September 2023

NASDAQ: **IDYA**

IDEAYA Biosciences

Improving Lives Through Transformative Precision Medicines

Safe Harbor Statement

Certain statements in this presentation and the accompanying oral commentary are forward-looking statements. These statements relate to future events or the future financial performance of IDEAYA Biosciences, Inc. (the “Company”) and involve known and unknown risks, uncertainties and other factors that may cause the actual results, levels of activity, performance or achievements of the Company or its industry to be materially different from those expressed or implied by any forward-looking statements. In some cases, forward-looking statements can be identified by terminology such as “may,” “will,” “could,” “would,” “should,” “expect,” “plan,” “anticipate,” “intend,” “believe,” “estimate,” “predict,” “potential” or other comparable terminology. All statements other than statements of historical fact could be deemed forward-looking, including the potentially addressable patient population for the Company’s programs, any expectations regarding the Company’s target discovery platform or new target validation efforts as creating opportunities for research and development initiatives; any projections of financial information, market opportunities, cash runway or profitability; any statements about historical results that may suggest trends for the Company's business; any statements of the plans, strategies, and objectives of management for development programs or future operations; any statements about the timing of preclinical research, clinical development, regulatory filings, manufacturing or release of data; any statements of expectation or belief regarding future events, potential markets or market size, technology developments, or receipt of cash milestones, option exercise fees or royalties; and any statements of assumptions underlying any of the items mentioned. The Company has based these forward-looking statements on its current expectations, assumptions, estimates and projections. While the Company believes these expectations, assumptions, estimates and projections are reasonable, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which are beyond the Company's control. Such risks and uncertainties include, among others, the uncertainties inherent in the drug development process, including IDEAYA’s programs’ early stage of development, the process of designing and conducting preclinical and clinical trials, the regulatory approval processes, the timing of regulatory filings, the challenges associated with manufacturing drug products, IDEAYA’s ability to successfully establish, protect and defend its intellectual property, and other matters that could affect the sufficiency of existing cash to fund operations. These and other important factors may cause actual results, performance or achievements to differ materially from those expressed or implied by these forward-looking statements. The forward-looking statements in this presentation are made only as of the date hereof. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of the Company in general, see the Company's periodic filings with the Securities and Exchange Commission (the "SEC"), including its Annual Report on Form 10-K for the year ended December 31, 2022, and any current and periodic reports filed thereafter. Except as required by law, the Company assumes no obligation and does not intend to update these forward-looking statements or to conform these statements to actual results or to changes in the Company's expectations.

This presentation concerns anticipated products that are under clinical investigation and which have not yet been approved for marketing by the U.S. Food and Drug Administration (FDA). It is currently limited by Federal law to investigational use, and no representation is made as to its safety or effectiveness for the purposes for which it is being investigated.

IDEAYA Biosciences Highlights

Leading Precision Medicine Oncology focused biotechnology company advancing transformative First-in-Class targeted and Synthetic Lethality (SL) therapies for cancer patients

- **Broad Pipeline of Key Emerging Targets**
  - Ph 2/3 Registrational: Darovasertib (PKC) MUM
  - Ph 2: Darovasertib (Neo)Adjuvant Primary UM
  - Ph 2: IDE397 (MAT2A)
  - Ph 1: IDE397 + AMG 193 ($PRMT5^{MTA}$)
  - Ph 1: IDE161 (PARG)
  - Ph 1: GSK101 (IDE705) (Pol Theta Helicase)
  - Preclinical Lead Optimization: Werner Helicase
- **Pharma Collaborations** with Pfizer (CTCSA), Amgen (CTCSA), GSK (with ~$2B in potential milestones)
- **Balance Sheet** of ~$510M to fund ops into 2027 [1, 2]
- **NASDAQ**: IDYA

- **2023 Target Milestones**
  - Darovasertib (PKC) / Crizotinib – Registrational in MUM
    - Phase 2/3 Registrational Trial
    - Phase 2 Program Update including ctDNA Data (ESMO Q4 ’23)
  - Darovasertib (PKC) – Phase 2 in Primary UM
    - Phase 2 in Neoadjuvant / Adjuvant UM (IST Update Q4 ‘23)
  - IDE397 (MAT2A) – Phase 1/2
    - Phase 2 Monotherapy Expansion in High-Priority Tumors
    - Phase 1 Amgen-Sponsored IDE397 + AMG 193
  - IDE161 (PARG) – Phase 1/2
    - Phase 1 Expansion in HRD Tumors (Program Updates H2 ’23)
  - GSK101 (IDE705) (Pol Theta Helicase) – Phase 1/2
    - Phase 1 GSK-Sponsored GSK101 + Niraparib (FPI Q4 ’23)
  - Werner Helicase
    - Development Candidate (Nomination H2 ’23)

(1) Includes aggregate of $510.1 M cash, cash equivalents and marketable securities as of June 30, 2023
(2) IDEAYA Form 10-Q dated August 10, 2023 as filed with the U.S. Securities and Exchange Commission
IND = Investigational New Drug

Leading Functional Genomics and Synthetic Lethality Platform

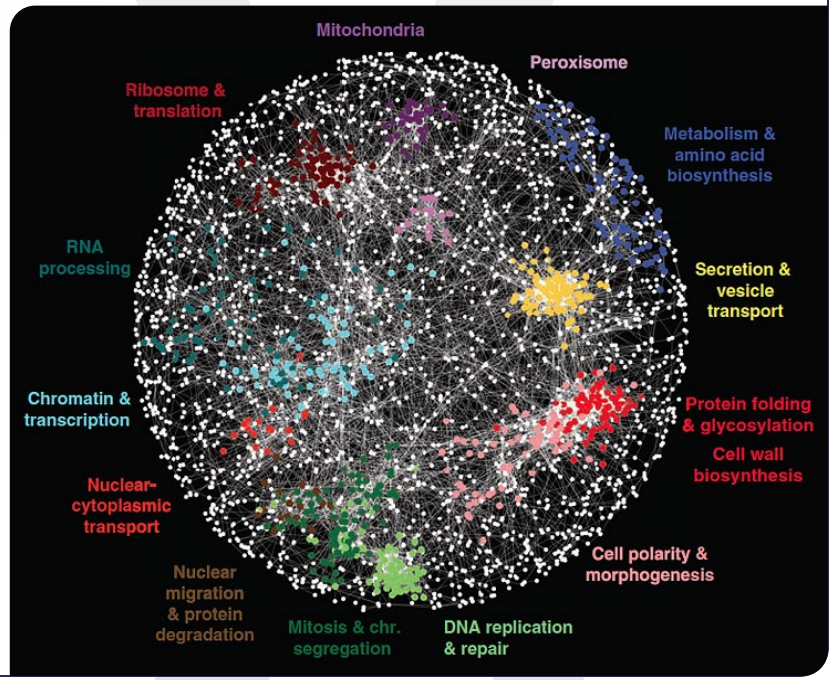
The Next Frontier in Precision Medicine Oncology

Functional Genomics and SL provides a powerful approach to discover novel precision medicine therapies with patient biomarkers, including MTAP-deletion (~15% of solid tumors), BRCA/HRD (Breast, Prostate, Ovarian, Others), and high-MSI (15% GI Cancers)

nature REVIEWS GENETICS

- **Functional genomics** combines human genetics with advances in AI and machine learning to develop effective precision medicines
- **Synthetic lethality** occurs when the simultaneous perturbation of two genes results in cell death
- Large-scale screening for novel synthetic lethal targets has progressed through advances in molecular biology (e.g., RNA interference, CRISPR-Cas9 editing) and bioinformatics

Nature Reviews Genetics, Vol. 18, 2017, Hieter, et al. , as edited by IDEAYA



Reference: Charles Boone

IDEAYA Leadership Team and Scientific Advisory Board

Experienced Team & Scientific Thought Leaders in Precision Medicine Oncology

IDEAYA Executives & R&D Leadership

Yujiro Hata, M.B.A.
Chief Executive Officer, Director

Darrin Beaupre, M.D., Ph.D.
Chief Medical Officer

Michael White, Ph.D.
Chief Scientific Officer

Paul Stone, J.D.
Chief Financial Officer

Matthew Maurer, M.D.
Head of Clinical Oncology &
Medical Affairs

Mick O'Quigley, M.B.A.
Head of Development Operations

Paul Barsanti, Ph.D.
Chief Technology Officer

Jason Throne, J.D.
Chief Legal Officer

IDEAYA Scientific Advisory Board

Frank McCormick, Ph.D.
SAB Chair
UCSF, Professor and former Director, Helen Diller Cancer Center
Former President AACR; Founder and CSO, Onyx

Karlene Cimprich, Ph.D.
Professor, Chemical and Systems Biology and (by courtesy) Biochemistry, Member, Stanford Cancer Institute, Stanford University

Trey Ideker, Ph.D.
UCSD, Professor, Co-Director Cancer Genomes & Networks Program, Research in Dual-CRISPR and SL interaction maps

Kornelia Polyak, M.D., Ph.D.
Professor of Medicine at Dana-Farber Cancer Institute, Harvard Medical School, and a co-leader of the Dana-Farber Harvard Cancer Center Cancer Cell Biology Program

William Sellers, M.D.
Broad Institute, Dana Farber, and Harvard, Professor Novartis, Former Head Oncology Research,
SL Project Drive initiative

Elizabeth Swisher, M.D.
University of Washington, Professor; Co-Leader, Breast and Ovarian Cancer Research Program, Seattle Cancer Care Alliance
Principal Investigator on multiple PARP inhibitor trials

IDEAYA Precision Medicine Oncology Platform

Fully-Integrated Target, Biomarker, Drug Discovery and Translational Capabilities

Target & Biomarker Discovery and Validation

Bioinformatics, including AI Algorithms

Dual CRISPR, CRISPR, Chemogenomics

Genetically Engineered Models

- Key emerging novel targets identified, such as Werner Helicase, Pol Theta Helicase and PARG
- DECIPHER™ - Dual CRISPR SL Library in DDR Cell Lines in collaboration with UCSD
- PAGEO™ - Paralogous Gene Evaluation in Ovarian in collaboration with Broad Institute
- Machine Learning and Multi-Omics platform

Drug Discovery and Pharmacological Validation

Structure Based Drug Design

Small Molecule Chemistry

Protein Degrader Capabilities

- Crystal structures for SL discovery programs obtained to enable structure-based design
- INQUIRE™ Chemical Library - proprietary, expert-curated small-molecule library
- HARMONY™ Machine-Learning engine empowers drug discovery platform
- Differentiated clinical / candidate compounds discovered, including IDE397, IDE161 and GSK101 / IDE705 (Pol Theta Helicase)

Translational Research and Opportunity Expansion

Genomics – DNA and RNA Analysis

Proteomics – Protein Expression Profiling

Tissue (IHC, IF) and Liquid Biopsies Analysis

- Translational research to define clinical biomarkers
- Opportunity expansion through broad cell panel screening
- Pharmacodynamic biomarker analysis to confirm target modulation and correlation with clinical activity

IDEAYA Functional Genomics and Synthetic Lethality Platform

Novel Target and Biomarker Discovery and Validation

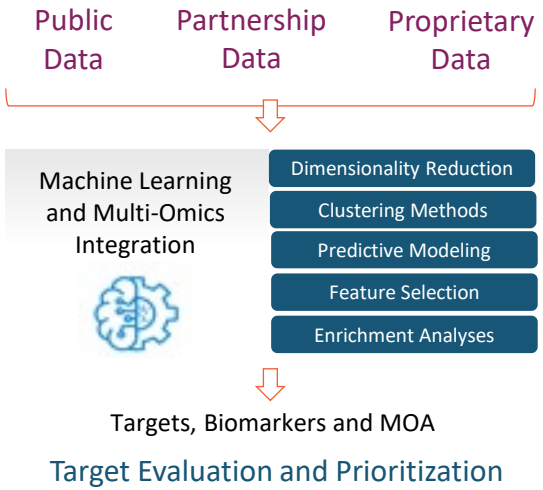
Target and Biomarker Discovery & Validation Platform

IDEAYA Functional Genomics Platform integrates proprietary and public data sets with orthogonal and complementary content

Bioinformatic analysis enables identification and validation of synthetic lethal target / biomarker interactions across vast datasets

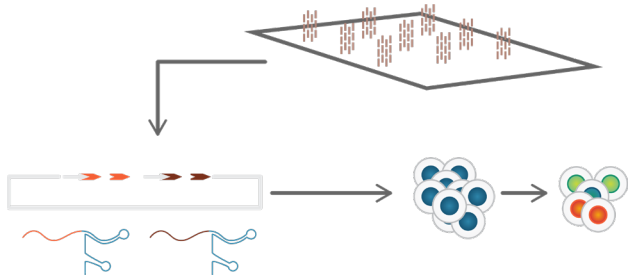
Robust SL interactions validated genetically (Dual CRISPR, paralogues, isogenic pairs, CRISPR/siRNA), pharmacologically and *in vivo*

Data-to-Knowledge Enterprise fueled by multi-omic patient and molecular data across public, partnership and proprietary data sets via IDEAYA Bioinformatics Platform



DECIPHER™

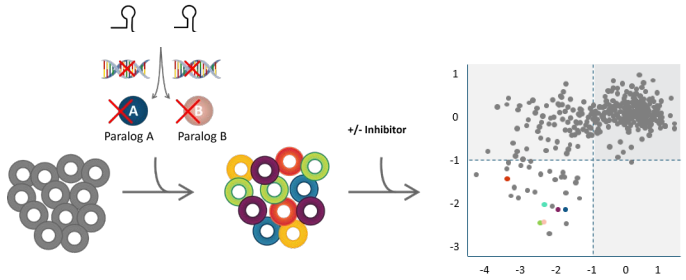
Dual CRISPR SL Library in DNA Damage Repair [2]



Evaluation of DNA Damage Targets synthetic lethal with tumor suppressor or oncogenes

PAGEO™

Paralogous Gene Evaluation in Ovarian Cancer [1]



Evaluation of SL targets in context of functionally redundant paralogous genes in ovarian cancer

Partnership Datasets

depmap portal | FOUNDATIONINSIGHTS™

Public Databases

TCGA | BioPortal | CCLE | PROJECTGENIE | Project Achilles | MSK-IMPACT™

[1, 2] IDEAYA Proprietary Libraries and Datasets – Strategic Collaborations with Broad Institute[1] and UC San Diego[2]

IDEAYA Precision Medicine Oncology Drug Discovery Platform

Structure-Based Drug Design & Proprietary Chemical Library Enable “Hard to Drug” Targets

Structural Biology & Structure Based Drug Design

Full suite of capabilities in structural biology, biophysics, & computational chemistry

Ligand bound co-crystal structures resolved to enable Structure Based Drug Design for each of the Synthetic Lethality drug-discovery programs

Multiple potential “first-in-world” co-crystal structures resolved, including for PARG, Pol Theta Helicase and Werner Helicase

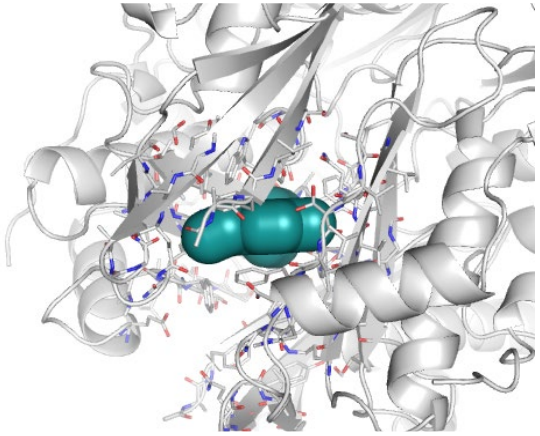
HARMONY™ Proprietary Machine-Learning

Internal Machine-Learning engine empowers discovery platform through effective prioritization leading to efficient SAR cycles

INQUIRE™ Proprietary Chemical Library

Expert-curated HTS library to enhance hit discovery capabilities against novel SL targets classes, such as helicases and endonucleases

Enhances IDEAYA’s SL Drug Discovery Platform and competitive differentiation



IDEAYA's Potential First-in-Class Precision Medicine Oncology Pipeline

Building an Industry Leading and Fully-Integrated Biotechnology Company

Precision Medicine Pipeline

	Modality/Indication	Biomarker	Pre-clinical / IND Enabling / Phase 1 / Phase 2 / Potential Registrational	Program Goals / Achievements	Collaborations	Commercial (IDEAYA)
Darovasertib *PKC*	+cMET[1] Combination 1L HLA-A2(-) MUM	GNAQ/11	Phase 2 (AA) / Phase 3 Registrational Trial [+] Initiated	Pfizer (1)	WW Commercial Rights
	+cMET[1] Combination HLA-A2(+) MUM ^	GNAQ/11	HLA-A2(+) Clinical Trial ^		
	(Neo)Adjuvant UM	GNAQ/11	Phase 2 Clinical Trial Initiated IST Update Q4 2023		
IDE397 *MAT2A*	Monotherapy Solid Tumors	MTAP	Phase 2 Monotherapy Expansion in NSCLC, Bladder, Esophageal and Gastric Cancers		WW Commercial Rights
	Combinations Solid Tumors	MTAP	Phase 1 IDE397 + AMG 193 ($PRMT5i^{MTA}$) Amgen-Sponsored Combination Study Initiated	AMGEN (2)	
IDE161 *PARG*	Breast, Ovarian Cancers	HRD	Phase 1 Monotherapy Expansion in HRD Tumors Program Updates H2 2023	CANCER RESEARCH UK (3)	WW Commercial Rights
GSK101 *Pol Theta Helicase*	+Niraparib Combo[4] Solid Tumors	HR Mutations	Phase 1 GSK101 (IDE705) + Niraparib Earned $7M Milestone IND Clearance	GSK (4)	Global Royalties
WRN *Werner Helicase*	GI Cancers	High-MSI	Development Candidate H2 2023 Potential $3M Milestone IND-Enabling Studies	GSK (4)	US 50/50 Profit Share Ex-US Royalties
Platform	Solid Tumors	Defined Biomarkers	New Target / Biomarker Discovery & Validation Drug Discovery / Translational Biology		WW Commercial Rights

[+] Integrated Phase 2/3 enables potential Accelerated Approval (AA, Phase 2) and potential Full Approval (Phase 3) based on FDA Type C Meeting Q1 2023

^ Targeting enrollment of additional HLA-A2(+) patients in a separate clinical trial (e.g., ongoing IDE196-001 Phase 2 clinical trial)

(1) Pursuant to Pfizer Clinical Trial Collaboration and Supply Agreements for Darovasertib/Crizotinib Combination in MUM; IDEAYA retains all Darovasertib Commercial Rights

(2) Pursuant to Amgen Clinical Trial Collaboration and Supply Agreement for IDE397 + AMG 193, an investigational MTA-cooperative PRMT5 inhibitor; Amgen will sponsor the study and the parties will jointly share external costs of the study

(3) Pursuant to CRUK Evaluation, Option and License Agreement; IDEAYA controls all PARG Commercial Rights

(4) Pursuant to GSK Collaboration, Option and License Agreement: Polθ: Global Royalties; WRN: 50/50 US Profits + ex-US Royalties

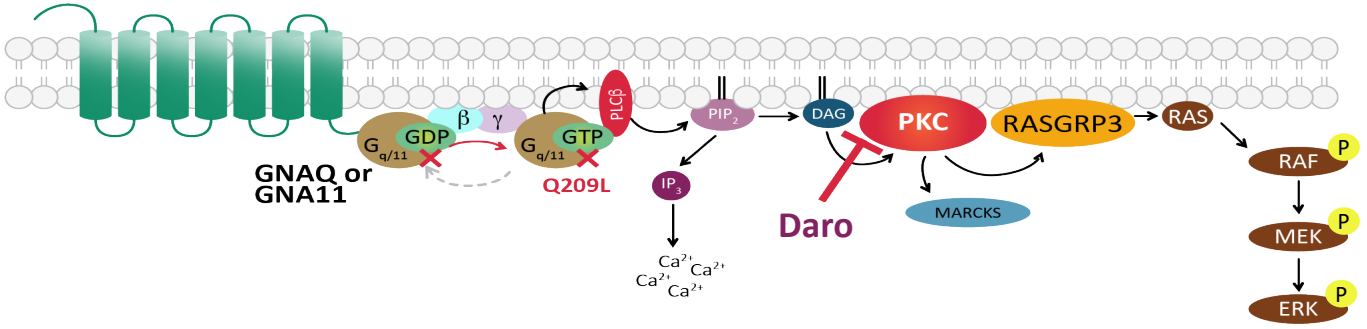
MAT2A=methionine adenosyltransferase 2a, MTAP=methylthioadenosine phosphorylase, MTA=methylthioadenosine, PRMT5=protein arginine methyltransferase 5 (PRMT5), PARG= poly (ADP-ribose) glycohydrolase, DDT = DNA Damage Target, WRN = Werner Helicase, Polθ = DNA Polymerase Theta, HRD = homologous recombination deficiency, MSI = microsatellite instability, PKC = protein kinase C, MUM = metastatic uveal melanoma, UM = uveal melanoma, Crizo = crizotinib, NSCLC = non-small cell lung cancer, WW = worldwide, HLA-A(-) = HLA-A2*02:01 Negative; HLA-A(+) = HLA-A2*02:01 Positive

= Target Program Milestones

Darovasertib – Potential to Broadly Impact Uveal Melanoma

Potential First-in-Class and Best-in-Class in (Neo)adjuvant UM and Metastatic UM

Mutations in GNAQ / GNA11 activate PKC Signaling, a genetic driver of Uveal Melanoma



Darovasertib is an oral, potent and selective PKC inhibitor

GNAQ or GNA11 (~95%) and other upstream mutations activate PKC signaling in UM and MUM patients

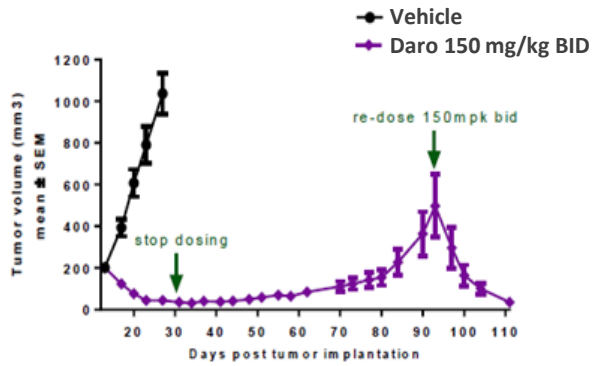
UM is typically treated with radiation and/or enucleation, with no approved systemic therapies for Neoadjuvant UM

MUM occurs in approximately 50% of UM patients and predominantly as liver metastasis in ~90% of MUM patients, with no approved therapies for HLA-A*02:01 negative MUM

Daro Mono Rationale in Primary UM

Single Agent Daro Induces Tumor Regression

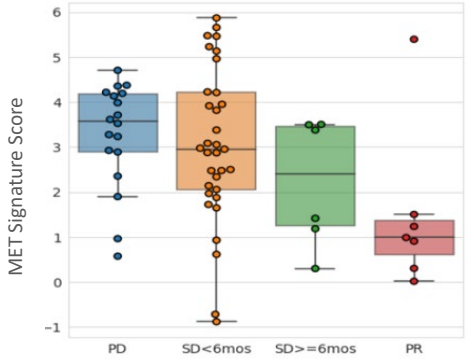
Uveal Melanoma Xenograft (92.1 mutant GNAQ)



Van Raamsdonk, CD, et. al, Nature 2009; Van Raamsdonk CD, et. al, NEJM 2010; Piperno-Neumann S, et. al, J Clin Oncol 2014

Daro + Crizo Combo Rationale for Use in Metastatic Uveal Melanoma (MUM)

Daro Phase 1 Monotherapy Efficacy Association with cMET Expression

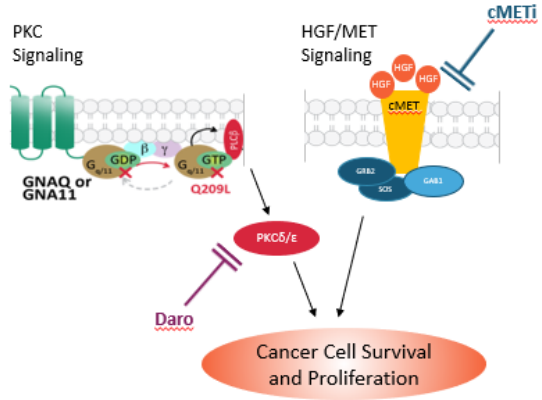


Ph 1 Clinical Outcomes

PD=Progressive Disease, SD=Stable Disease, PR=Partial Response

IDEAYA Data, AACR 2021

Activation of PKC and cMET Pathways with Observed cMET Overexpression in MUM Liver Metastases



+ Pfizer Clinical Trial Collaboration and Supply Agreements for Darovasertib + Crizotinib Combination in MUM

IDEAYA owns or controls all commercial rights in darovasertib, including in Primary UM and MUM

Phase 2 Clinical Trial - Comparatively High-Risk, Poor Prognosis Population

Disease Burden Significantly Higher in Both Any-Line and First-Line MUM Population+

Baseline Characteristics		IDE196-001 Phase 2* Darovasertib + Crizotinib		Tebentasfusp First-Line Phase 3#	
		Any-Line n=63 (%)	First-Line n=20 (%)	Tebe Arm n=252 (%)	Control Arm^ n=126
Age	< 65	35 (56)	10 (50)	64 Median	66 Median
	≥65	28 (44)	10 (50)		
Sex	F	32 (51)	9 (45)	124 (49)	64 (51)
	M	31 (49)	11 (55)	128 (51)	62 (49)
ECOG PS	0	43 (68)	14 (70)	192 (76)	85 (67)
	1	20 (32)	6 (30)	49 (19)	31 (25)
Baseline LDH	Normal	25 (40)	10 (50)		
	>ULN	**38 (60)**	**10 (50)**	**90 (36)**	**46 (37)**
Largest metastatic lesion	≤3.0 cm	22 (35)	8 (40)	139 (55)	70 (56)
	3.1 to 8.0 cm	**35 (56)**	**9 (45)**	**92 (37)**	**46 (37)**
	≥ 8.1 cm	**6 (10)**	**3 (15)**	**21 (8)**	**10 (8)**
Location of metastases	Hepatic Only	20 (32)	10 (50)	131 (52)	59 (47)
	Extrahepatic Only	3 (5)	0	9 (4)	10 (8)
	Hepatic and Extrahepatic	**40 (64)**	**10 (50)**	**111 (44)**	**55 (44)**

+ Cross-trial comparisons are not based on head-to-head studies and are presented for informational purposes; no direct comparisons are being made

*IDEAYA Data as of March 08, 2023 (based on preliminary analysis of unlocked database by investigator review)

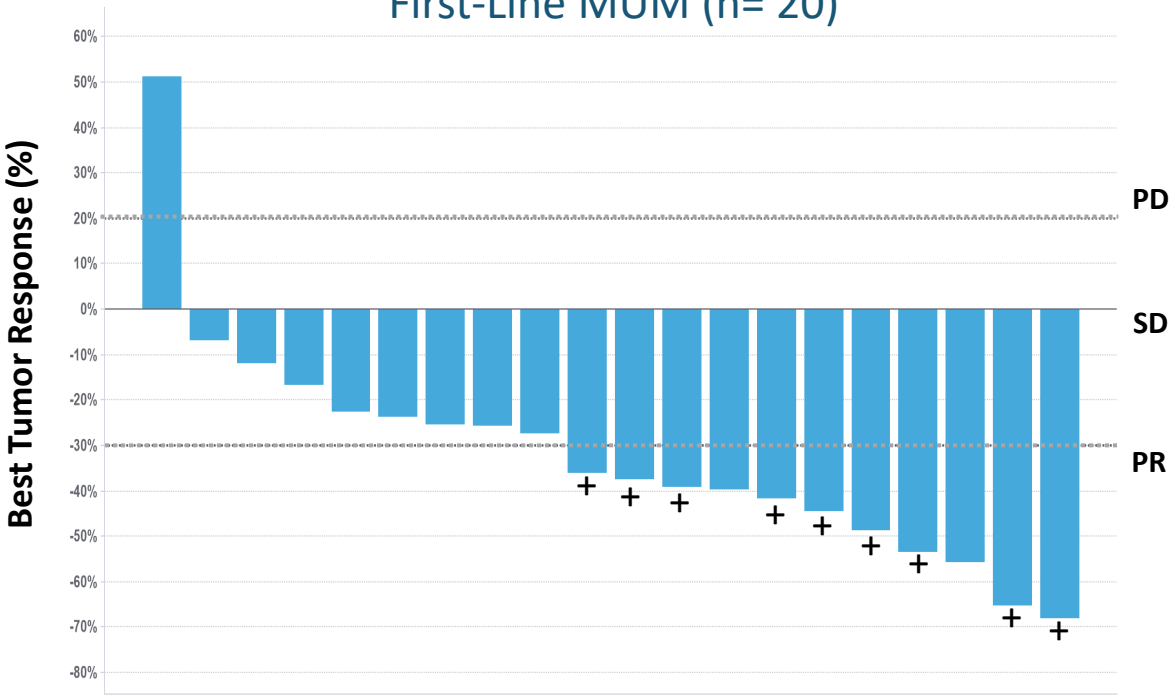
N Engl J Med 2021; 385:1196-1206; ECOG data missing in Tebentafusp and Control arm of 4% and 7% respectively

^Investigator Choice distribution in the control group: 103 (82%) received pembrolizumab, 16 (13%) received ipilimumab, and 7 (6%) received dacarbazine.

First-Line MUM Clinical Efficacy

Observed Compelling Confirmed Overall Response Rate and Disease Control Rate

Darovasertib + Crizotinib Phase 2
First-Line MUM (n= 20)



+ Confirmed Partial Response

Confirmed 45% ORR and 90% DCR

Response by RECIST 1.1 First-Line MUM	Evaluable (N=20)
Confirmed ORR (9/20)	45%
Tumor Shrinkage (19/20)	95%
>30% Tumor Shrinkage (11/20)	55%
Best Overall Response	
cPR (9/20)	45%
uPR (1/20)	5%
SD (8/20)	40%
DCR (18/20)	90%

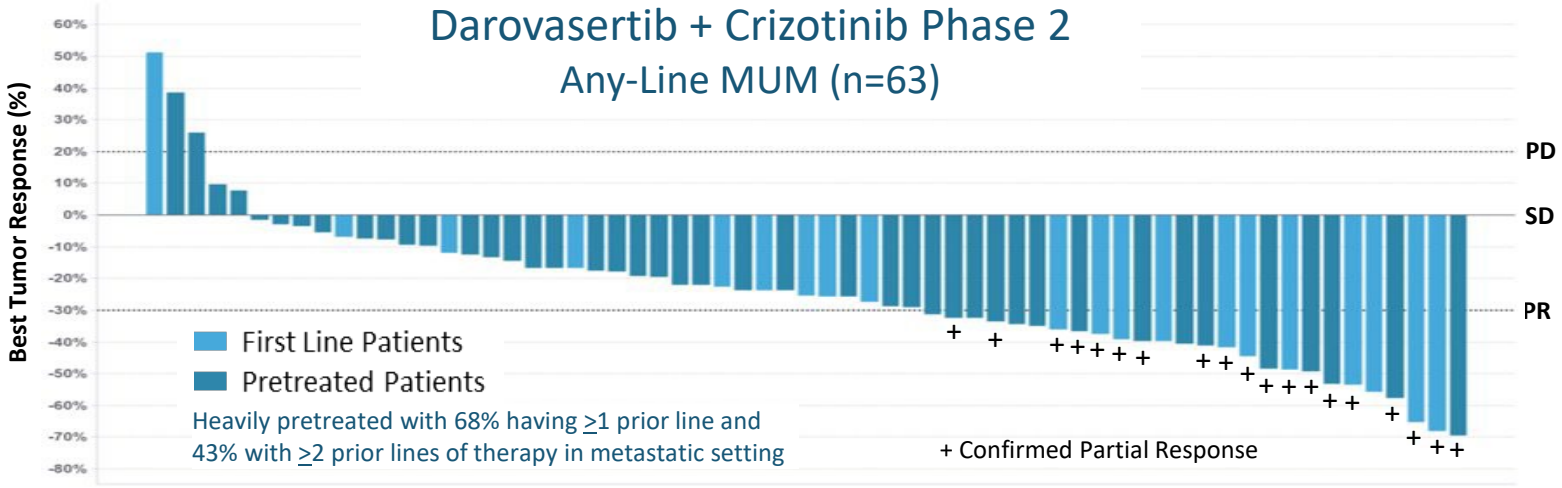
Clinical Efficacy supports Registrational Strategy in First-Line MUM to Enhance Patient Benefit

IDEAYA Data: preliminary analysis of unlocked database as of 03/08/2023 by investigator review; data cutoff based on treatment Day 1 of Cycle 1 (C1D1) as of 9/22/2022, based on 20 evaluable First-Line MUM patients
ORR = Overall Response Rate; DCR = Disease Control Rate; cPR = Confirmed Partial Response; uPR = Unconfirmed Partial Response; SD = Stable Disease

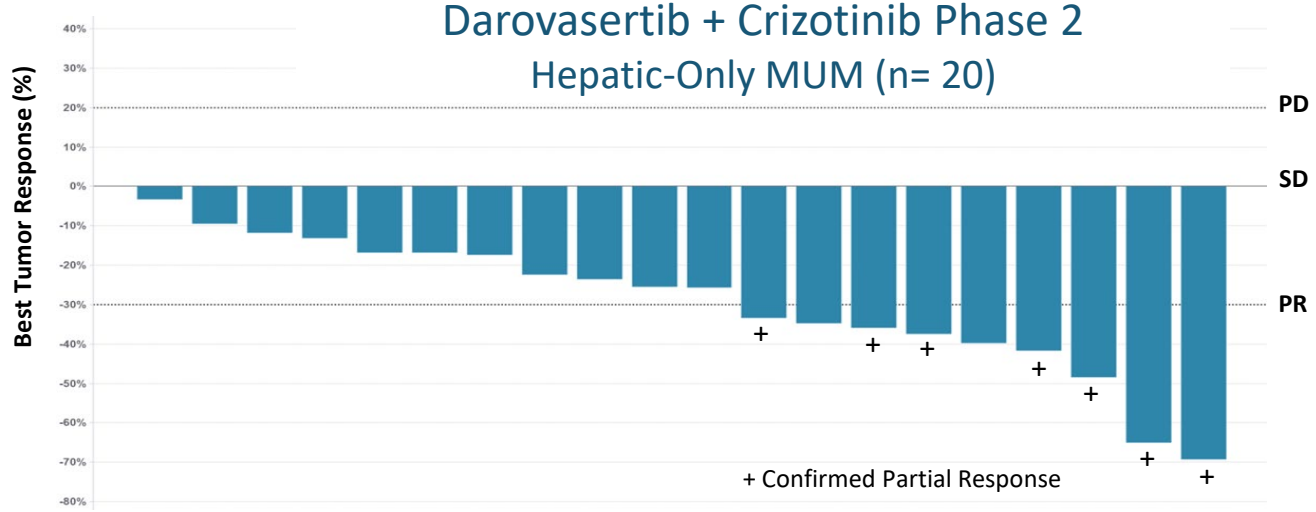
Any-Line MUM and Hepatic-Only MUM Clinical Efficacy

Clinical Efficacy irrespective of HLA-A2 Status and in Hepatic & Extra-Hepatic Metastases

Darovasertib + Crizotinib Phase 2
Any-Line MUM (n=63)



Darovasertib + Crizotinib Phase 2
Hepatic-Only MUM (n= 20)



Confirmed 30% ORR and 87% DCR

Response by RECIST 1.1 Any-Line MUM	Evaluable (N=63)
Confirmed ORR (19/63)	30%
Tumor Shrinkage (58/63)	92%
>30% Tumor Shrinkage (26/63)	41%
Best Overall Response	
cPR (19/63)	30%
uPR (4/63)	6%
SD (32/63)	51%
DCR (55/63)	87%

Confirmed 35% ORR and 100% DCR

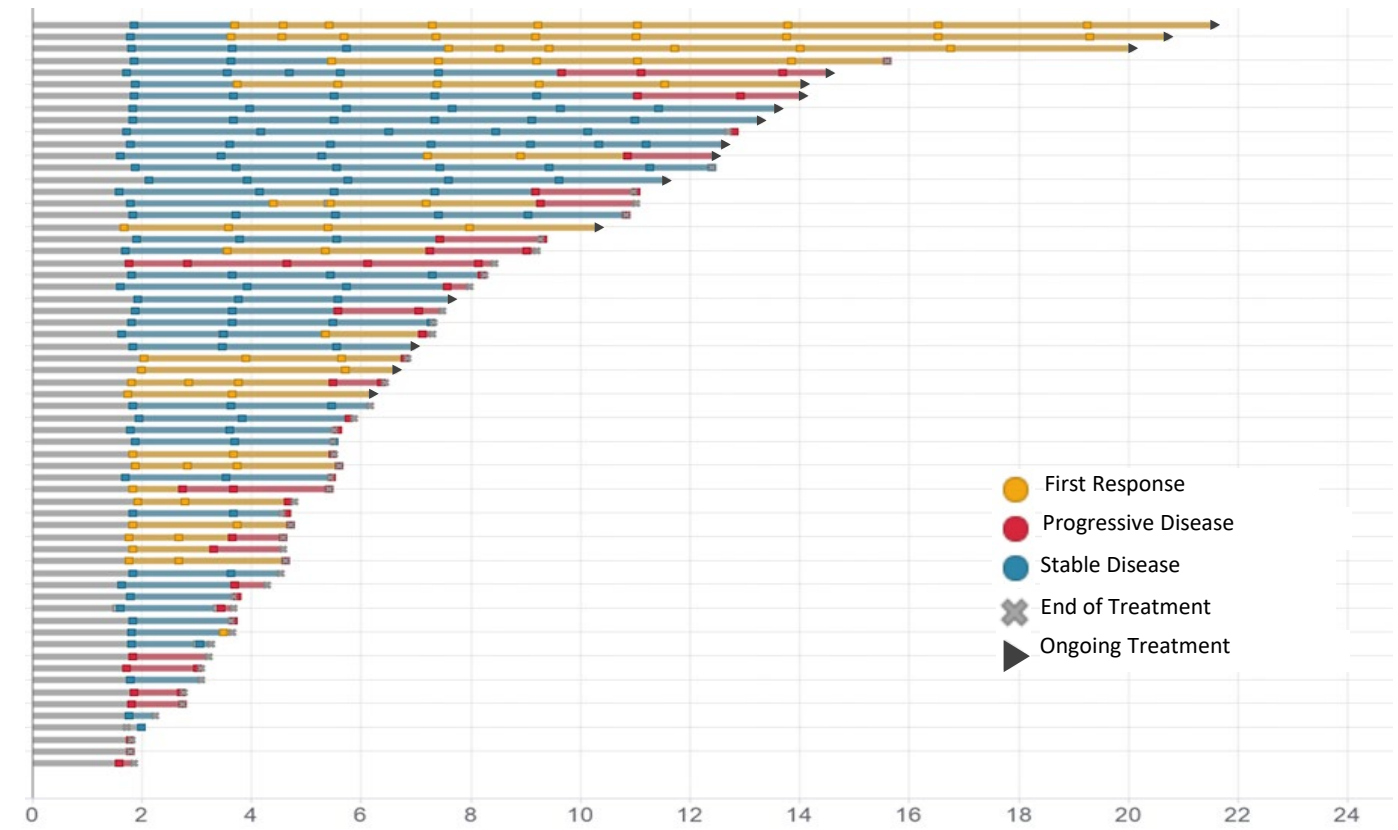
Response by RECIST 1.1 in Hepatic-Only MUM	Evaluable (N=20)
Confirmed ORR (7/20)	35%
Tumor Shrinkage (20/20)	100%
>30% Tumor Shrinkage (9/20)	45%
Best Overall Response	
cPR (7/20)	35%
uPR (1/20)	5%
SD (12/20)	60%
DCR (20/20)	100%

IDEAYA Data: preliminary analysis of unlocked database as of 03/08/2023 by investigator review, C1D1 cutoff as of 9/22/2022, based on 63 evaluable Any-Line and 20 evaluable Hepatic-Only (includes 1L and 2L+/pre-treated) MUM patients
ORR = Overall Response Rate; DCR = Disease Control Rate; cPR = Confirmed Partial Response; uPR = Unconfirmed Partial Response; SD = Stable Disease

Median PFS in First-Line, Any-Line and Hepatic-Only MUM

Observed Compelling Median Progression Free Survival with Encouraging Trend

Any-Line MUM Swimlane Plot



Darovasertib + Crizotinib Phase 2 Median Progression Free Survival

- First-Line (n=20): ~7 months
- Any-Line (n=63): ~7 months
  - Median PFS has increased versus previously reported mPFS of ~5 months (n=35, September 2022*)
- Hepatic-Only (n=20): ~11 months

IDEAYA Data: preliminary analysis of unlocked database as of 03/08/2023 by investigator review, C1D1 cutoff as of 9/22/2022, based on 63 evaluable Any-Line MUM patients

* IDEAYA Press Release September 11, 2022

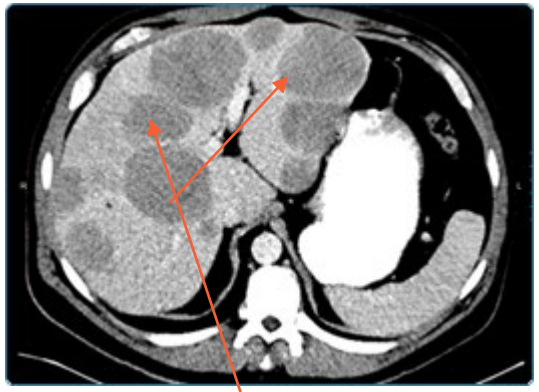
Darovasertib + Crizotinib First-Line MUM Combo Efficacy

Examples of cPRs with Significant Tumor Shrinkage in First-Line MUM Patients

First-Line MUM Patient

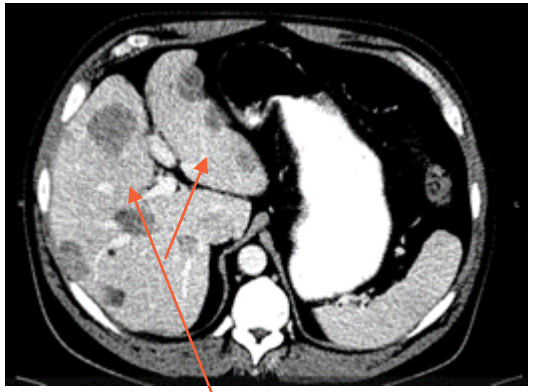
- 40+ year old HLA-A2 positive patient with Class 1A diagnosis metastasized after ~6 years
- Diffuse disease in liver and pelvis with elevated LDH of 800 normalized within one month of treatment
- Large tumors (SLD = 210 mm) reduced by 49%
- On treatment for over 15 months

Baseline



Many lesions distorting and replacing the liver

12 months

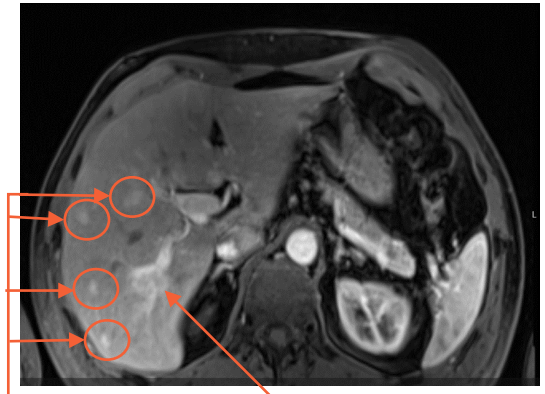


Marked improvement across all lesions

First-Line MUM Patient

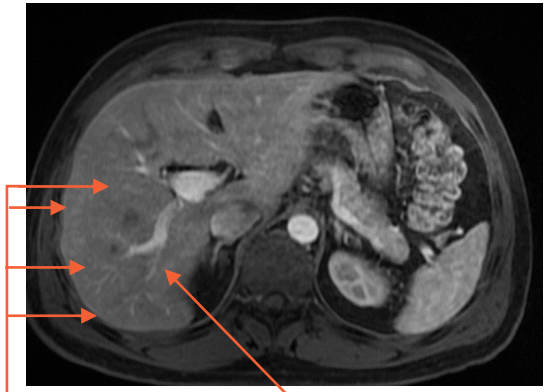
- 40+ year old HLA-A2 negative patient with Class 1A diagnosis metastasized in ~1 year
- Many liver lesions with maximal target lesion reduction of 65%
- Ongoing response
- Remains on treatment at 10 months

Baseline



Many liver lesions & target lesion

8 months



Marked improvement across all lesions

IDEAYA Data as of 03/08/2023 (based on preliminary analysis of unlocked database); tumor lesion reductions by investigator review

Darovasertib + Crizotinib Combination Clinical Summary in MUM

Highly Differentiated Clinical Efficacy & AE Profile Observed[+, ++]

	Darovasertib + Crizotinib	Cabozantinib Mono / Crizotinib Mono	Selumetinib + DTIC	Ipi + Nivo	Tebentafusp
Target / Mechanism	PKC + cMET	cMET	MEK + Chemotherapy	CTLA4 + PD1	HLA-A2-0201 Bi-Specific
Study Name(s)	NCT03947385	A091201^ / NCT05063058 ^^^^	NCT01974752^^^	NCT02626962[##]	IMCgp100-102[#]
Population	1L/2L/3L+ MUM (n=63)	1L+ MUM (n=31) / 1L (n=6) 2L (n=1) MUM	1L+ MUM (n=97)	1L MUM (n=52)	2L+ MUM (n=127)
Patient Selection	NA	NA / MET Overexpression	NA	NA	HLA-A2-positive
Drug Form	Oral Tablets	Oral Capsules	Oral Capsules + chemo	IV infusion	IV Infusion (Weekly)
Tolerability (Grade ≥3 Drug-Related AE)	33%	51.6% / NA	63% (All Cause)	58%	46.5%
% of Patients with Tumor Shrinkage	First-Line = 95% / Any-Line = 92% / Hepatic Only = 100%*	23% ^^ / NA	35% ^^	27% ^^	44% ^^
Confirmed ORR% (by RECIST 1.1)	**First-Line = 45% / Any-Line = 30% / Hepatic Only = 35%***	**0% / 0%**	**3%**	**11.5% (not confirmed ORR)**	**4.7%**
Median PFS	**First-Line: ~7 months / Any-Line: ~7 months / Hepatic-Only: 11 months***	**2 months / NA**	**2.8 months**	**3 months**	**2.8 months**

+ Cross-trial comparisons are not based on head-to-head studies and are presented for informational purposes; no direct comparisons are being made

++ ESMO 2022: F. Dimitriou, et.al: IPI + Nivo Combo in HLA-A2-0201 MUM reports ~6% ORR (2 PRs out of 33 patients)

* IDEAYA Data: preliminary analysis of unlocked database as of 03/08/2023 by investigator review, and C1D1 cutoff as of 9/22/2022

[#] Based on Immunocore reported 2L+ study data (to reflect comparative patient population) and by independent review and ORR% was with confirmed PRs; [##] ASCO 2021, J. Piulats, et. Al, Ipi = ipilimumab, nivo = nivolumab, ORR% did not require PR/CR confirmation

^ Randomized Phase II Trial and Tumor Mutational Spectrum Analysis from Cabozantinib versus Chemotherapy in Metastatic Uveal Melanoma (Alliance A091201); Clin Cancer Res 2020;26:804–11

^^ Estimated from Waterfall plot

^^^ Journal of Clinical Oncology, Carjaval, et. al, 2018; 1232-1239; ^^^^ European Journal of Cancer, Leyraz, et. al, 2022; 146-155

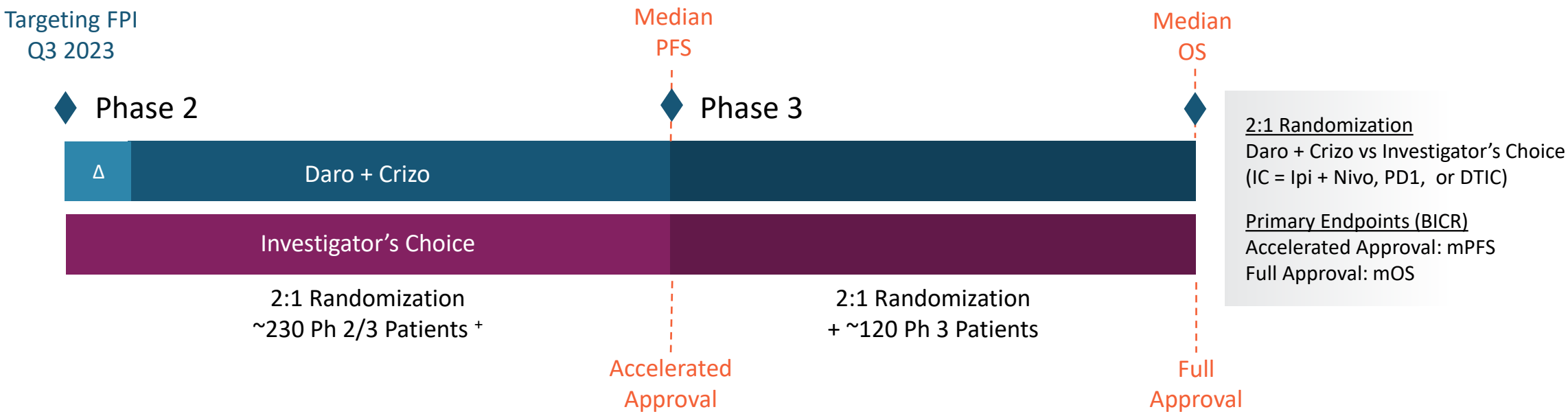
Accelerated Approval Trial Design in First-Line HLA-A2 Negative MUM

FDA Guided Design: Open Label Ph2/3 Evaluation of Daro + Crizo vs. Investigator's Choice

FDA Project FrontRunner: Target First-Line approval strategy to enhance patient benefit in MUM

FDA Accelerated Approval: Address unmet need in MUM, which has limited effective treatment options

Integrated Phase 2/3 Study within Study Enables Potential Accelerated Approval & Full Approval



2:1 Randomization
Daro + Crizo vs Investigator's Choice
(IC = Ipi + Nivo, PD1, or DTIC)

Primary Endpoints (BICR)
Accelerated Approval: mPFS
Full Approval: mOS

FDA Fast Track Designation for Daro + Crizo in MUM

Δ Nested study to confirm move forward dose: (i) Daro 300 mg BID + Crizo 200 mg BID or (ii) Daro 200 mg BID + Crizo 200 mg BID

+ Phase 2 study contemplates data set of n=200 patients randomized 2:1 with treatment arm at move forward dose in support of potential accelerated approval based on mPFS

Daro = Darovasertib, Crizo = Crizotinib, MUM=Metastatic Uveal Melanoma, HLA-A2 = HLA-A2*02:01 Serotype, IC = Investigator's Choice, Ipi = ipilimumab, nivo = nivolumab; DTIC = dacarbazine

Darovasertib Monotherapy in (Neo)adjuvant Primary Uveal Melanoma

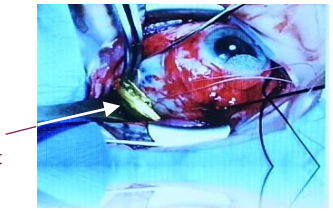
Clinical Experience: Observed 100% of Patients (9 of 9) with Ocular Tumor Reduction^

IDEAYA Phase 2 and IST ongoing to evaluate Darovasertib

Current Treatment Approach following diagnosis of UM depends on tumor size and location:

- Enucleation in Large Tumors (~ 20%)
- Radiation in Small / Medium Tumors (~80%)

Plaque Brachytherapy



Iodine-125 Plaque Surgery, UCLA

Poor Vision (≤20/200) occurs in about 70%-80% of patients with UM (including enucleation)

Neoadjuvant / Adjuvant Systemic Therapy goals:

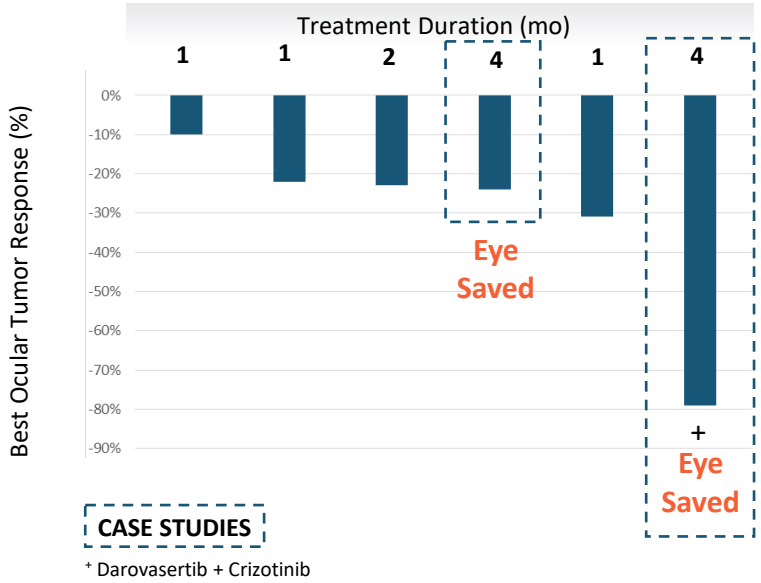
- Avoid Nucleation → Save the Eye
- Reduce Tumors and Radiation Dose → Protect Vision
- Reduce Occurrence of Metastasis → Save Lives

Paradigm Shifting Opportunity to Broadly Impact UM, with annual incidence of ~8,000 – 10,000 patients in US, EU

Clinical Experience in UM and MUM Patients

Neoadjuvant UM

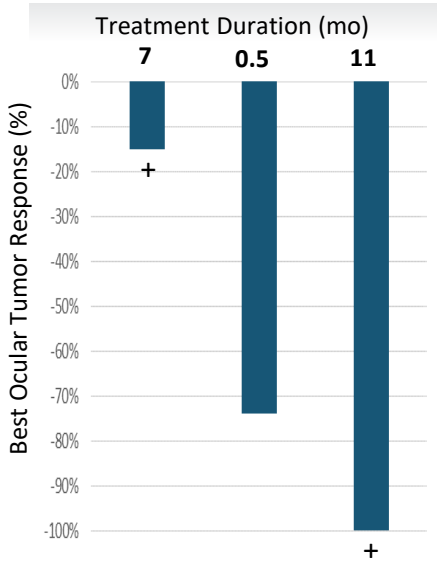
Enucleation Cohort ΦΦ* (n=6)



+ Darovasertib + Crizotinib

MUM

Intact Primary Ocular Tumors* (n=3)



Each Reported Case has shown a Reduction in Size of Ocular Eye Lesion ΦΦ*

+ Neoadjuvant UM or MUM patients treated with Darovaserib + Crizotinib

Φ Data by investigator assessment as of April 15, 2023, from (i) NADOM IST courtesy of Professor Anthony Joshua, MBBS, PhD, FRACP, St. Vincent's Hospital, with update as of June 22, 2023 for monotherapy NADOM IST patient who was spared enucleation (ii) Compassionate Use Case; for NADOM IST, by initial protocol the first 3 neoadjuvant UM patients were required to stop treatment at ~1 month; IST protocol was subsequently amended to treat up to 6 months

^ Best Ocular Tumor Response based on maximal % reduction in measured Apical Height or Longest Basal Diameter (LBD)

* Ocular tumor shrinkage measured by investigator assessment by either MRI, ultrasound, CT-scan, or PET scan (0.5 month scan for MUM patient, SUV Max% tumor response)

Case Studies of Saved Eyes: Neoadjuvant Treatment of UM Patients

Initial Cases of Systemic Neoadjuvant Therapy resulting in Prevention of Enucleation

Case 1: Eye Saved by Neoadjuvant Treatment [+] [^]

UM patient was blind in one eye, developed a large ocular tumor in other eye causing vision loss, and diagnosed with UM

Large Ocular Lesion – 16.5 mm Apical Height x 18 mm LBD

Tumor Shrinkage observed at each month of treatment with Darovasertib + Crizotinib (~30% at 1 mo and ~80% at 4 mo)

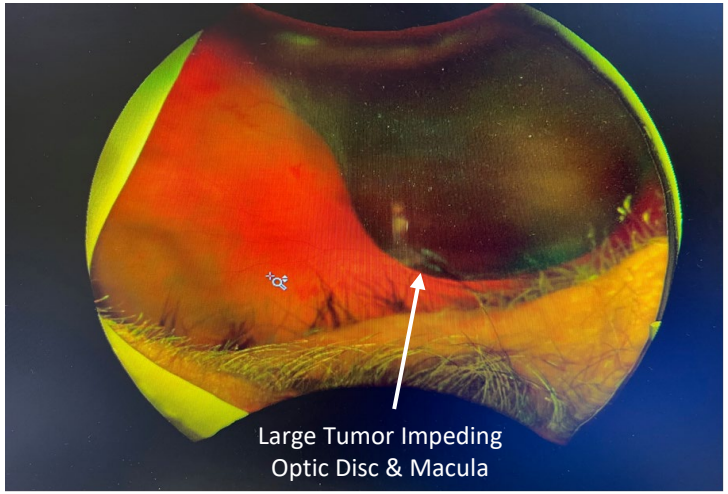
Avoided Enucleation and prevented complete blindness

Restored > Normal Vision with neoadjuvant treatment and intraocular lens replacement for treatment of cataracts

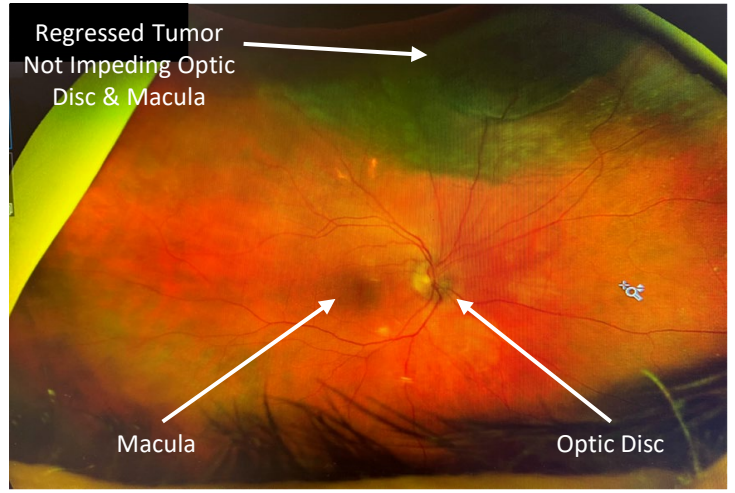
Residual Tumor treated with Plaque Brachytherapy

Patient remains on Daro + Crizo Combination Therapy

Baseline Scan: 16.5mm Apical Height



4 Month Scan: 3.5 mm Apical Height



Case 2: Eye Saved by Neoadjuvant Treatment [+] *

UM patient with large tumor enrolled in NADOM IST study

Reduction in Tumor Size of ~24% observed following 4 mo neoadjuvant treatment with darovasertib

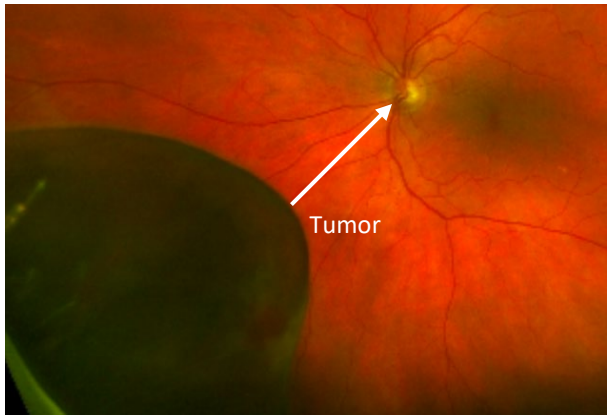
Tumor Proximity to Optic Disc and Macula – observed increased separation from tumor following treatment for 3 mo

Avoided Enucleation and Preserved Vision

Residual Tumor treated with Plaque Brachytherapy

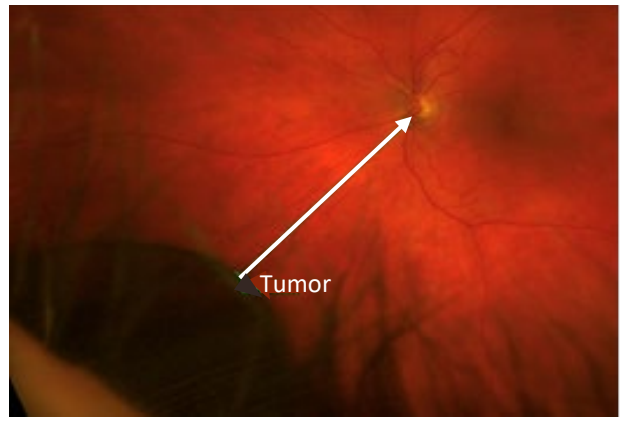
Patient remains on Darovasertib as Adjuvant Therapy

Baseline Scan



Distance of tumor tip to optic disk at baseline

3 Month Scan



Increased separation of tumor after 3 mo treatment

[+] Ocular tumor shrinkage based on % reduction in tumor apical height; LBD = Largest Basal Diameter

[^] Data and images courtesy of Dr Rod O'Day, LLB (Hons), BSc, MBBS (Hons), FRANZCO, Ocular Oncology Unit Royal Victoria Eye and Ear Hospital, Melbourne Australia. Additional patient care provided by Dr Daniel McKay, MBBS(Hons) FRANZCO FRCPA and Dr John McKenzie, MBBS, FRACS, FRCOphth, FRANZCO

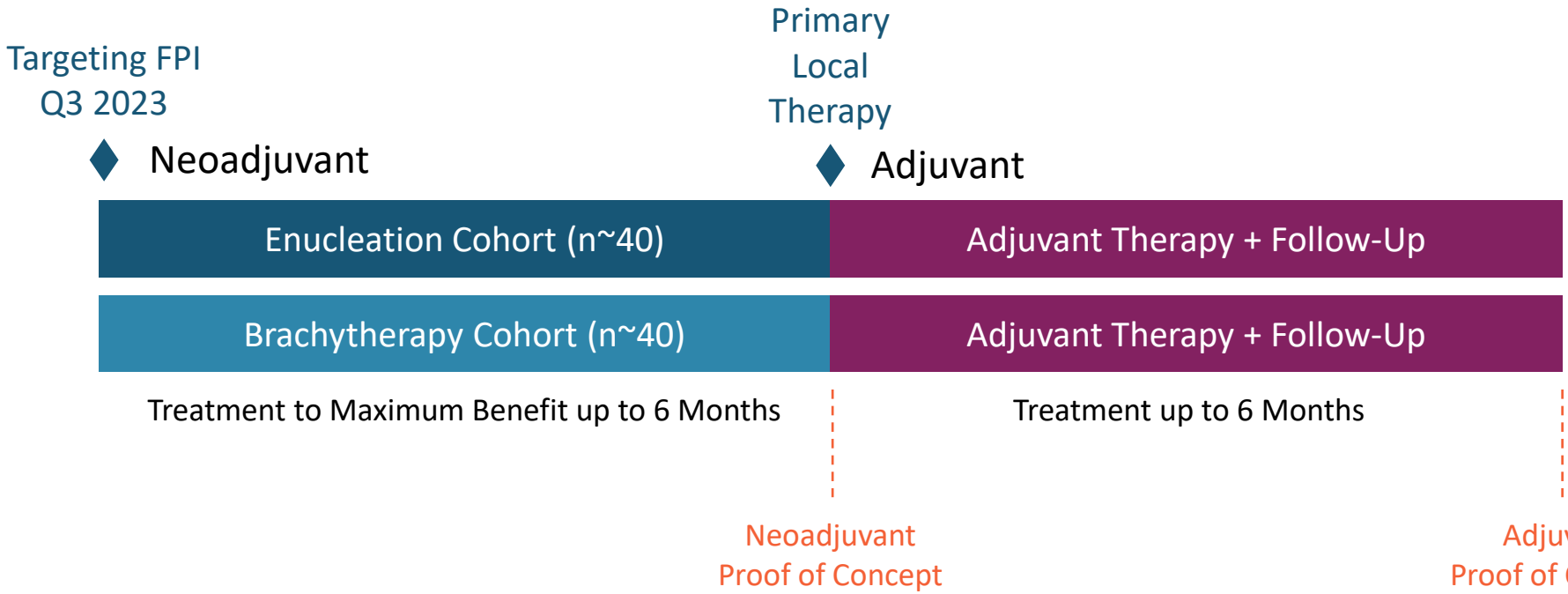
* Data and images courtesy of Professor Anthony Joshua, MBBS, PhD, FRACP, Head Department of Medical Oncology, Kinghorn Cancer Centre, St. Vincent's Hospital in Sydney, a principal investigator in the NADOM IST

IDEAYA BIOSCIENCES

(Neo)Adjuvant Darovasertib in Primary Uveal Melanoma (UM)

Paradigm Shifting Opportunity to Save the Eye, Protect Vision and Save Lives

Phase 2 Study of Darovasertib Monotherapy as Neoadjuvant Therapy followed by Adjuvant Therapy



Primary Endpoints
- Safety
- Cohort 1: Eye Preservation
- Cohort 2: Decrease in Radiation Dose

Secondary Endpoints
- Useful Vision (1 yr)
- Relapse Free Survival (RFS)
  - Local (1 yr)
  - Distal (3 yr)

Three Independent Approaches for demonstrating Clinical Benefit and defining potential Approval Pathways

Enucleation Cohort → Save the Eye Brachytherapy Cohort → Protect Vision Adjuvant Therapy → Save Lives

Darovasertib Clinical & Commercial Strategy in Uveal Melanoma Indication

High Unmet Need and Multiple First-Line Opportunities across the Patient Journey

Indication is the Diagnostic: +95% of UM patients harbor GNAQ/GNA11 or upstream activating mutation of PKC-signaling, enabling Broad Applicability of Darovasertib in this Indication

Uveal Melanoma Patient Journey

	Neoadjuvant UM	Adjuvant UM	First-Line MUM	Pretreated MUM
HLA-A2-Negative (~60-65% of UM / MUM)**	No FDA Approved Therapies*: **Daro** Phase 2 Enucleation Define Accelerated Approval Path; **Daro** Phase 2 Radiation Define Accelerated Approval Path	No FDA Approved Therapies*: **Daro** Phase 2 Define Accelerated Approval Path	No FDA Approved Therapies*: **Daro + Crizo** Registrational Trial Accelerated Approval	→
HLA-A2-Positive (~35-40% of UM / MUM)**			**Daro + Crizo** Target NCCN / Compendia Listing	
Target Treatment Duration	≥6 months	≥6 months	mPFS + ~3 months	mPFS + ~3 months
Target Clinical Endpoints	Eye & Vision Preservation	Relapse Free Survival	ORR, mPFS, mOS	ORR, mPFS, mOS
Annual Incidence US/EU**	~8-10k	~8-10k	~4-5k	
Total Prevalence US/EU**	~100k	~100k	~14k	

FDA Orphan Drug Designation in Uveal Melanoma[+]

*No FDA approved systemic therapies in multiple UM and MUM indications across the patient journey

**IDEAYA data: HLA-A2-positive and HLA-A2-negative prevalence in MUM based on IDEAYA clinical trial data; US/EU MUM annual incidence and total prevalence based on market research analysis

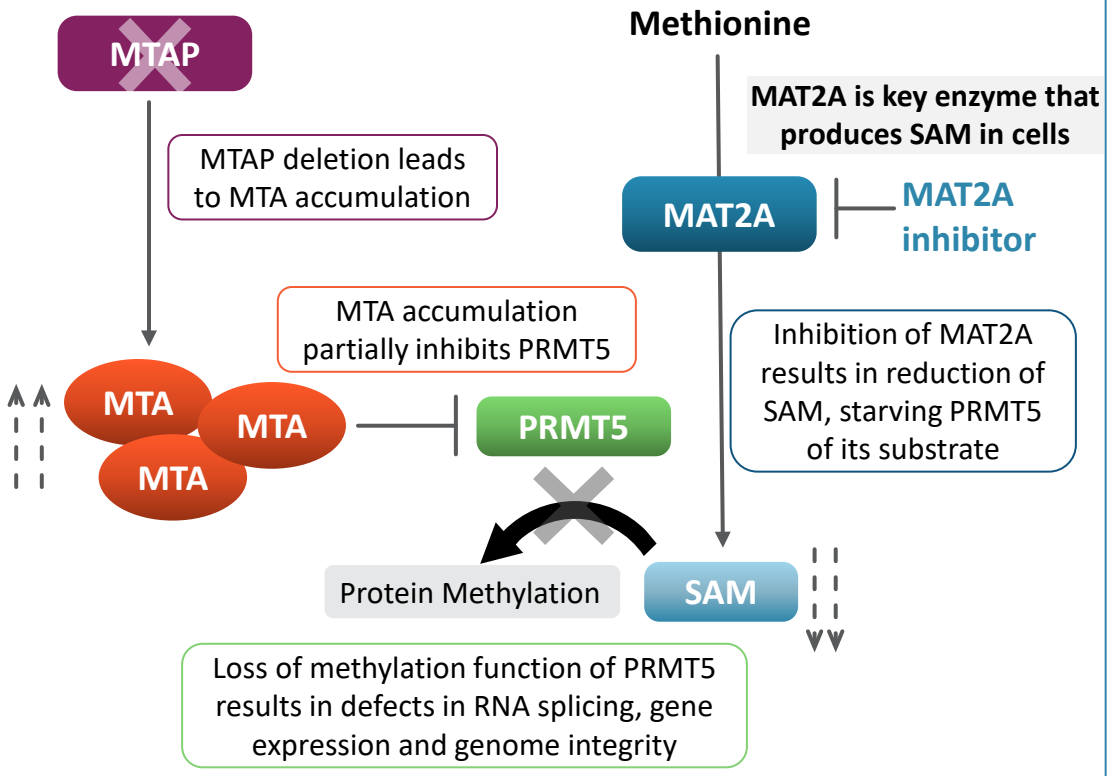
[+] Orphan Drugs benefit from certain tax credits and may be excluded from certain mandatory price negotiation provisions of the 2022 Inflation Reduction Act

IDEAYA BIOSCIENCES

MAT2A Inhibition is Synthetic Lethal with MTAP Deletion

Strategies to address MTAP$^{-/-}$ Prevalence in ~15% of all Solid Tumors

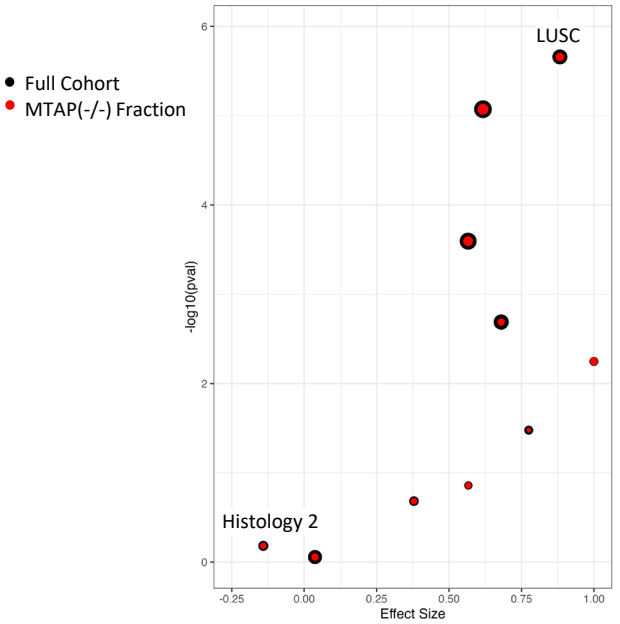
MTAP-MAT2A Synthetic Lethality Biology

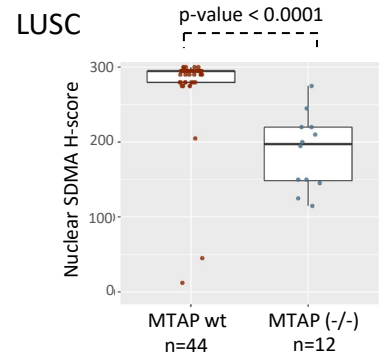


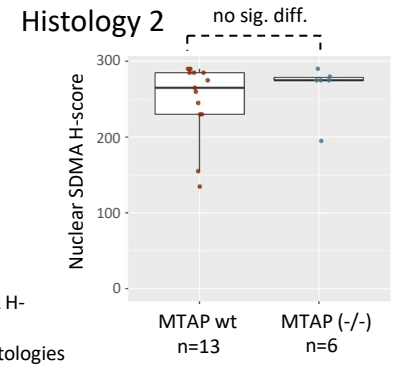
Endogenous Suppression in MTAP$^{-/-}$ PDX Models

Methylation Pathway Suppression in MTAP(-/-) Squamous Lung (LUSC)

SDMA Effect Size (PDX Tissue Microarray)







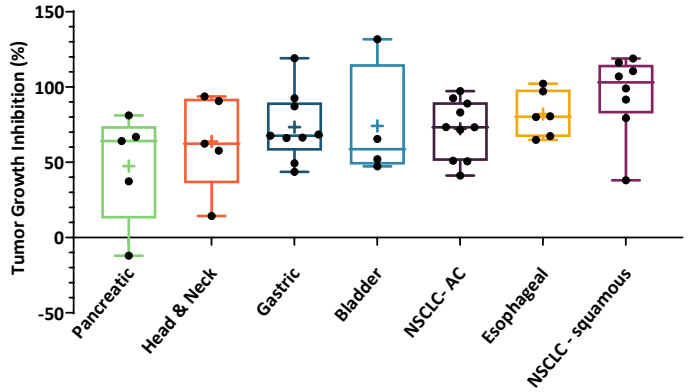
IDEAYA Data: AACR 2023 (M. Fischer et al.) – Volcano plot comparing nuclear SDMA H-Score by IHC in MTAP(-/-) relative to MTAP wt across tissue microarray (TMA) of treatment-naïve PDX models; LUSC shows most significance effect across tumor histologies

IDE397 Demonstrates Broad Efficacy across MTAP-deficient PDX Models

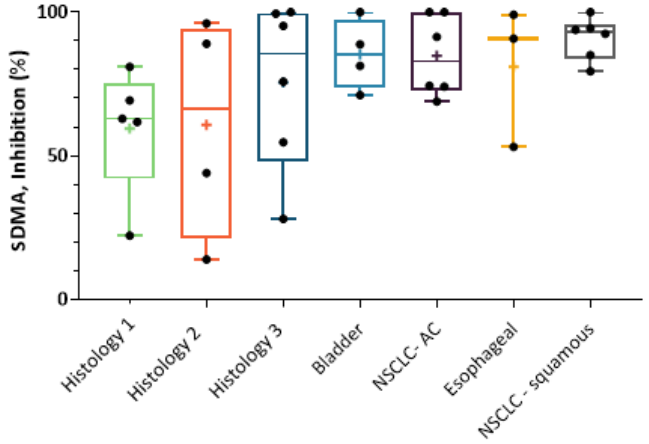
Deep Regressions observed in NSCLC-squamous (LUSC), Esophageal and Bladder Cancers

IDE397 Efficacy: 47 MTAP$^{-/-}$ PDX Models

TGI with IDE397 (30mpk) in MTAP-/- PDX Panel



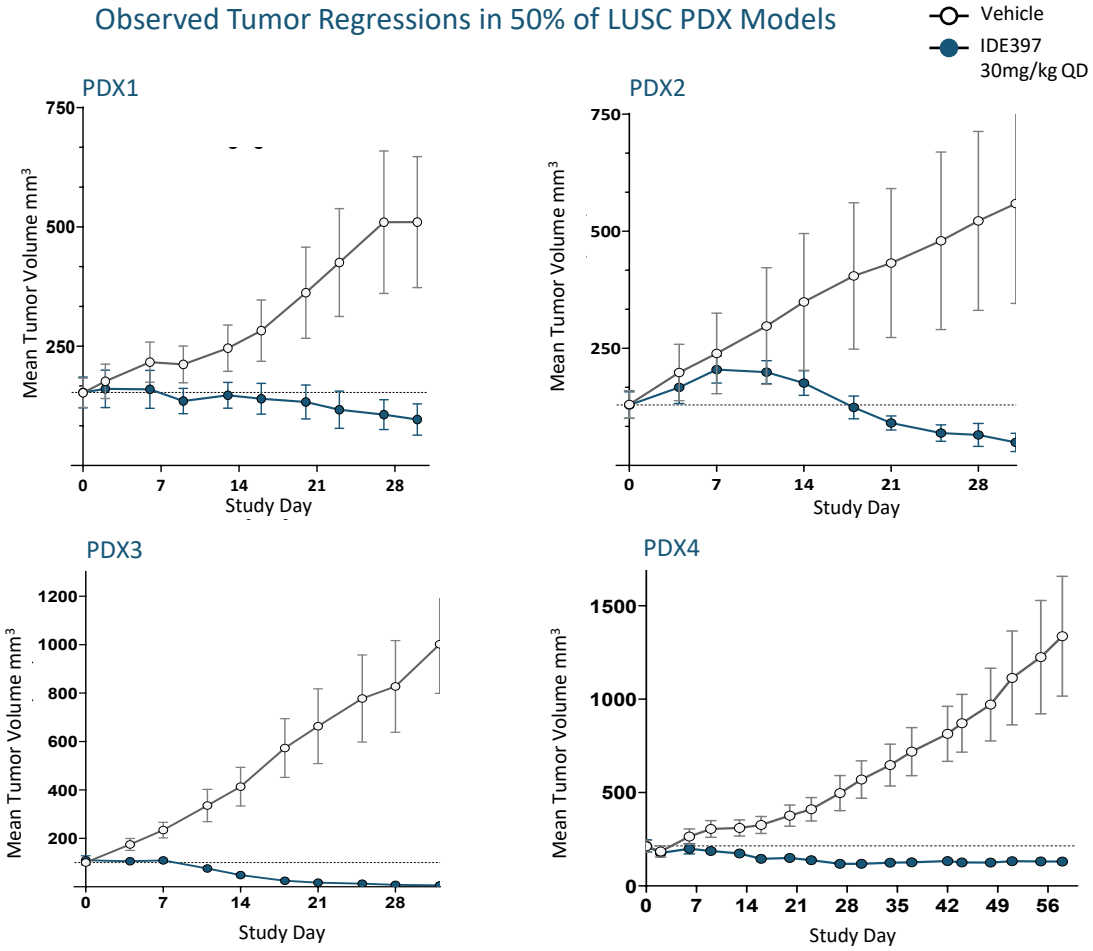
SDMA Suppression in Residual Tumors* at End of Study



IDEAYA Data; *2 of 8 LUSC unevaluable due to insufficient residual tumor burden

IDE397 In Vivo Efficacy in LUSC PDX Models

Observed Tumor Regressions in 50% of LUSC PDX Models

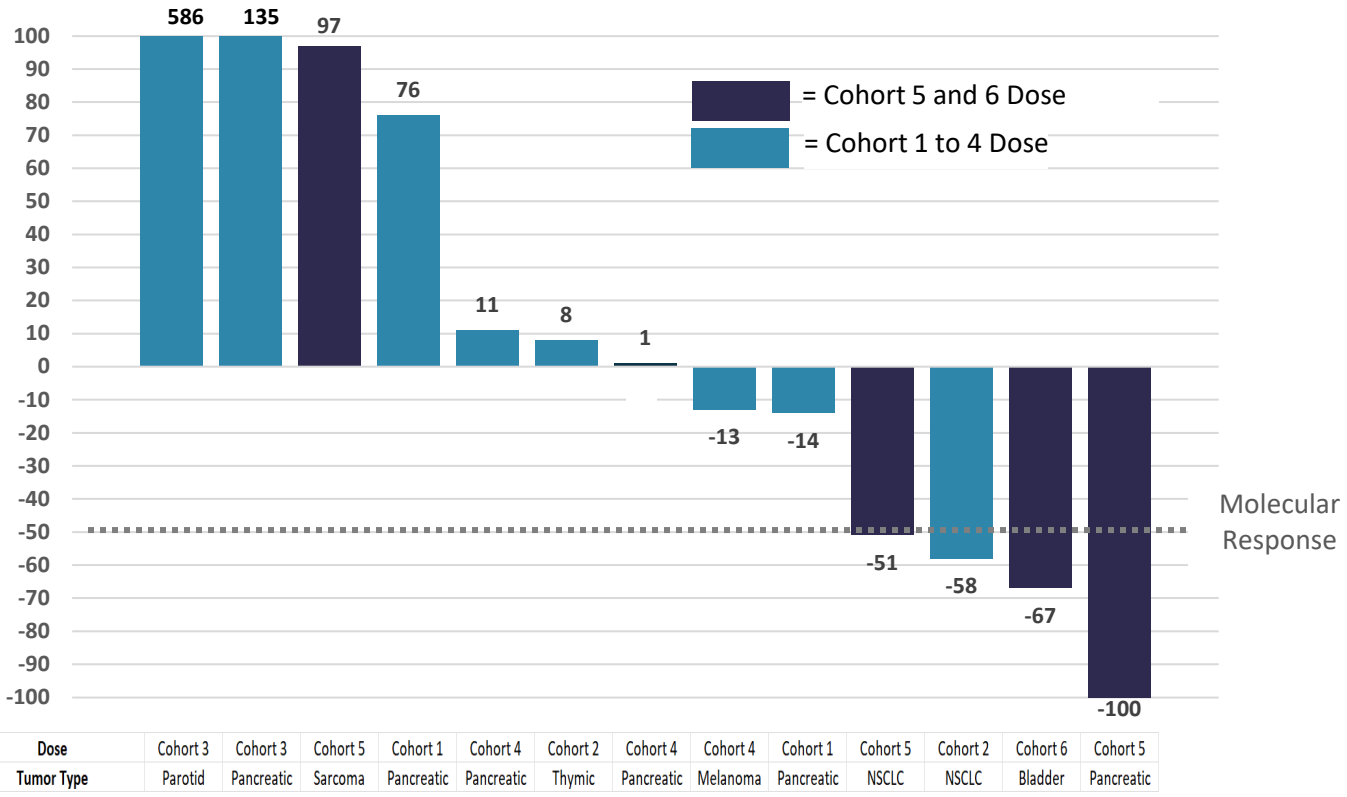


IDEAYA Data

IDE397 Clinical Data Summary – Monotherapy Dose Escalation Cohorts

ctDNA Molecular Response demonstrates Tumor Pharmacodynamic Modulation

Molecular Response Waterfall (Baseline to C2D1)



Dose	Cohort 3	Cohort 3	Cohort 5	Cohort 1	Cohort 4	Cohort 2	Cohort 4	Cohort 4	Cohort 1	Cohort 5	Cohort 2	Cohort 6	Cohort 5
Tumor Type	Parotid	Pancreatic	Sarcoma	Pancreatic	Pancreatic	Thymic	Pancreatic	Melanoma	Pancreatic	NSCLC	NSCLC	Bladder	Pancreatic

IDEAYA Data: Guardant OMNI™ ctDNA Molecular Response (n=13 evaluable IDE397 Phase 1 dose escalation samples)

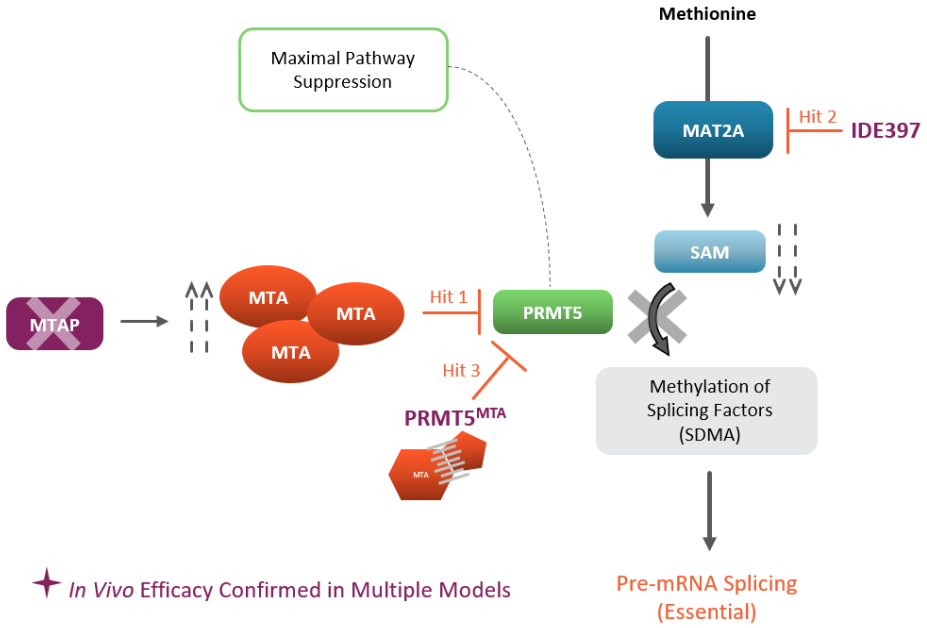
ctDNA Molecular Response: IDE397 Dose-Dependent Tumor Pharmacodynamic Modulation

- 100% (2 of 2) Molecular Responders in NSCLC
- 75% (3 of 4) Molecular Responders in Cohort 5 and Cohort 6 Patients
- 31% (4 of 13) Molecular Responders across all dose-escalation Cohorts 1 to 6

MAT2Ai Combination Strategy

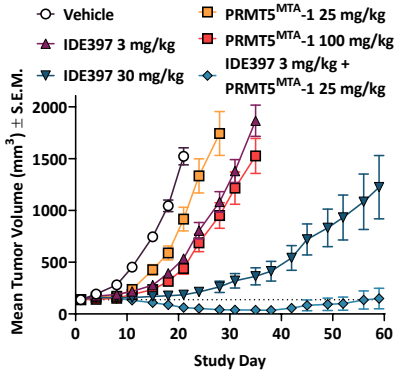
Clinical Combination focus on IDE397 + PRMT5^{MTA} based on Compelling Preclinical Efficacy

IDE397 + MTA-Cooperative PRMT5 Inhibitor enables Maximal Pathway Suppression*

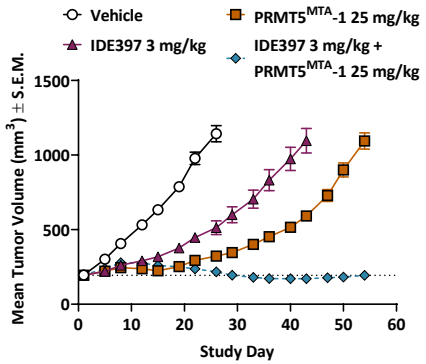


Deep and Durable Anti-Tumor and PD Response with Combination+

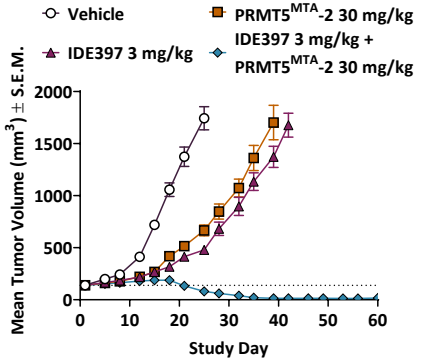
PRMT5^{MTA}-1
NSCLC MTAP (-/-) CDX



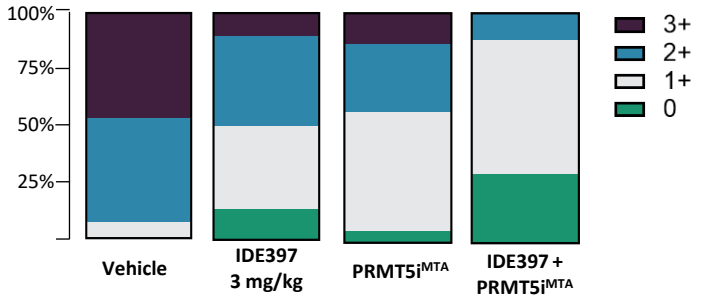
PRMT5^{MTA}-1
Pancreatic MTAP (-/-) CDX



PRMT5^{MTA}-2
NSCLC MTAP (-/-) CDX



***MTAP*-deleted Tumor SDMA IHC Scores**



SDMA IHC nuclear staining intensity distribution, pathologist scored, as percent of total tumor cells evaluated per sample; tumor samples from HCT116 MTAP (-/-) CDX models collected 2 hrs post-dose on Treatment Day 2

Enhanced Combination Efficacy Observed in multiple Tumor Indications and Across Representative PRMT5^{MTA} Inhibitors +

* Clinical evaluation pursuant to Amgen Clinical Trial Collaboration and Supply Agreement for clinical evaluation of IDE397 and AMG 193, an Amgen investigational MTA-cooperative PRMT5 inhibitor; Amgen will sponsor the study; IDEAYA and Amgen will jointly share external costs of the study

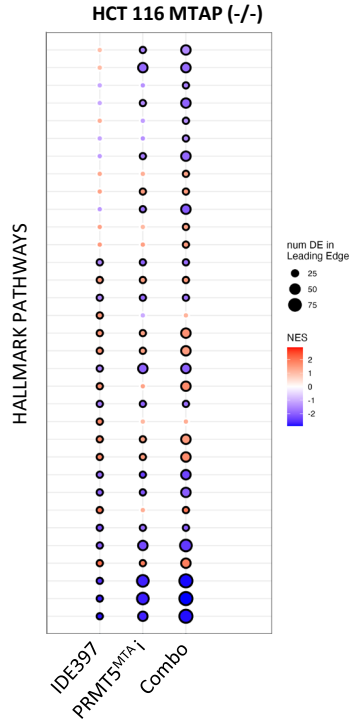
+ IDEAYA Data: AACR 2023, M. Fischer et al. based on evaluation of multiple representative MTA-cooperative PRMT5 inhibitors, designated as PRMT5^{MTA}-1, PRMT5^{MTA}-2

Combination Effect of MAT2A Inhibitor and PRMT5^{MTA} Inhibitor

Combined Inhibition Deepens Biological Response through Maximal Pathway Suppression

Gene Expression Analysis

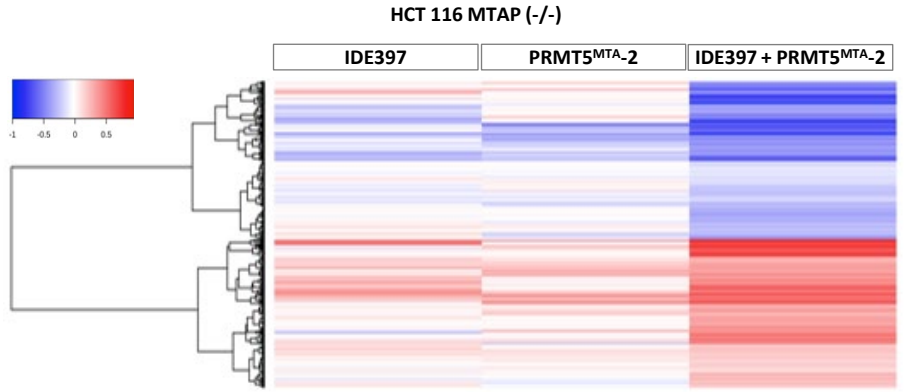
Combination Deepens Observed Monotherapy Activity



Analysis by RNAseq; Color = Normalized Enrichment Score (NES); Shape = Number of Differentially Expressed (DE) Genes in Leading Edge; Black Circular Border = Statistically Signifcant (P.adj <0.05)

Alternative Splicing Analysis

Combination Increases Alternative Splicing Events



Quantitative Assessment of IDE397 / PMRT5i Effect on pre-mRNA Splicing

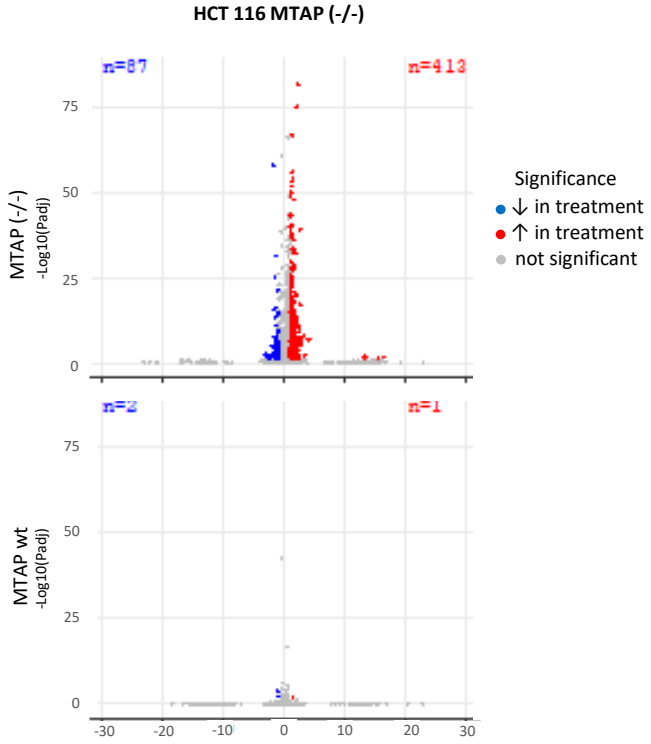
⬇

>2800 significant Splicing Events only in the Combination Treatment Arm+

+ Identified as novel splice junctions or as not meeting significance criteria in monotherapy arms
Color = heatmap of Z-scored TMM-normalized counts per million

Retained Intron Analysis

Combination shows Selective Response by Retained Introns Analysis^



^ Retained Introns by DEXseq for Combination Treatment Arm

IDEAYA Data: AACR 2023 M. Fischer et. al.; PRMT5^{MTA} i = representative MTA-cooperative PRMT5 inhibitor, including designated as PRMT5^{MTA}-2

MAT2Ai Combination Strategy

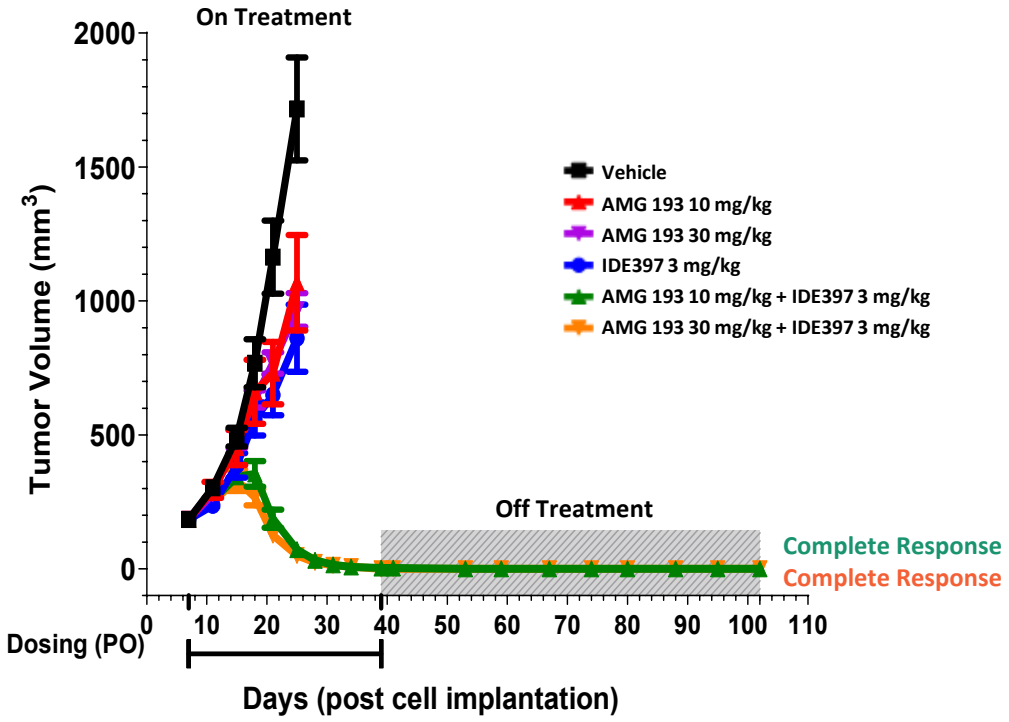
IDE397 (MAT2A) + AMG 193 (PRMT5^{MTA}) Preclinical Efficacy

IDE397 (MAT2Ai) + AMG 193 (PRMT5^{MTA}i)

AMGEN

Observed Durable Complete Responses

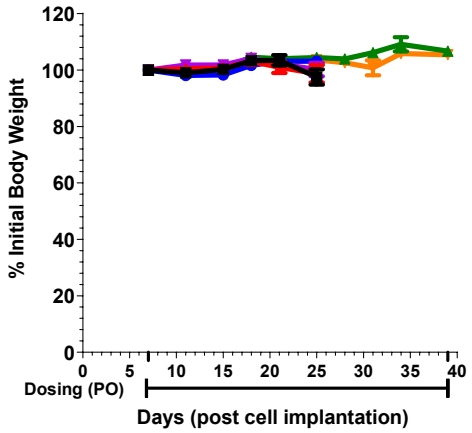
NSCLC MTAP-/- CDX Model



IDEAYA / Amgen Data: AACR 2023, M. Fischer et al.

- Observed Complete Responses (CR) @ Study Day ~40+ durable through Study Day ~100
- Doses were below maximally efficacious preclinical dose for each of IDE397 and AMG 193, with IDE397 dosed at 3 mg/kg QD (1/10th of typical preclinical dose) → Therapeutic Window
- Well tolerated *in vivo* with No Observed Body Weight Loss
- Observed selective sensitivity in MTAP-null tumors (no observed TGI in MTAP-wt tumors)

No Body Weight Loss



* Pursuant to Amgen Clinical Trial Collaboration and Supply Agreement for clinical evaluation of IDE397 and AMG 193, an Amgen investigational MTA-cooperative PRMT5 inhibitor; Amgen will sponsor the study; IDEAYA and Amgen will jointly share external costs of the study

IDEAYA BIOSCIENCES

IDE397 Phase 1/2 Clinical Development Plan

Clinical Strategy Focus on Select Monotherapy and High Conviction Combination

IDE397 Development Candidate – Clinical Profile

- Exposure-Dependent Pharmacokinetic (PK) Profile with low C_{max}:C_{min}
- Robust, Exposure-Dependent Pharmacodynamic (PD) Response
- Monotherapy Expansion showing Clinical Efficacy - with Responses in Multiple High-Priority Tumor Types early in Dose Expansion, including a confirmed PR

IDE397 is uniquely positioned to evaluate efficacy in MTAP pathway, with a favorable PK/PD profile and observed therapeutic window

Mono Expansion in Select MTAP-null Tumor Histologies

IDE397 RDE Mono Expansion Basket: NSCLC, Esophageal, Gastric, Bladder

Focus or Additional Indication Expansion

Combination Cohorts – Clinical Proof of Concept in MTAP-null Tumors

AMGEN IDE397 + AMG 193 MTA-Cooperative PRMT5i#^: Solid Tumors

Other Potential Indications or Combinations

Addressable Patient Population of ~50,000 estimated in US, EU5 and JP across priority tumors – NSCLC, bladder, gastric, and esophageal cancers

AMG193 = Amgen's investigational MTA-cooperative PRMT5 inhibitor

^ Amgen reported that initial data for AMG 193 monotherapy expansion demonstrated responses in multiple tumor types (See Amgen earnings release and corporate presentation dated August 3, 2023)

IDEAYA BIOSCIENCES

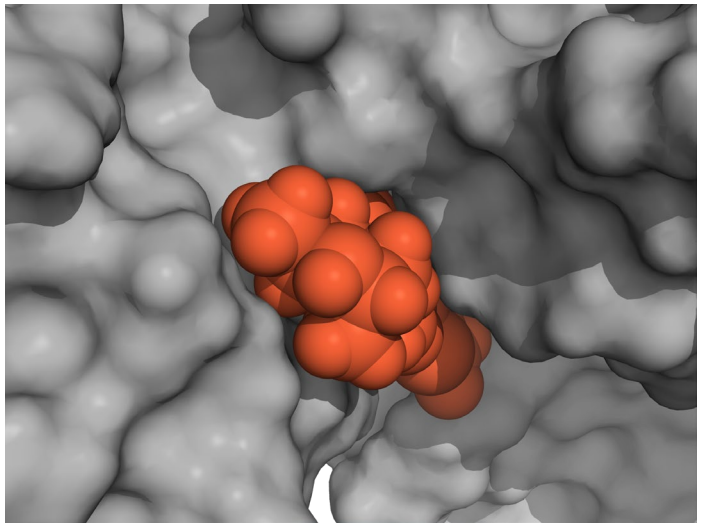
IDEAYA's Potential First-in-Class Synthetic Lethality DDR Pipeline

Synthetic Lethality with Tumor-Promoting defects in DNA Repair Mechanisms

IDE161

PARG Inhibitor

Clinical Candidate



Phase 1 First-in-Human

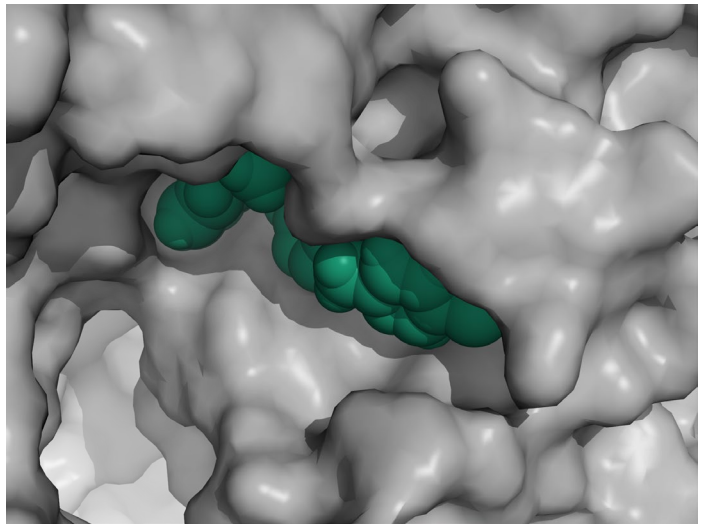
Monotherapy in HRD Breast, Ovarian

Potential to develop beyond HRD

GSK101 ϕ

Pol Theta Helicase Inhibitor

Development Candidate



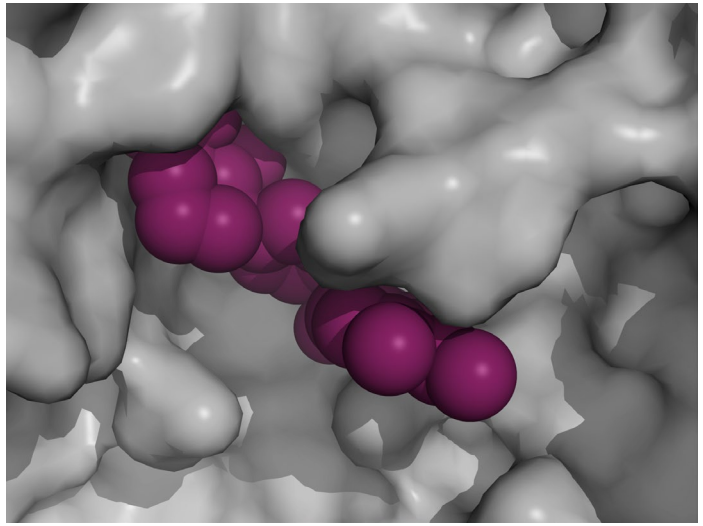
Phase 1 First-in-Human Q4 2023

Niraparib Combination in Tumors with HR Mutations and HRD

Werner ϕ

Helicase Inhibitor

Preclinical Lead-Optimization



Targeting DC H2 2023

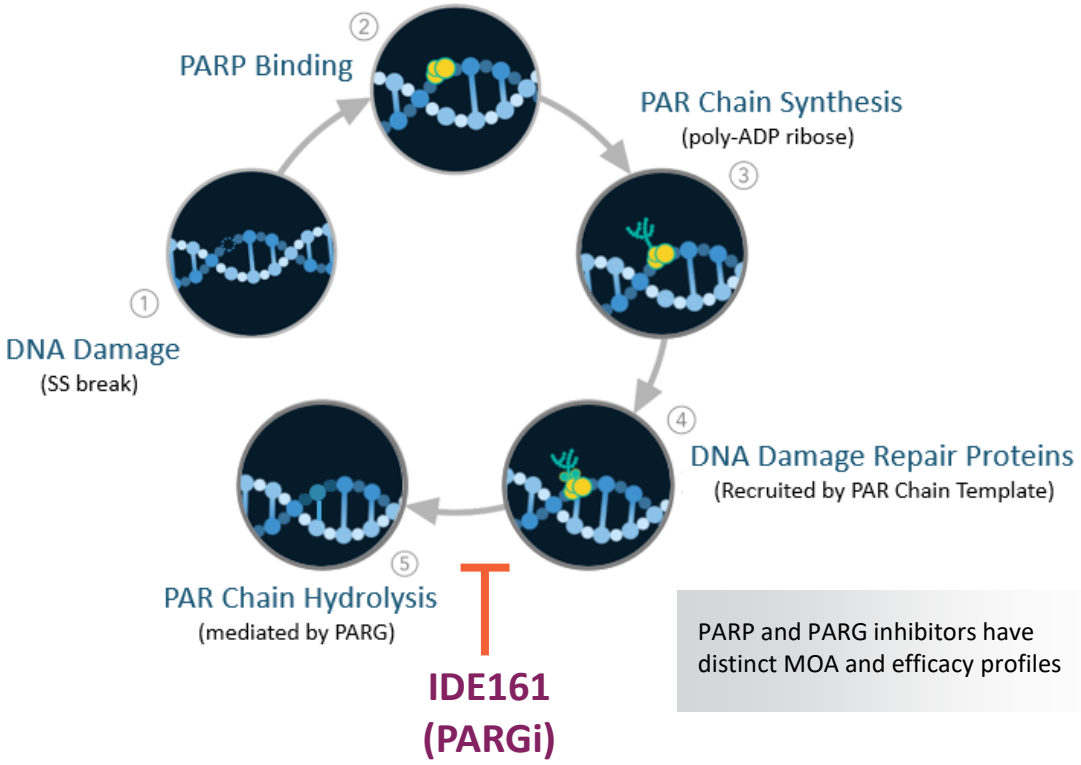
MSI-High Tumor Agnostic

ϕ Pursuant to GSK Collaboration, Option and License Agreement

PARG Inhibition is Synthetic Lethal with HRD

Novel, Mechanistically-Differentiated Target in a Clinically Validated Pathway

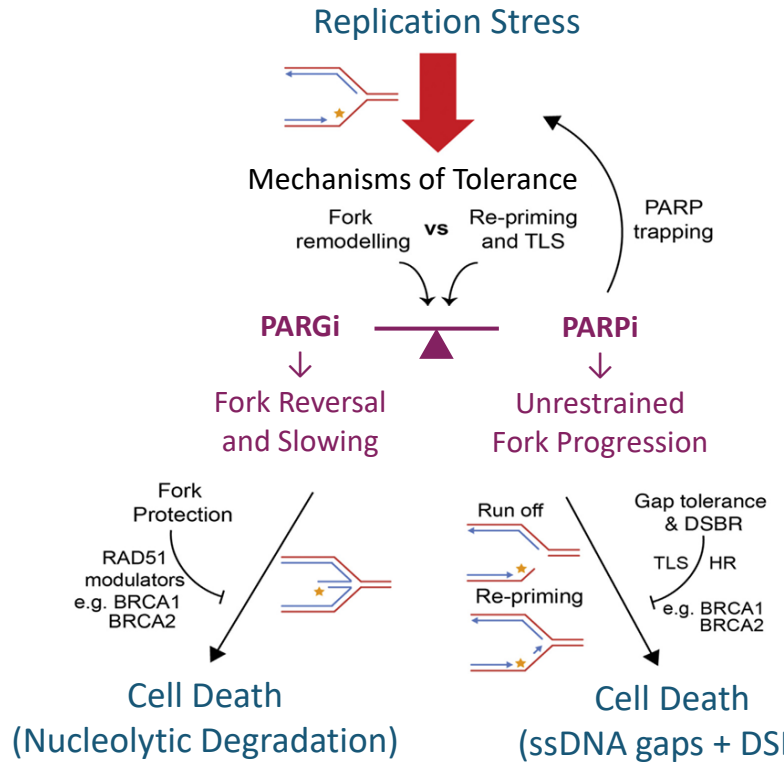
PARG Activity is required to resolve DNA Repair



PARP and PARG inhibitors have distinct MOA and efficacy profiles

Cancer Research (Aug 2019), Cancer Research (Jul 2019), Cancer Cell (Mar 2019)

PARG Inhibition is Mechanistically Distinct from PARPi

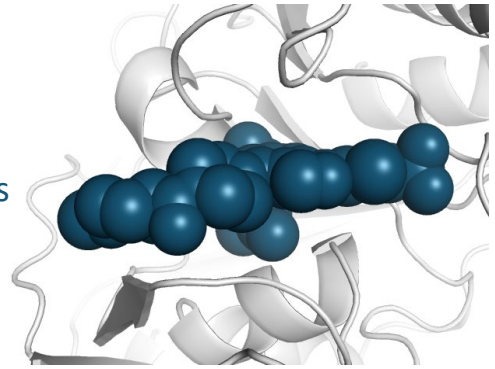


Pillay et al., Progress in Biophysics and Molecular Biology 2021; McDermott et al., Cancer Cell 2019; Zeman and Cimprich, Nature Cell Biology 2014

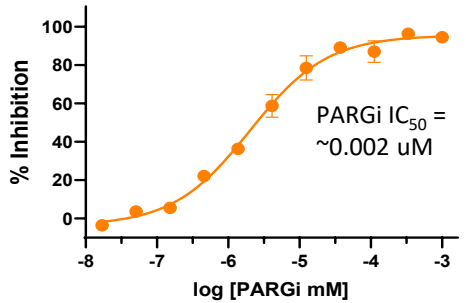
IDE161: Potential First-in-Class Phase 1 PARG Inhibitor

IDE161 Profile: Potent, Selective with Favorable Properties

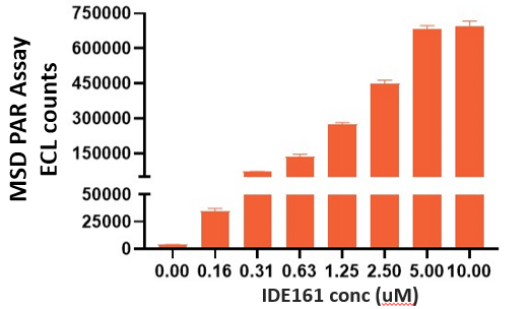
- IDE161 is a potent, selective small molecule PARGi for tumors with HRD
- Demonstrated cellular activity and efficacy in biomarker defined settings
- Positive physical property profile
- Favorable preclinical tolerability



Biochemical IC_{50}

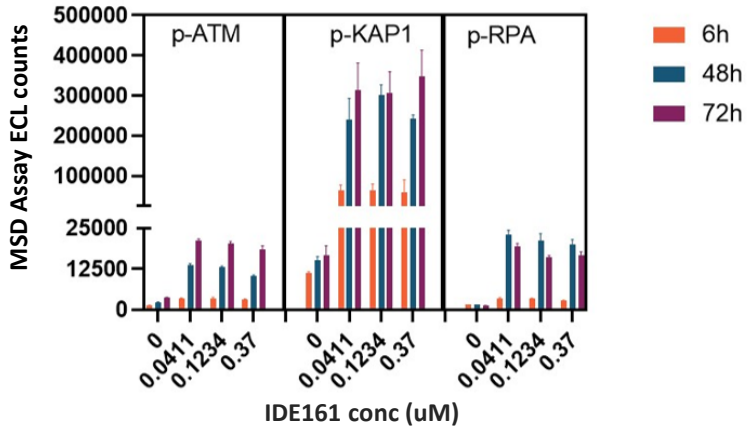


IDE161-induced Cellular PAR Accumulation

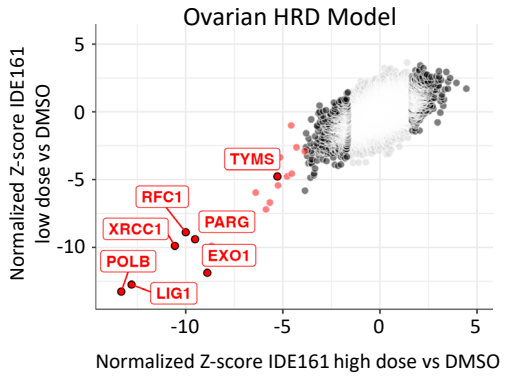


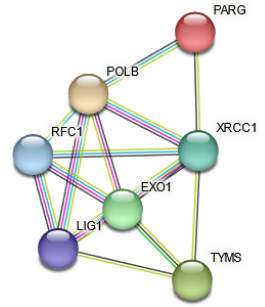
IDE161 induces Selective DDR → Synthetic Lethal in HRD

IDE161-induced DNA Damage Response



IDE161 is Synthetic Lethal with BER Gene Disruption





Gene Network generated from whole genome CRISPR screens anchored with IDE161 using significant synthetic lethality hits across 4 models

IDEAYA Data: AACR 2023 D. Munoz et al.

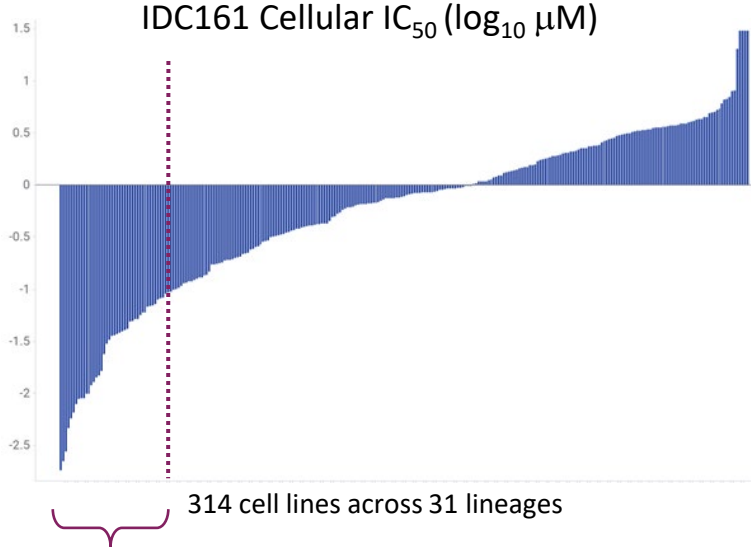
PARG = poly (ADP-ribose) glycohyrdolase; PAR = poly (ADP-ribose); DDR = DNA Damage Response; HRD = Homologous Recombination Deficiency; BER = Base Excision Repair

IDE161 shows Selective Sensitivity in HRD and Differentiation from PARPi

IDE161 Sensitivity Profile in Cell Panel

Cellular response profiles reveal mechanistic associations with PARGi sensitivity

IDC161 Cellular IC_{50} (log_{10} µM)

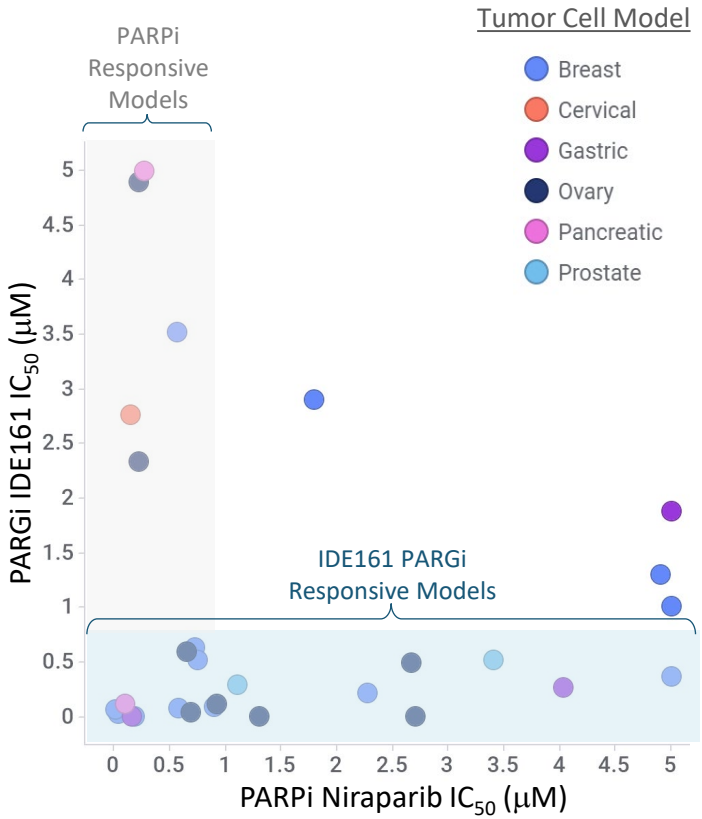


Top predictive response biomarkers* include HRD, replication stress, nucleotide excision repair and parylation cycle

* Based on univariate and multivariate pan-cancer and lineage-specific molecular feature analysis

IDE161 Selective Sensitivity vs PARPi

HRD cell lines are selectively sensitive to IDE161 versus PARPi

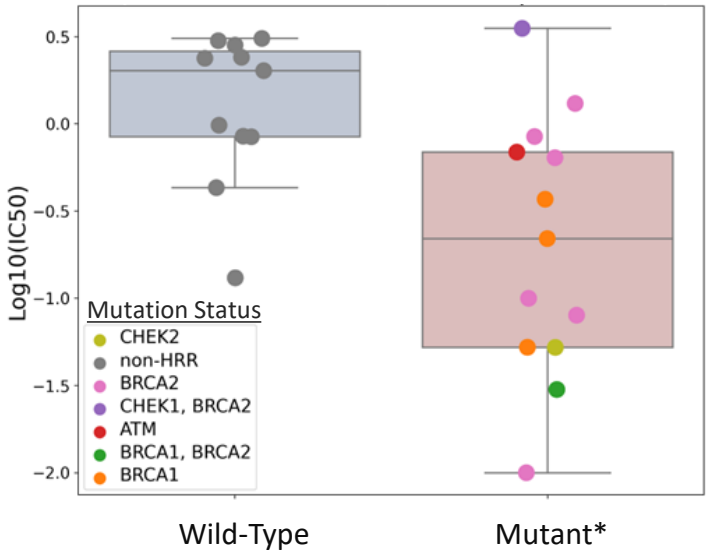


IDE161 Sensitivity in HRD Breast Cancer

Response to IDE161 is strongly associated with HRD status in Breast Cancer Cell Lines

Cellular antiproliferative response to IDE161 stratified by HRR status

(Breast Cancer: n=24, Wilcoxon pval=0.008)



*HRR mutation status assigned according Foundation Medicine HRR gene panel: ATM, BRCA1, BRCA2, BARD1, BRIP1, CDK12, CHEK1, CHEK2, FANCL, PALB2, RAD51B, RAD51C, RAD51D, RAD54L

IDEAYA Data: AACR 2023, D. Munoz et al.

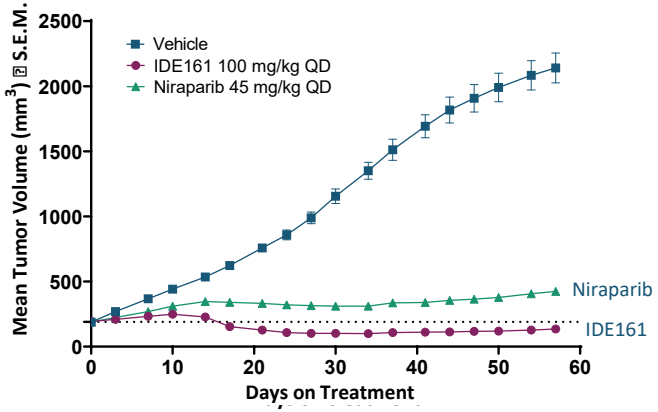
IDE161 is Active and Well-Tolerated in HRD ER+ Her2- Breast Cancer Models

Observed PARG inhibitor Activity is Distinct from PARP Inhibition

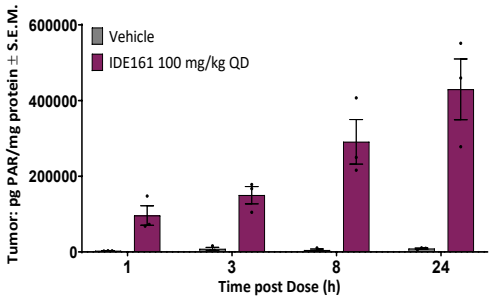
Durable Disease Control in BRCA-altered Breast Cancer CDX

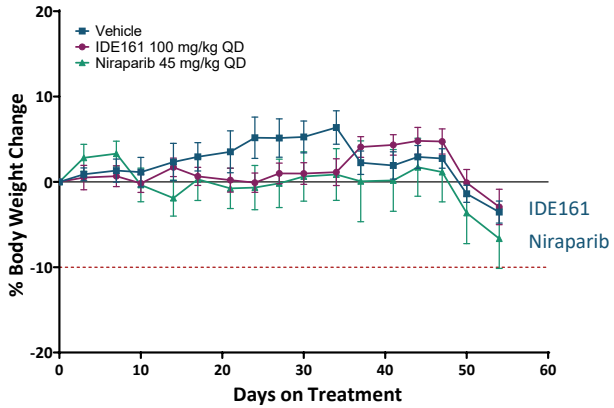
- Durable regressions (vs stasis with niraparib)
- Robust dose- and time-dependent PAR accumulation
- Well tolerated; no body weight loss >10%

ER+ / Her2- Breast Cancer CDX



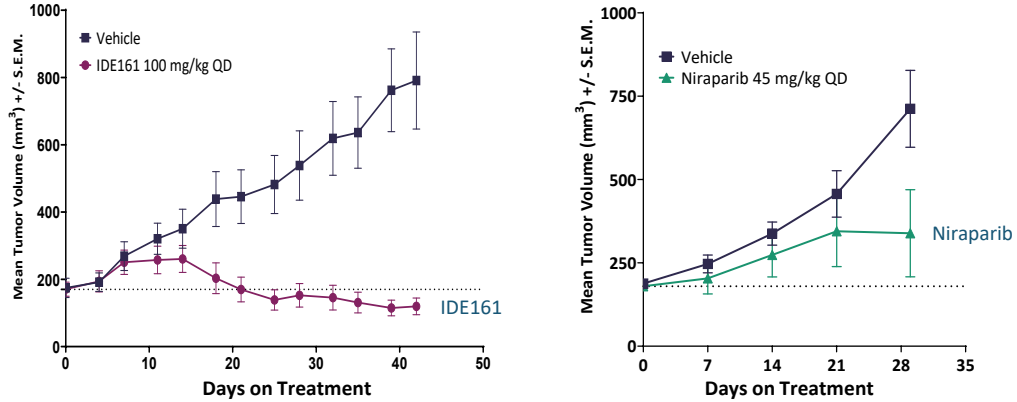
Ovarian Cancer CDX



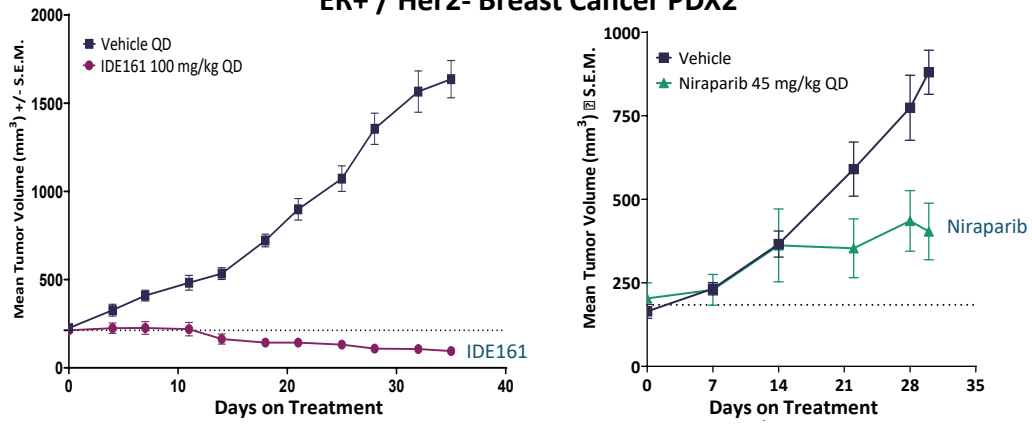


Regression in BRCA-altered Breast Cancer PDX Models

ER+ / Her2- Breast Cancer PDX1



ER+ / Her2- Breast Cancer PDX2



IDEAYA Data: 2023 AACR, D. Munoz et al.

IDE161 Demonstrates Favorable Safety Profile in Preclinical Studies

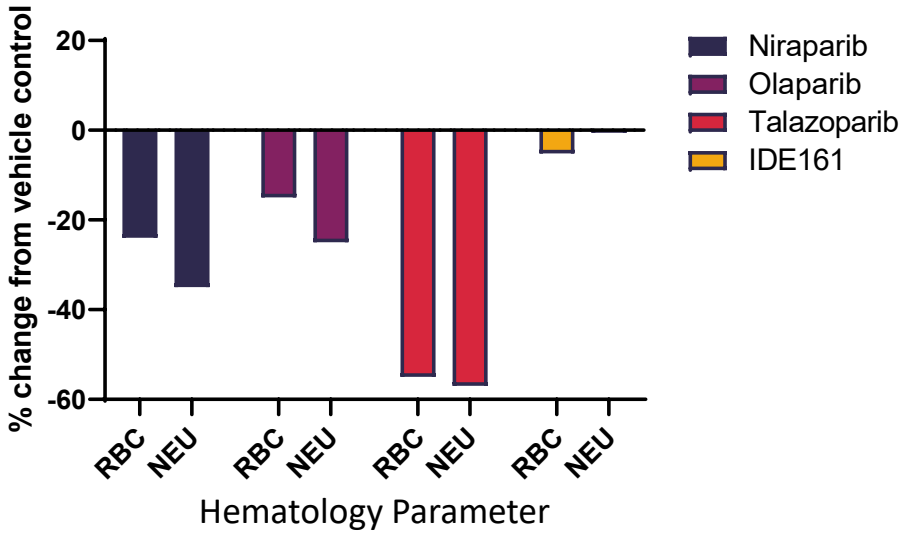
Non-Clinical Pharmacology and Toxicology Studies Support Clinical Evaluation

IDE161 Differentiates versus PARPi in Nonclinical Safety Studies

PARP inhibition causes myelosuppression in rat and dog at clinically relevant systemic exposures

In contrast, IDE161 does not alter hematology parameters in rodents at relevant exposures associated with the estimated therapeutic dose

IDE161 versus PARPi in Rat Studies *



IDE161 Drug Product

* PARPi data extracted from repeat dose toxicology data presented in NDA reviews (Drugs@FDA.gov) and prescribing labels. Species chosen for data illustration (rat) was based on availability of data at a dose level that most closely approximated systemic exposure (AUC) associated with the clinically recommended dose.

- IDE161 well tolerated preclinically with tumor regressions observed at doses below mouse MTD
- Human efficacious dose projection based on maximum efficacious dose in mouse (100 mg/kg/day) which covers cellular IC_{90} for ≥ 22 hours
- Data from GLP toxicology studies support a proposed safe starting dose of 0.5X the estimated therapeutic dose
- IDE161 API synthetic process and drug product tablet formulation developed

IDE161 Clinical Development Strategy

First-in-Class Opportunity for Patients with Breast, Ovarian & Other Solid Tumors with HRD

IDE161 Phase 1/2 – Mono Clinical Development Plan and Combination Options

IDE161 Monotherapy Dose Escalation and Expansion in HRD Tumors

- Dose Escalation
- Expansion Cohort: ER+, Her2-, HRD Breast Cancer
- Expansion Cohort: HRD Ovarian Cancer
- Expansion Cohort: HRD Tumors (Basket)
- Expansion Opportunities beyond HRD Tumors

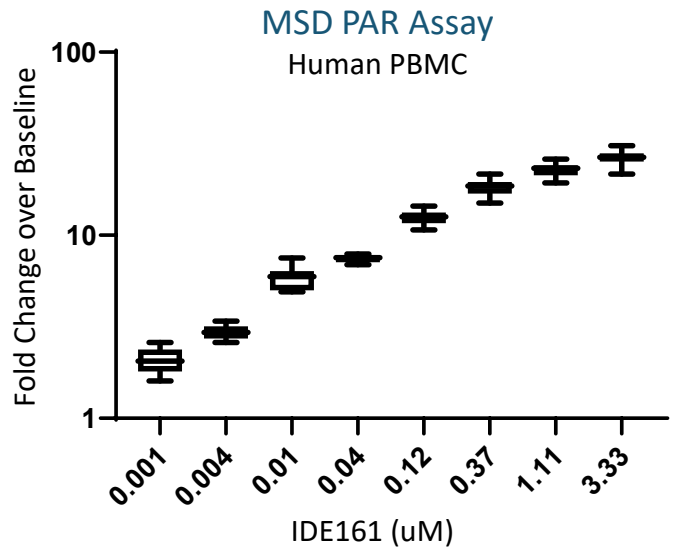
IDE161 Combinations – Preclinical Safety Profile Supports Multiple Opportunities

- Dose Escalation
- IDE161+ Chemotherapy
- Other Potential Combinations

ER+, Her2- Breast Cancer Patients with HRD Tumors
→ ~10% to ~14% of Breast Cancer

Ovarian Cancer Patients with HRD Tumors
→ ~50% of Ovarian Cancer

Facile peripheral PD Biomarker for PARGi based on measurement of PAR in blood samples (PBMC's)



Activity in PARPi- and Platinum-Resistant Settings | **Differentiated Sensitivity relative to PARPi's** | **Improved Safety Profile relative to PARPi's**

Clinical Strategic Pillars

IDEAYA Data

PARG = poly (ADP-ribose) glycohyrdolase; PAR = poly (ADP-ribose; PBMC = peripheral blood mononuclear cells

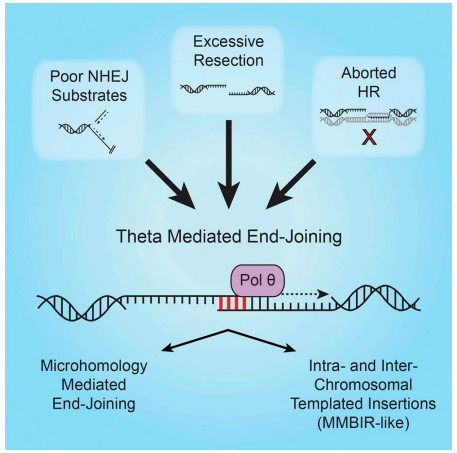
Polymerase Theta (Pol Theta) Synthetic Lethality Program

Potential First-in-Class Helicase Inhibitor is Synthetic Lethal to HR and NHEJ Perturbation

Role of Pol Theta in Tumor Biology

Pol Theta is an error-prone multi-domain protein with helicase / polymerase activities

Pol Theta DNA break end-joining is critical when canonical repair pathways fail

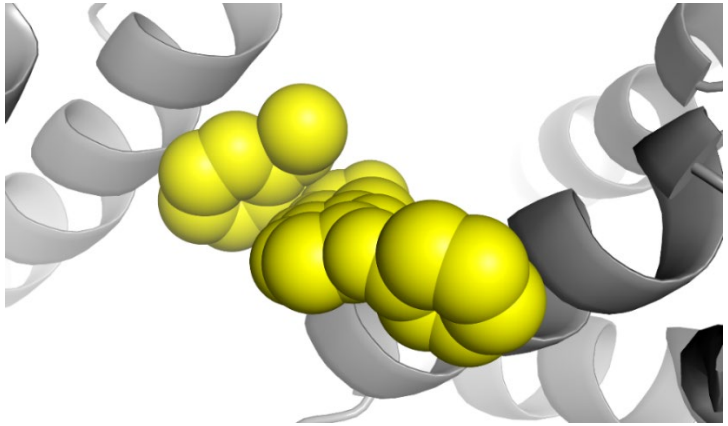


D. Wyatt et al. *Mol Cell* (2016)

Pol Theta Inhibitor Drug Discovery

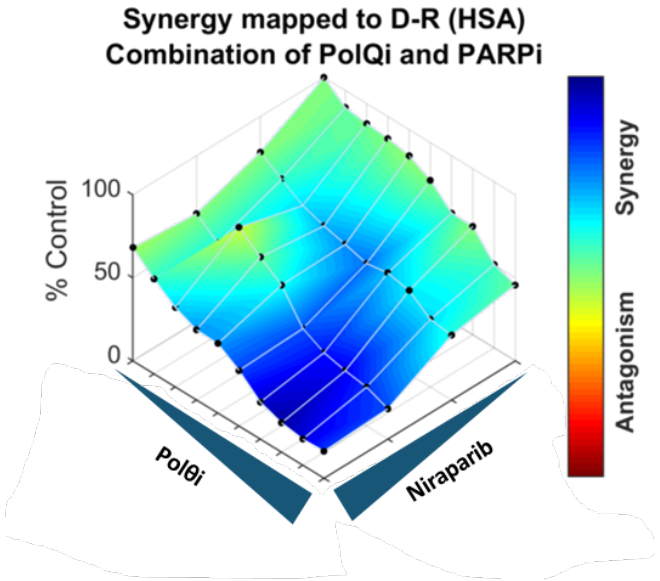
Discovered Pol Theta inhibitors with IC_{50} <10 nM in biochemical assays against Polθ

Drug-like properties of Polθ inhibitors support oral dosing in humans



Pol Theta Inhibitor Synergy in HRD

Pol Theta inhibition is synthetic lethal with PARP inhibition in HR-deficient cancer cells



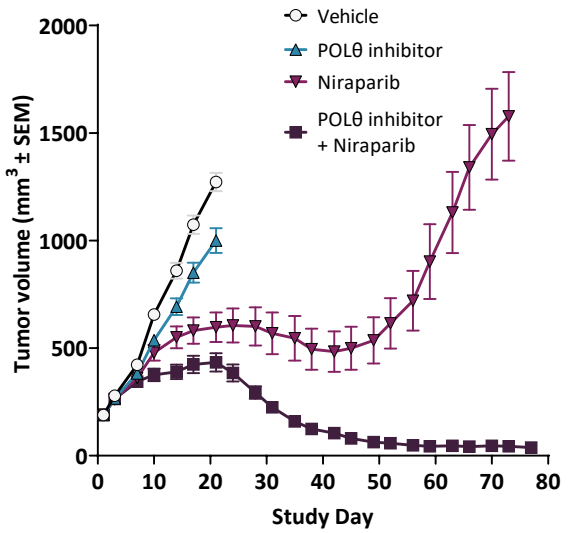
IDEAYA / GSK Data

GSK101 (IDE705): Potential First-in-Class Pol Theta Helicase Inhibitor

Phase 1: Targeting First-in-Human in Q4 2023 in Combination with Niraparib (PARPi)

Pol Theta Helicase *In Vivo* Activity

GSK101 + PARPi

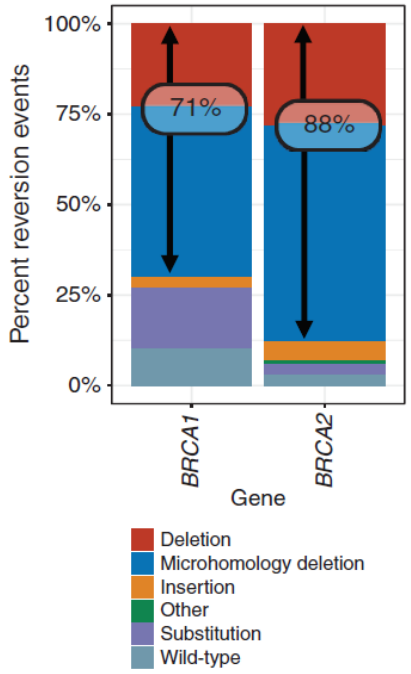


Observed Deep and Durable Responses in Multiple Xenograft Models

IDEAYA / GSK Data

BRCA 1/2 Clinical Reversions

BRCA Reversions Mediated by MMEJ



Cancer Res. 2020, DOI: 10.1158/2159-8290

Clinical Development Strategy

Pol Theta Helicase Inhibitor + PARP Inhibitor

Pol Theta Helicase Inhibitors Disrupt MMEJ Alternative DNA Damage Repair:

- Inhibit DSB Repair by MMEJ
- Dysregulate Replication Fork Stabilization

Potentiate PARPi Efficacy	Prevent PARPi Resistance	Overcome PARPi Resistance

Potential Clinical Opportunities

GSK Strategic Partnership: Global Royalties with GSK covering all Costs, ~$1B Milestones, incl up to $20M Preclinical / Ph1 Clinical

Potential Combination with GSK's Zejula™, a PARP Inhibitor

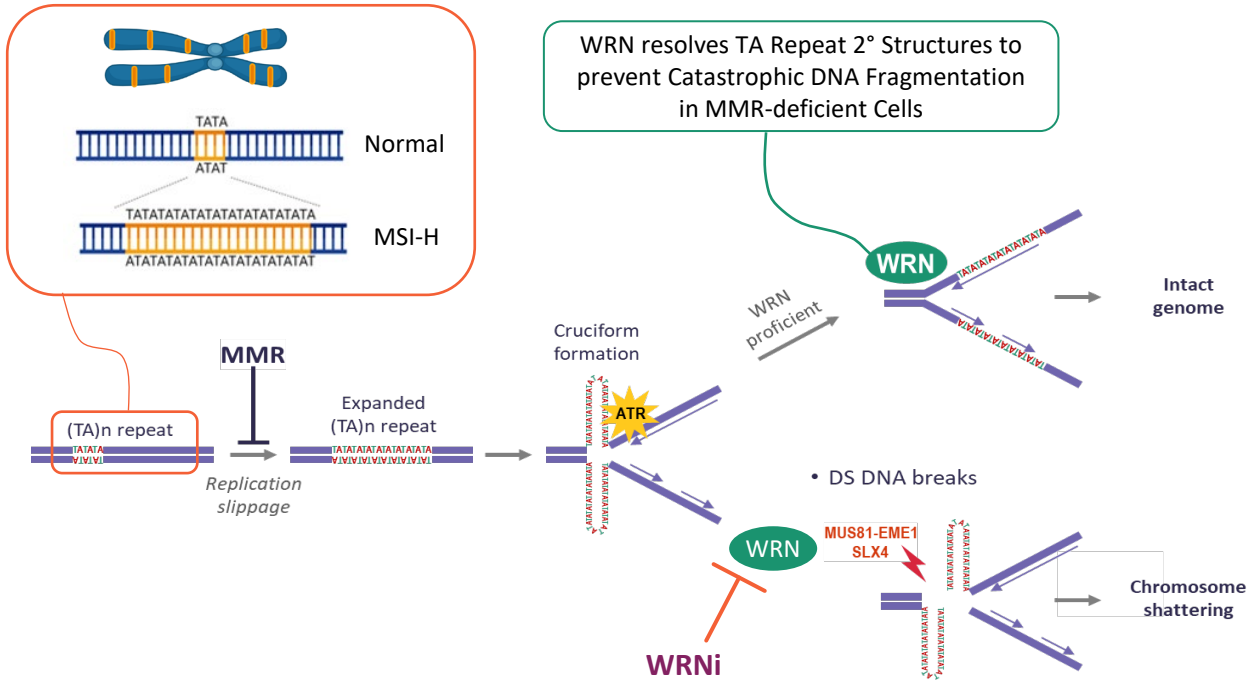
Werner Helicase is Synthetic Lethal with Microsatellite Instability

Targeting Development Candidate in H2 2023

Werner Helicase Inhibitors Phenocopy Genetic SL in MSI-High Cancers

Nanomolar Potency, Biochemical and Cellular Activity, and Selectivity over other RecQ Helicases

Werner Helicase Synthetic Lethality in MSI-High Cancer Cells



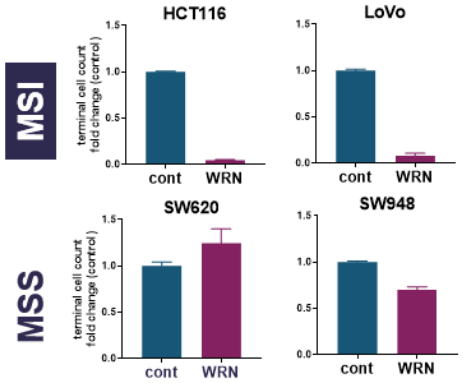
Werner Helicase Synthetic Lethal with High-MSI

CellPress

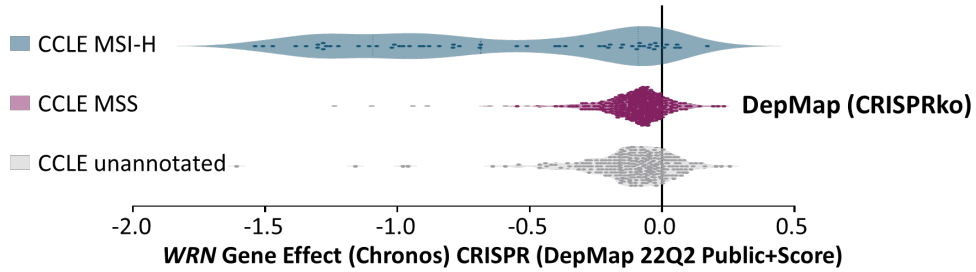
Werner Syndrome Helicase is Required for the Survival of Cancer Cells with Microsatellite Instability

IDEAYA Publication

Cell Press, iScience, March 2019, Hager et al



Analysis of pan-cancer screen datasets reveals *WRN* essentiality in MSI-H cancer cell lines



IDEAYA / GSK Data: AACR 2023, M. Fischer et. al.

GSK Strategic Partnership: 50/50% US Profit Share and ex-US Royalties, ~$1B Milestones, incl up to $20M Preclinical / Ph1 Clinical;
Cost Share 80% (GSK) / 20% (IDEAYA); Potential Combination with GSK's Jemperli™, a PD-1 IO Agent

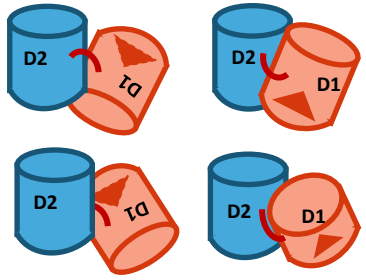
Werner Helicase is Synthetic Lethal with Microsatellite Instability

Targeting Development Candidate in H2 2023

Discovery of Potent and Selective WRN Inhibitors

Werner Helicase Inhibitor Drug Discovery

Solved >85 X-ray Co-Crystal Structures

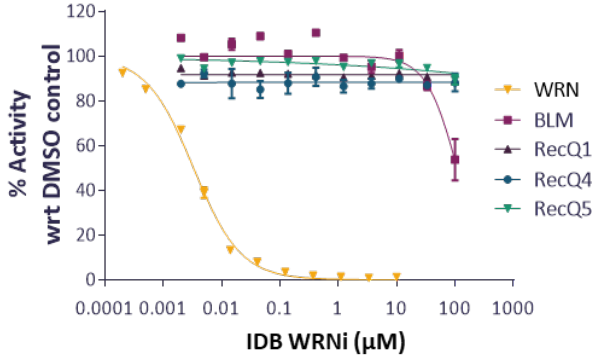


Achieved >10,000,000-fold Affinity Increase

Initial Hits
Low Affinity
Poor Druglike Properties

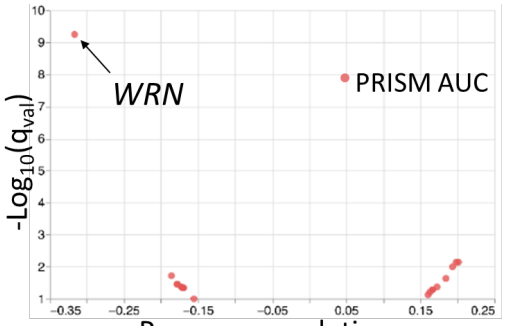
Improved Inhibitors
High Affinity
Good Druglike Properties

Biochemical activity across Target Class*



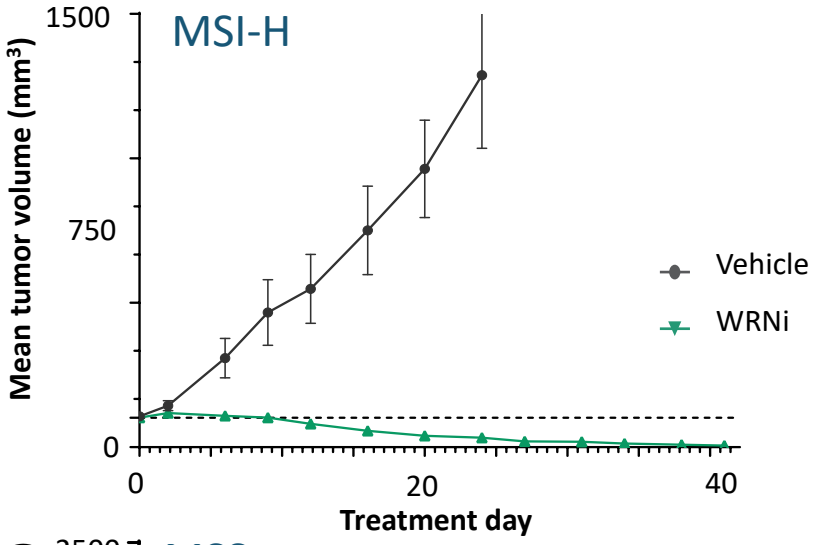
Nanomolar potency only against WRN

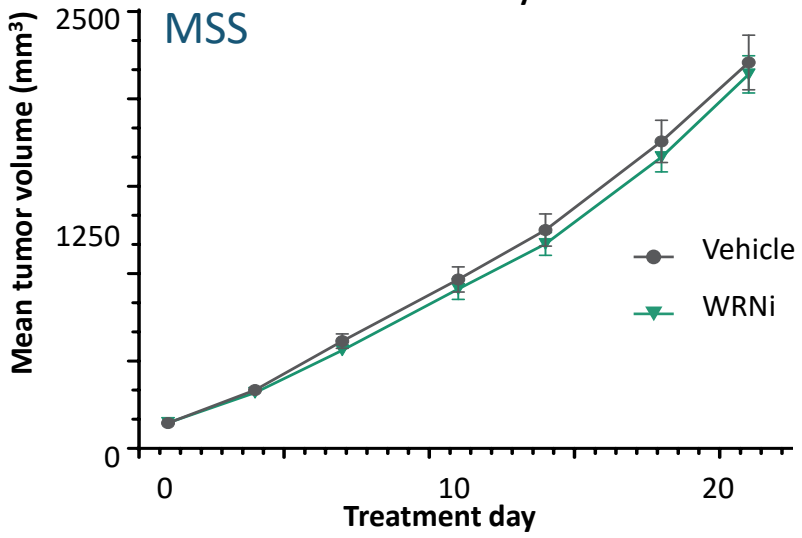
Pangenomic Cellular Activity Correlation^



Sensitivity to WRNi correlates most strongly with *WRN* gene dependency across the CCLE

In Vivo Efficacy and Selectivity*





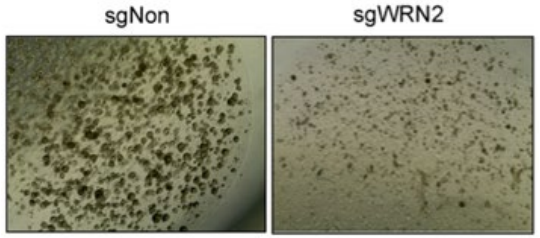
* IDEAYA / GSK Data: AACR 2023, M. Fischer et. al.
^ IDEAYA / GSK / Broad Institute Data: AACR 2023, M. Fischer et. al.

Werner Inhibitor *In-Vivo* Efficacy in MSI-High Models

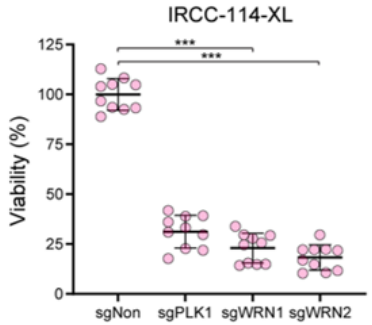
WRNi Shows Pharmacological Activity in Therapy-Refractory CRC MSI-High Models

Werner Helicase Activity in Therapy-Refractory CRC Organoid Models

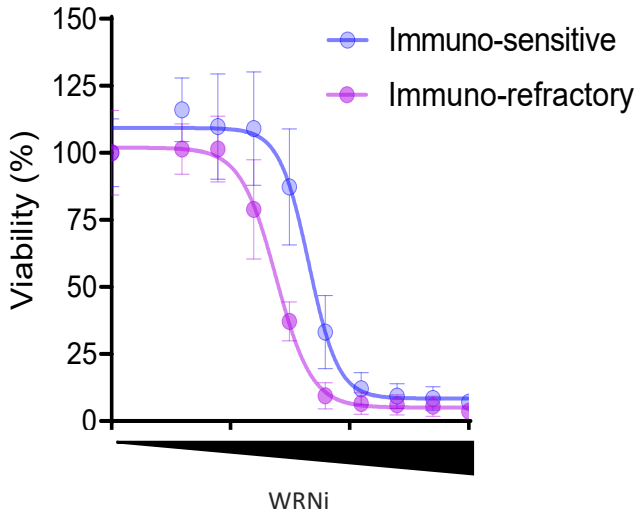
Immuno-Refractory
(Genetic Sensitivity)



Chemo-Refractory
(Genetic Sensitivity)



Immuno-Refractory
(Pharmacological Sensitivity)



Pharmacological activity in therapy-refractory models supports clinical thesis

Strategic Collaboration with GSK

US: 50%/50% Profit Share

Ex-US: Royalties tiered from high single-digit to sub-teen double digit percentages

Milestones: ~$1B, incl up to $20M for Preclinical through early Ph1 Clinical

Cost Share: 20% IDEAYA / 80% GSK

Strategic Rationale: Potential Combination with GSK's Dostarlimab, a PD-1 IO Agent

→ Targeting Werner Helicase Development Candidate in H2 2023

IDEAYA / GSK / Welcome Sanger Institute Data

Building a Fully-Integrated Biotech in Precision Medicine Oncology

Foundational First-in-Class Pipeline Enables a Leading Precision Medicine Oncology Franchise

Darovasertib Registration-Enabling Trial with Potential Accelerated Approval in HLA-A2(-) MUM is tractable for commercial execution and provides path to potential product revenue to reinvest in broad *first-in-class* pipeline

Emerging Pipeline of Potential First-in-Class Precision Medicine Oncology Programs with large addressable solid tumor patient populations, including Daro (Ph 2 Primary UM), IDE397 (Ph 2), IDE161 (Ph 1), GSK101 (Ph1) and Werner Helicase (Development Candidate H2 2023)

Strong Balance Sheet with ~$510 M anticipated to fund operations into 2027 [1, 2] and opportunity for milestones

Validating Pharma Partnerships and Collaborations include clinical collaborations for combination therapies with Pfizer and Amgen and strategic collaboration with GSK with ~$1 billion milestones / program

CLINICAL

Ph2/3 – Daro + Crizo in Metastatic UM [3]
Ph2 – Darovasertib (PKC) in Primary UM
Ph 2 – IDE397 (MAT2A)
Ph 1 – IDE397 (MAT2A) + AMG 193 ($PRMT5^{MTA}$) [3]
Ph 1 – IDE161 (PARG)
Ph 1 – GSK101 (Pol Theta Helicase) [4]

2023 Foundation: 4 Clinical Programs

DEVELOPMENT CANDIDATES

Werner Helicase – Dev Candidate H2 2023 [4]

5 Clinical Programs

PRECLINICAL

Targeting 2 IND Filings (2025+)

7 Clinical Programs

(1) Includes aggregate of $510.1 M cash, cash equivalents and marketable securities as of June 30, 2023
(2) IDEAYA Form 10-Q dated August 10, 2023 as filed with the U.S. Securities and Exchange Commission
(3) Clinical Trial Collaboration and Supply Agreements, independently with Pfizer (Darovasertib + Crizotinib) and Amgen (IDE397 + AMG193); IDEAYA retains all commercial rights
(4) GSK101 Pol Theta Program Cost Share = 100% GSK with ~$1B Milestones and WW Royalties; Werner Helicase Program Cost Share = 80% GSK / 20% IDEAYA with ~$1B Milestones, 50/50 US Profit Share and Ex-US Royalties