 13.6 (2021): 1302; 4. Gardai, Shyra J., et al. Cancer Research 75.15_Supplement (2015): 2472-2472.; 5. Muik, Alexander, et al. Cancer Research 81.13_Supplement (2021): 1846-1846; 6. Coward, Jermaine, et al. (2022): 2603-2603.