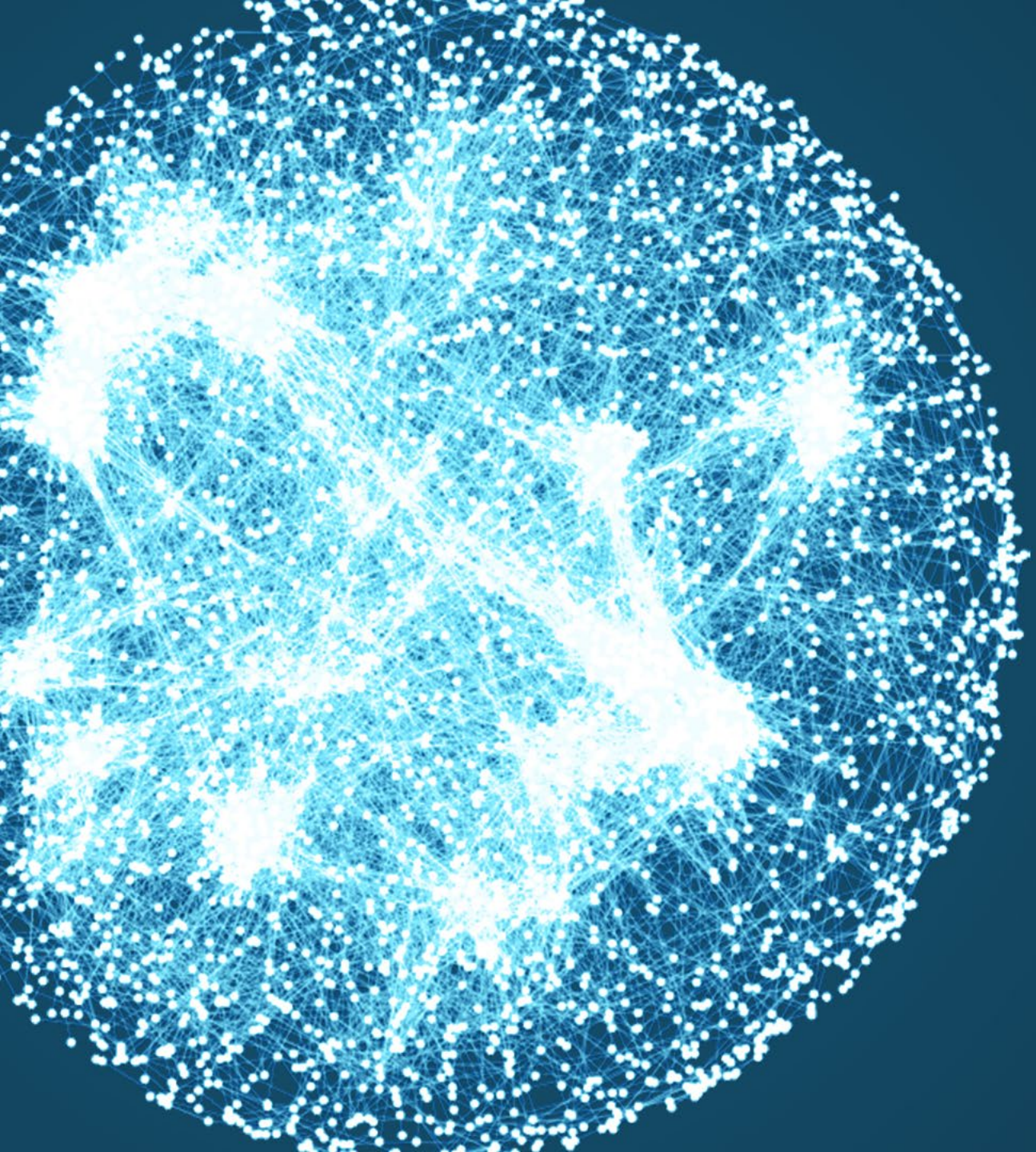


March 15, 2022

NASDAQ: **IDYA**

IDEAYA Biosciences

Interim IDE397 Phase 1 Clinical Data and Q1 2022 Corporate Update

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 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. 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 10Q for the quarter ended September 30, 2021, 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.

Agenda

IDE397 Interim Phase 1 Clinical Data Update

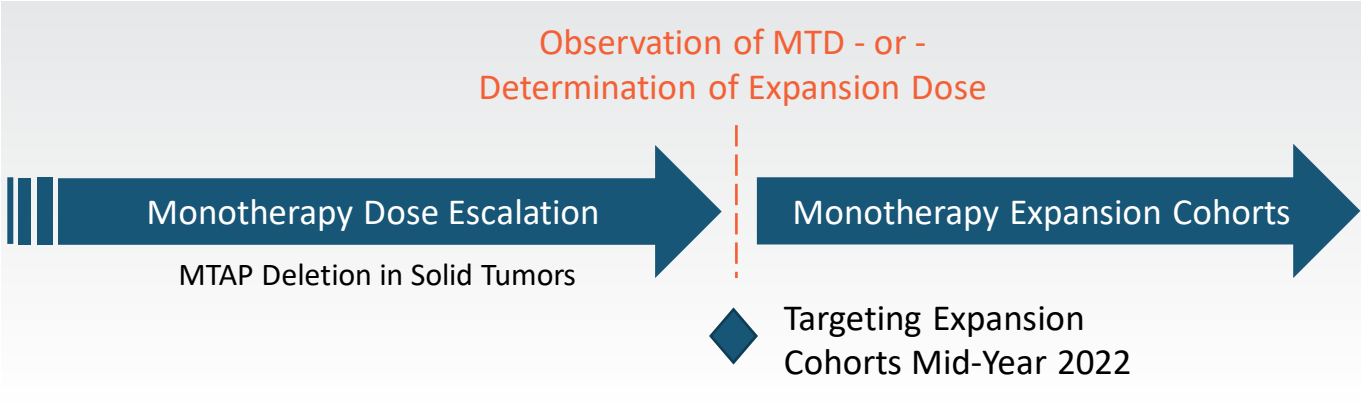
- GSK Option Data Package and Collaboration Economics
- Phase 1/2 Clinical Development Plan
- Clinical Pharmacokinetic Data
- Clinical Adverse Events
- IDE397 Pharmacodynamic Data
  - Preclinical Tumor Pharmacodynamic Data
  - Clinical Plasma and Tumor Pharmacodynamic Data
  - PK / PD Analysis and Projected Clinical Efficacy
- Next Steps

Corporate Update

- Other Pipeline Programs, 2022 Target Milestones, 2021 Financials

GSK Option Data Package

Timing and Scope of Data Supporting GSK Opt-In Decision [1]



MAT2A Option Data Package [2]

Preclinical Data
- Non-Clinical Safety
- Pharmacokinetic Data and Pharmacodynamic Data
- In Vivo Efficacy (e.g., 40+ PDX Models)

Clinical Data
- Safety and Tolerability Data
- Pharmacokinetic Data
- Pharmacodynamic Data (SAM, SDMA)

Targeting Option Data Package
Delivery Mid-Year 2022

GSK Collaboration Economics for MAT2A

Option Exercise Fee:
- $ 50M, subject to Opt-In and HSR clearance

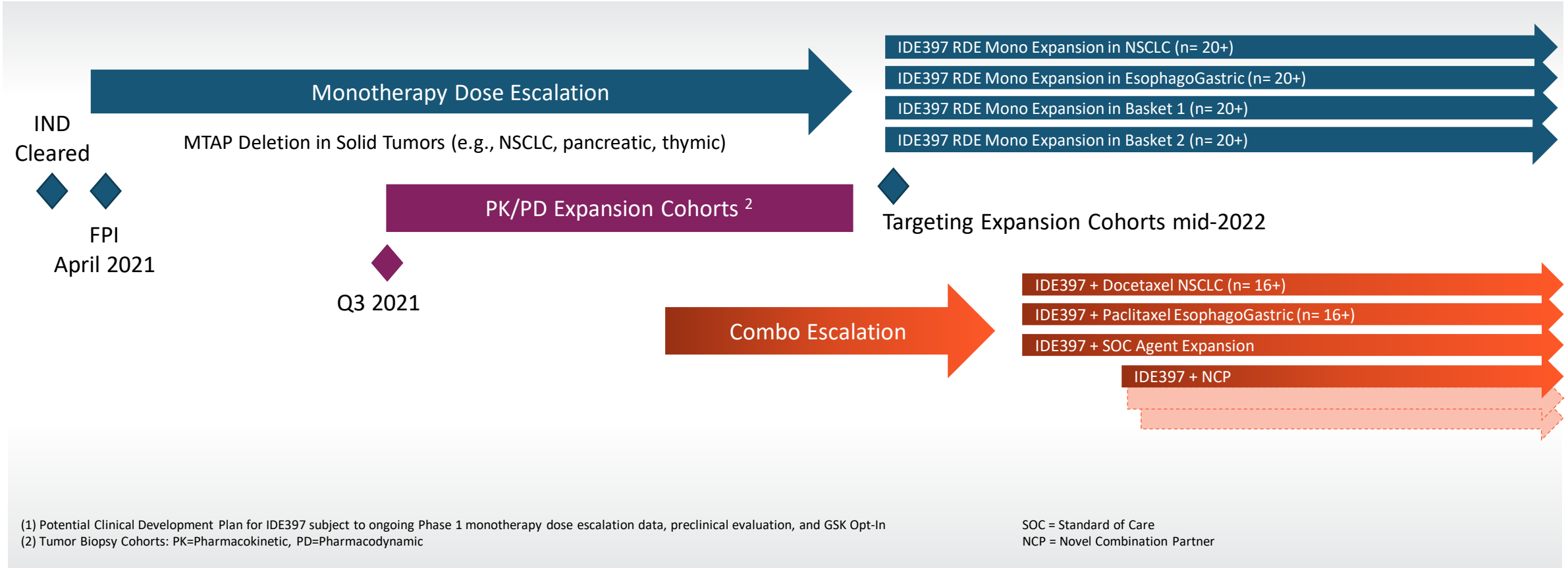
If GSK elects to Opt-In:
- 80%/20% GSK/IDEAYA Development Cost Share
- $ 465M Development / Regulatory Milestones
- $ 475 M Sales Milestones
- 50%/50% U.S. Net Profits Share
- Ex-US royalties of tiered high single-digit to sub-teen double digit %

(1) Pursuant to GSK Collaboration, Option and License Agreement
(2) MAT2A Program Diligence Data (Preclinical, Clinical, CMC, Toxicology and Regulatory Data) to be delivered to GSK within 30 days of Option Data Package

IDE397 Phase 1/2 Clinical Development Plan

Comprehensive Approach for Concurrent Evaluation of Monotherapy and Combinations

Phase 1 Dose Escalation and Expansion Strategy [1]



(1) Potential Clinical Development Plan for IDE397 subject to ongoing Phase 1 monotherapy dose escalation data, preclinical evaluation, and GSK Opt-In
(2) Tumor Biopsy Cohorts: PK=Pharmacokinetic, PD=Pharmacodynamic

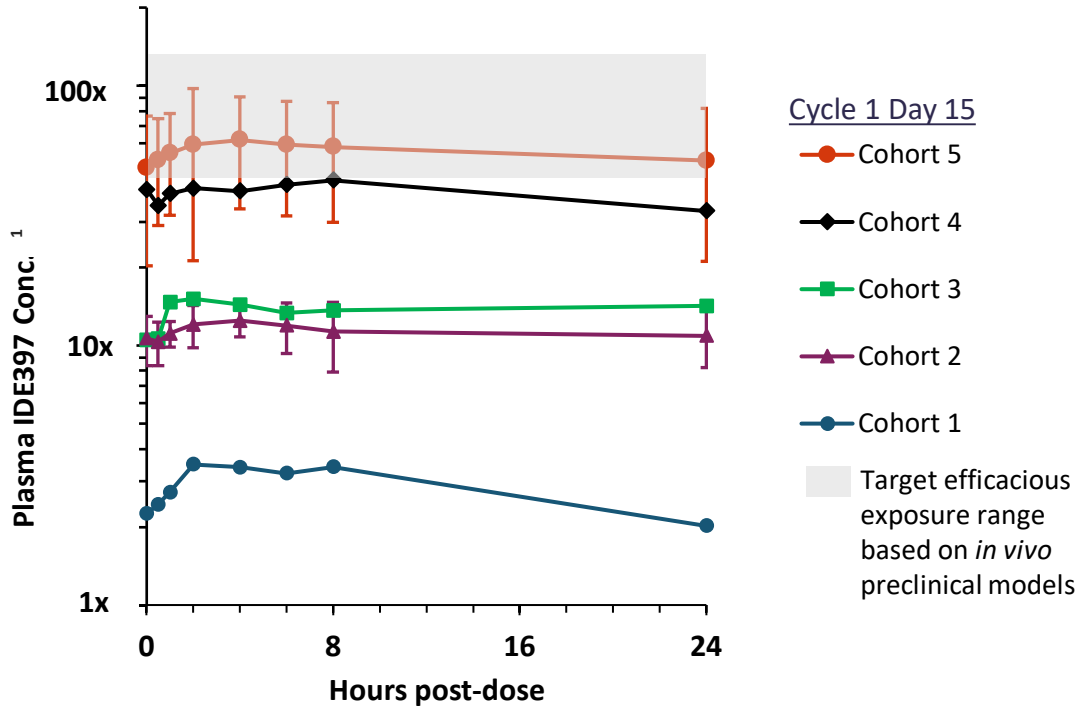
SOC = Standard of Care
NCP = Novel Combination Partner

Preclinical and Early Clinical Data support Clinical Development Focus on NSCLC, Esophagogastric and Other Solid Tumors such as Head and Neck, Bladder and Pancreatic (e.g., in Potential Basket Cohorts)

IDE397 Clinical Pharmacokinetic Data

Exposures are Dose Proportional and Achieved Active Exposure Targets

IDE397 Pharmacokinetic (PK) Data



[1] Y-axis concentration scale discloses relative values as indicated

IDE397 PK Parameters at Steady State

Cycle 1 Day 15	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5
C_{max} [1]	1.0 x	3.6 x	4.3 x	12.0 x	17.5 x
AUC_{24h} [1]	1.0 x	4.0 x	4.9 x	13.6 x	19.8 x

[1] C_{max} and AUC_{24h} values normalized to Cohort 1

IDE397 PK Profile

- Flat temporal PK profiles, with low C_{max}/C_{min} ratio
- Dose-proportional increase in exposures (AUC and C_{max}) Cohort 1 to 5
- Achieved target efficacious exposure range of *in vivo* preclinical models
- PK properties support acceptable dosing regimen

Cohort 5 cleared without observing MTD

Currently enrolling Cohort 6; first patient cleared without DLT

IDEAYA Data

Based on preclinical PK/PD analysis

IDE397 Adverse Events Summary

No Drug-Related Serious Adverse Events (SAEs) & MTD Not Yet Observed

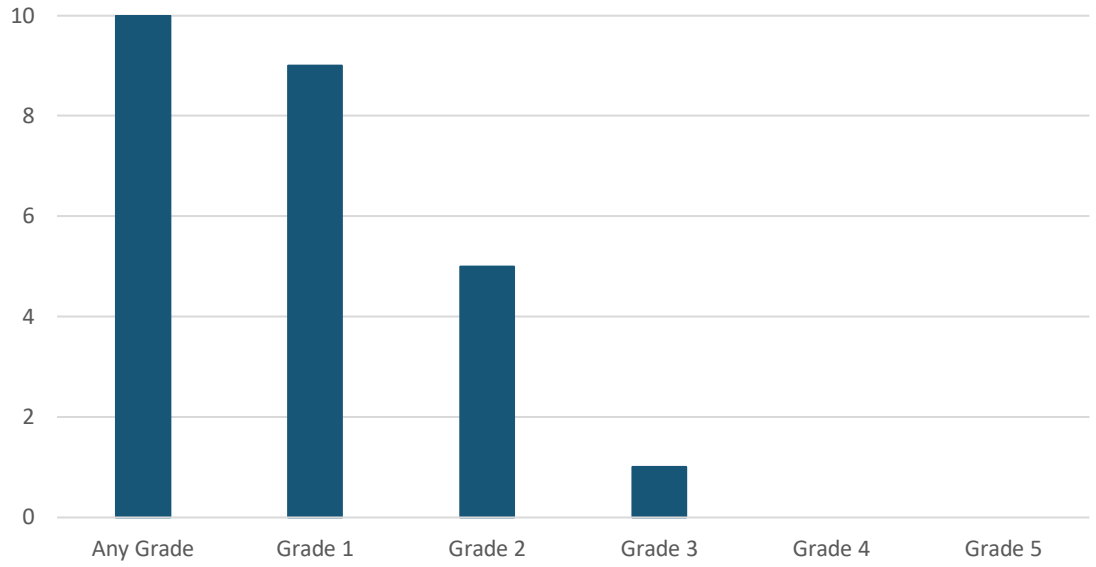
No Dose Limiting Toxicities Observed

Safety Summary	n=14 (%)
All Cause Adverse Events (AEs)	
AEs	14 (100%)
Grade 3/4 AEs	7 (50%) / 1 (7%)
SAEs	5 (43%)
AEs leading to interruption	5 (36%)
Drug-Related AEs	
AEs	10 (71%)
Grade 3/4 AEs	1 (7%)* / 0 (0%)
SAEs	0 (0%)
AEs leading to interruption	1 (7%)*

* Grade 3 weakness/asthenia

Drug-Related Adverse Events

Number of Patients with Drug-Related AE's by Grade (n=14 total)



Drug-related AEs occurring in >10% of patients include low grade nausea, decreased appetite, diarrhea, dehydration and thrombocytopenia

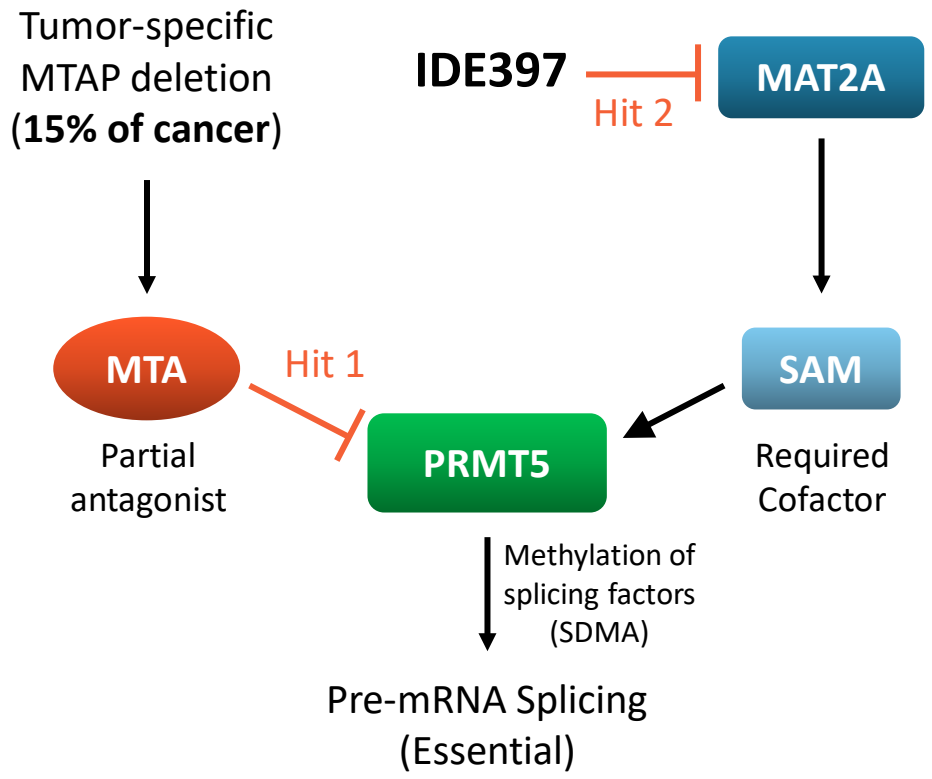
No drug related Grade 4 or 5 AE's; Cohort 5 cleared without observing MTD
Currently enrolling Cohort 6; first patient cleared DLT window

IDEAYA Data as of March 4, 2022 (based on preliminary analysis of unlocked database from Cohorts 1 though 5)

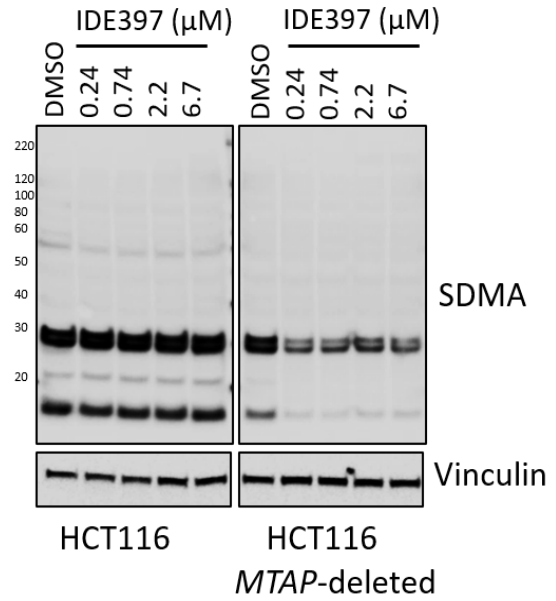
IDE397 Pharmacodynamic Biomarker Data

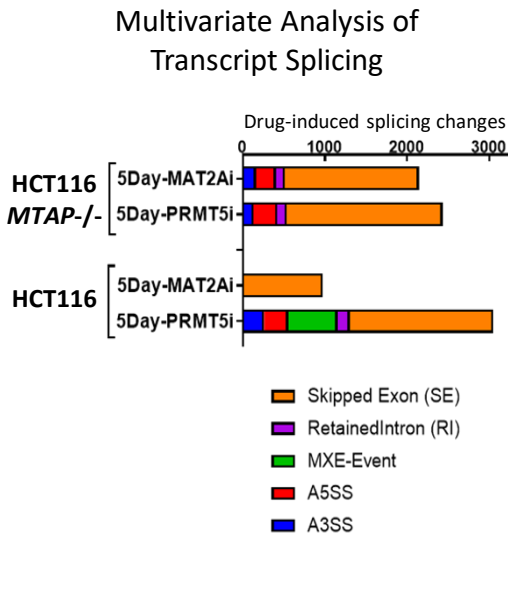
Mechanism of Action and Key Pharmacodynamic Markers

MAT2A Inhibition is Synthetic Lethal with MTAP Loss



IDE397 Selectively Inhibits SDMA and pre-mRNA Splicing





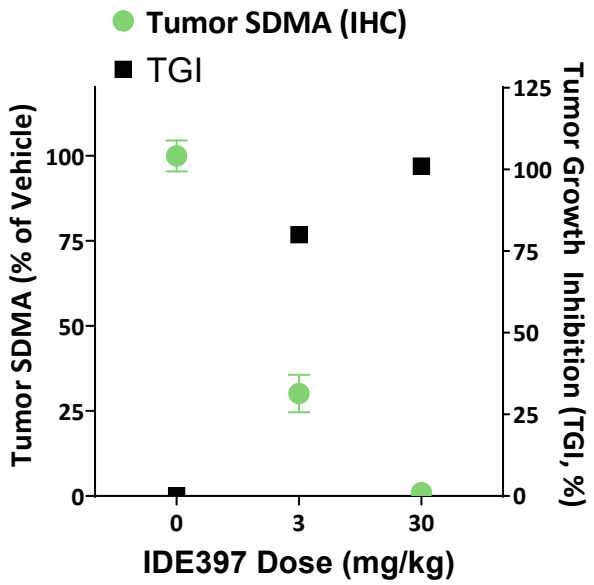
IDE397 Preclinical Pharmacodynamic Data

Complete Suppression (95-100%) of Tumor SDMA in Multiple MTAP-Deleted PDX Models

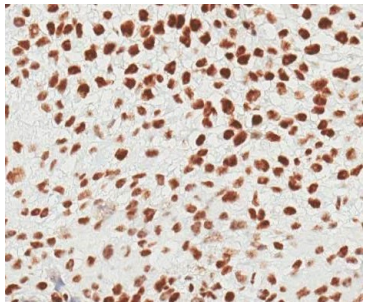
Tumor SDMA and Tumor Growth Inhibition in NSCLC CDX Model

SDMA modulation corresponds to TGI

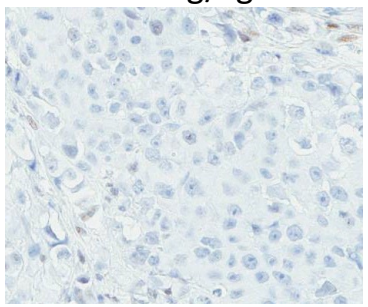
NCI-H838 MTAP-/- CDX Model



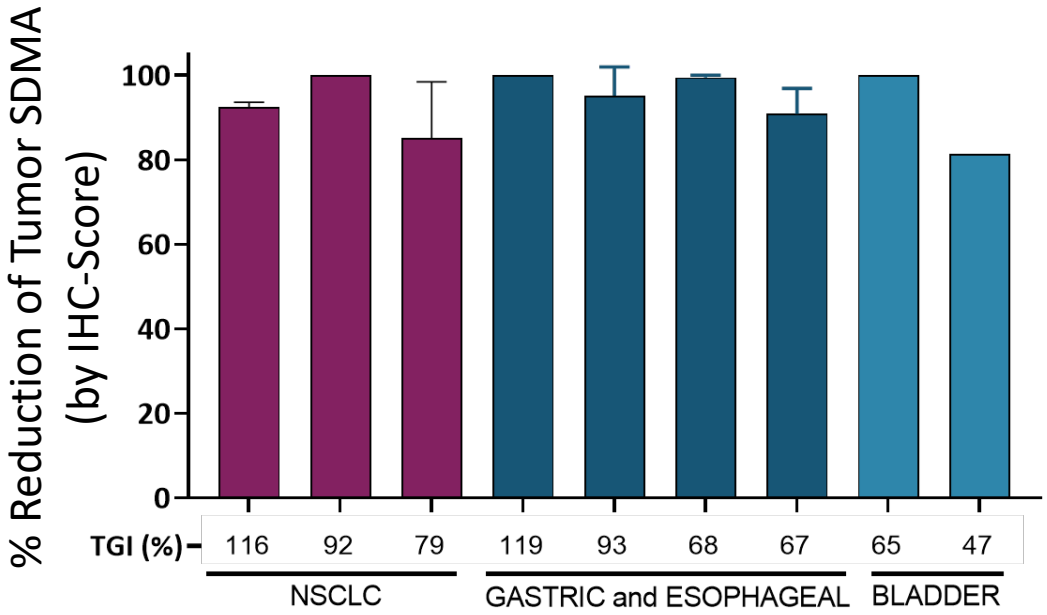
Vehicle



30 mg/kg



Deep SDMA Inhibition Observed Across Many PDX Models



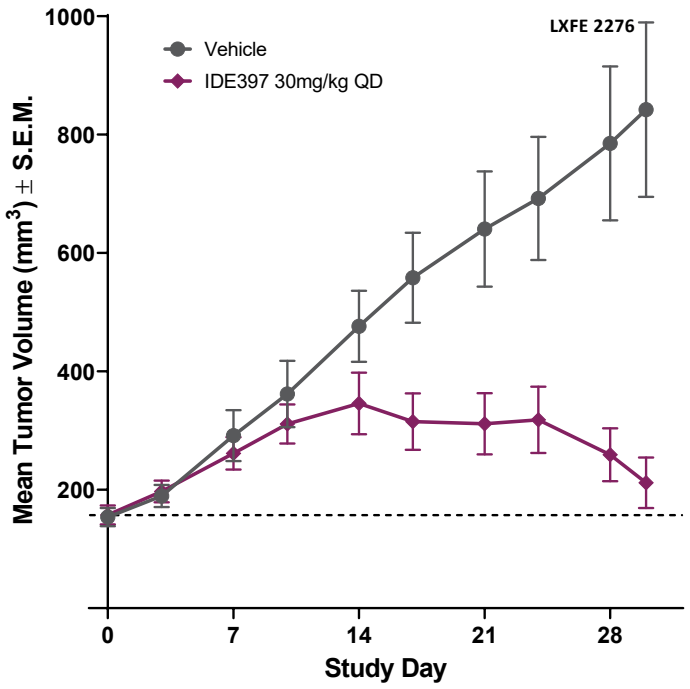
9 of 12 MTAP-/- models evaluated have 80-100% reduction of tumor SDMA as compared to time-matched vehicle control group (PDX *in vivo* models dosed at 30 mg/kg)

IDE397 Preclinical Efficacy and Pharmacodynamic Data

Observed 100% Tumor SDMA Reduction at 30 mg/kg QD Dose in NSCLC MTAP PDX Model

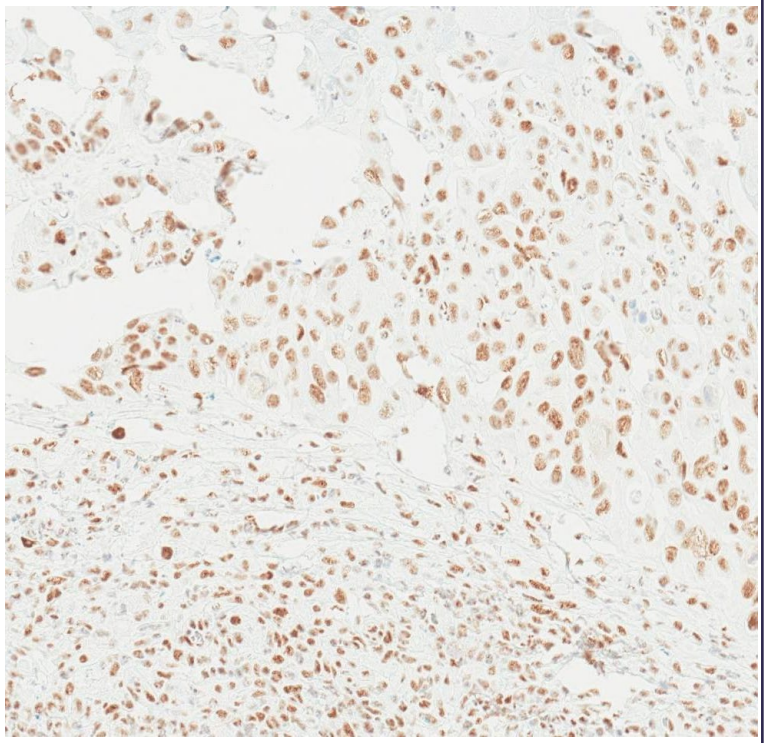
NSCLC SCC PDX Model (LXFE 2276)

92% TGI



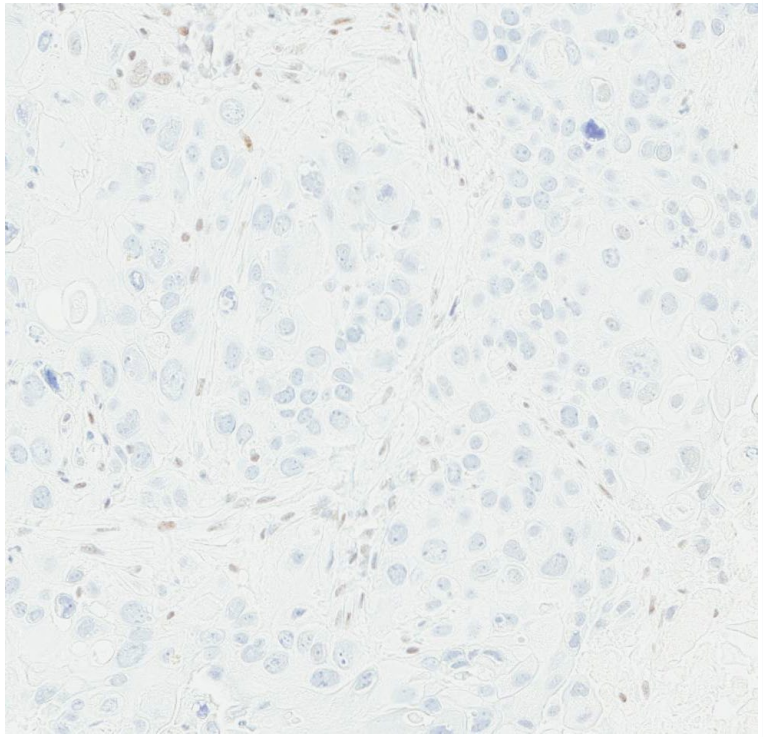
Vehicle, SDMA IHC 20x

H-score 85



IDE397 30 mg/kg QD, SDMA IHC 20x

H-score 0

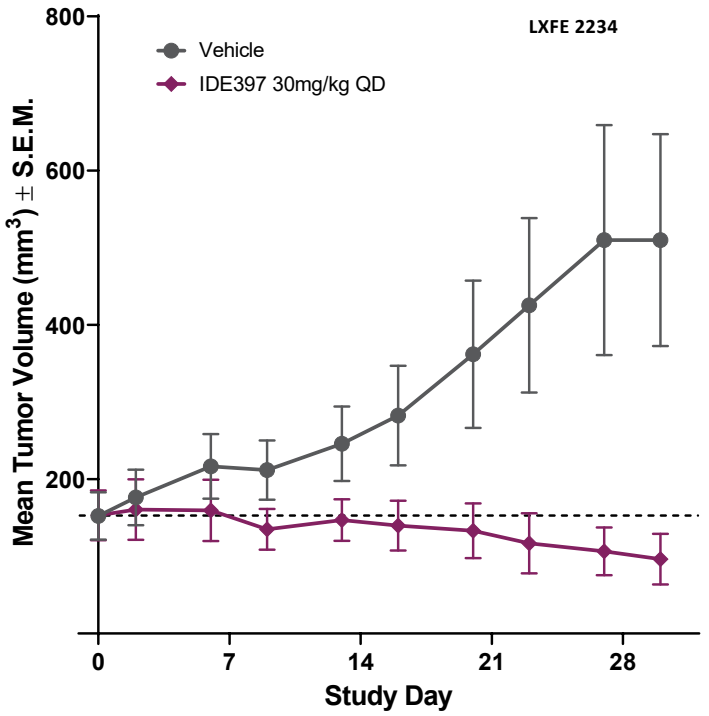


IDE397 Preclinical Efficacy and Pharmacodynamic Data

Observed 95% Tumor SDMA Reduction at 30 mg/kg QD Dose in NSCLC MTAP PDX Model

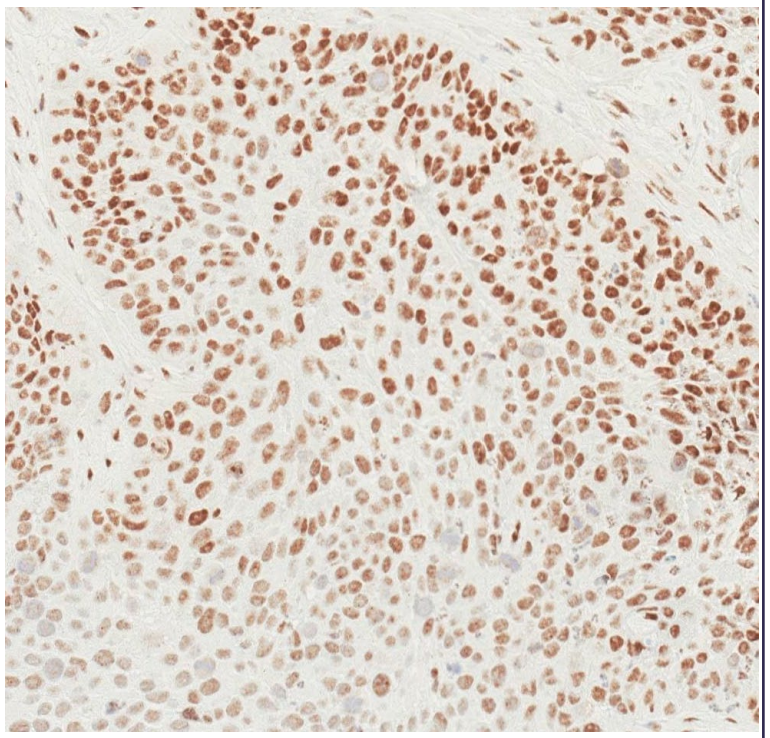
NSCLC SCC PDX Model (LXFE 2234)

116% TGI



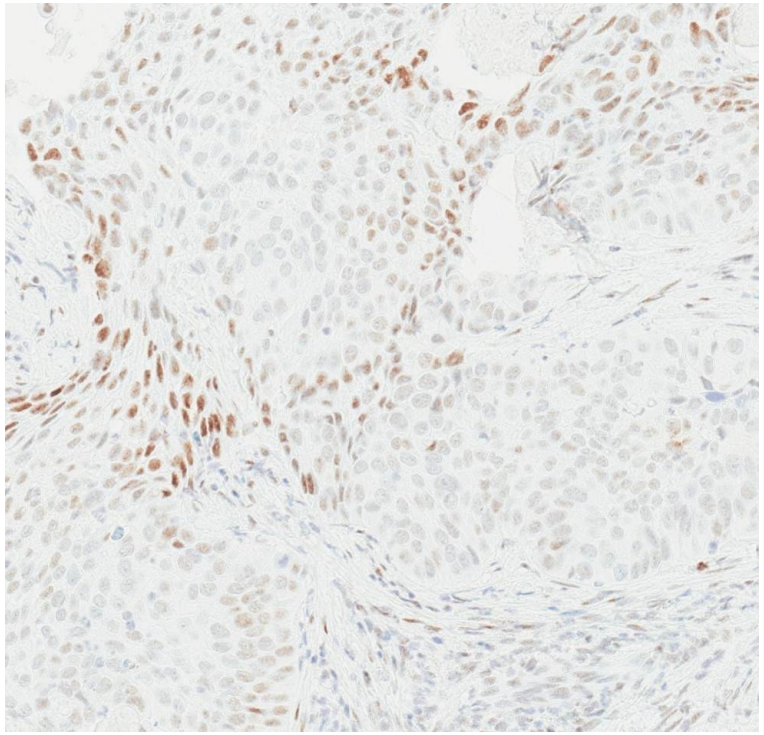
Vehicle, SDMA IHC 20x

H-score 250



IDE397 30 mg/kg QD, SDMA IHC 20x

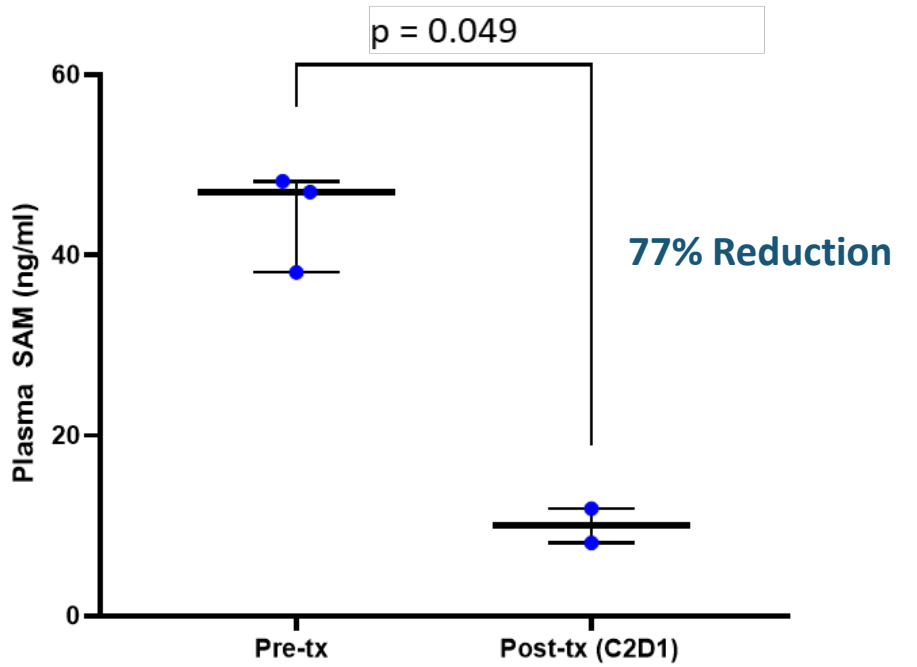
H-score 16



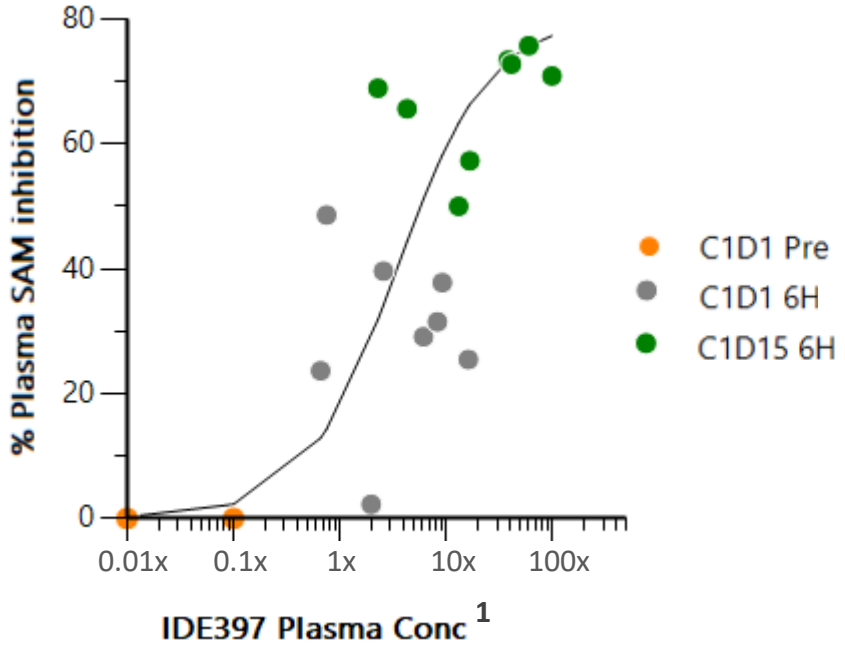
IDE397 Clinical Phase 1 Interim Plasma Pharmacodynamic Data

Robust Plasma SAM Reduction (Targeting >60%) Observed Across All Cohorts

Cohort 5 Plasma SAM Reduction Over Cycle 1



Increase in Plasma SAM Inhibition at Higher Exposures



[1] x-axis concentration scale discloses relative values as indicated

C1D1 Pre: cycle 1 day 1 pre-dose
C1D1 6H: cycle 1 day 1 6hr post dose
C1D15 6H: cycle 1 day 15 6hr post dose

IDE397 Clinical Phase 1 Interim Tumor Pharmacodynamic Data

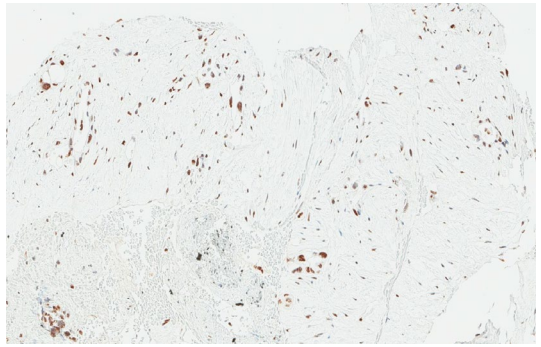
Exposure-Dependent Tumor SDMA Reduction Observed in Target Tumor Types

Cohort 3: Pancreatic Cancer

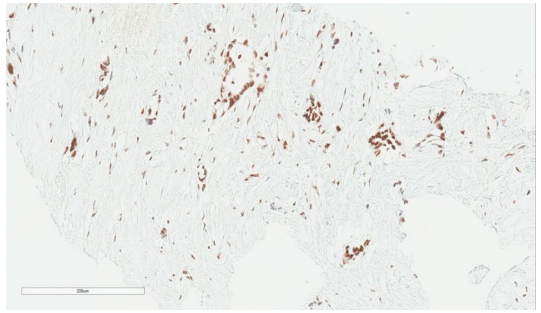
<5% Reduction of Tumor SDMA

Tumor SDMA IHC, 20X

Predose



On Treatment



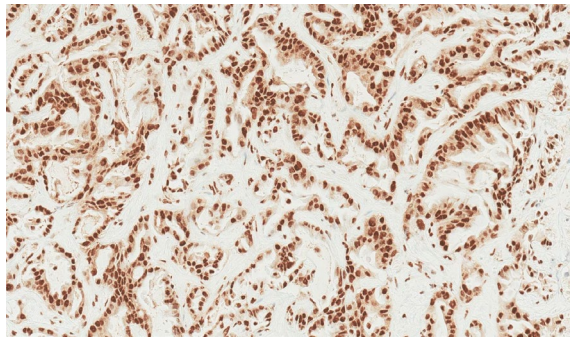
AUC_{ss}[1] = 1.0 x

Cohort 4: Pancreatic Cancer

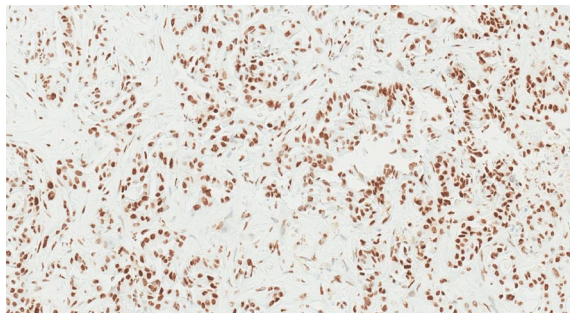
100% Reduction of Cytoplasmic Tumor SDMA
12% Reduction of Nuclear Tumor SDMA

Tumor SDMA IHC, 20X

Predose



On Treatment



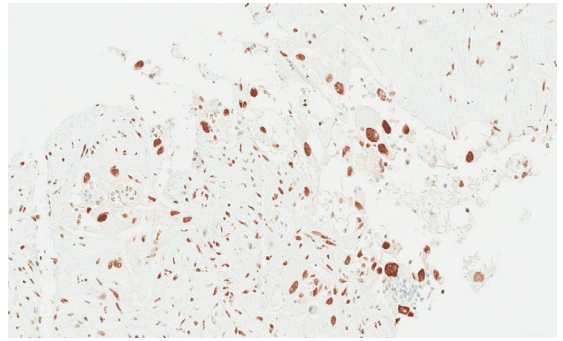
AUC_{ss}[1] = 2.4 x

Cohort 5: NSCLC

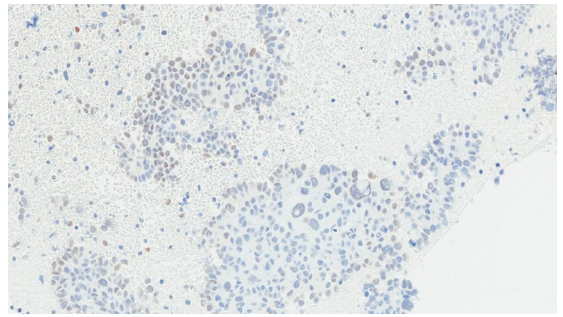
95% Reduction of Tumor SDMA

Tumor SDMA IHC, 20X

Predose



On Treatment



AUC_{ss}[1] = 5.9 x

IDEAYA Data: % Reduction of Tumor SDMA measured by IHC H-Score

[1] AUC_{SS} values normalized to Cohort 3 value

IDE397 Clinical Phase 1 Interim Tumor Pharmacodynamic Data

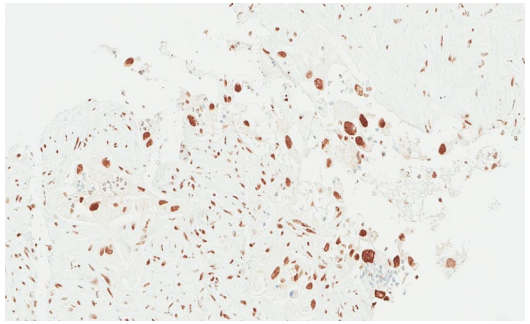
95% Reduction in Tumor SDMA

Tumor SDMA in Cohort 5 NSCLC Patient

95% Reduction of Tumor SDMA

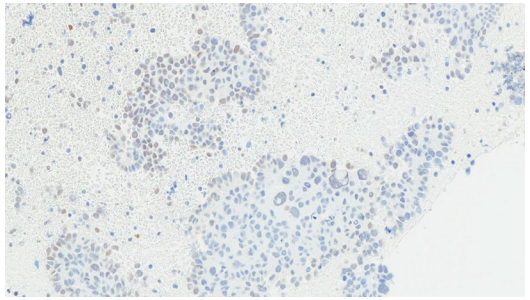
Tumor SDMA IHC, 20X

Predose



H-score: 280

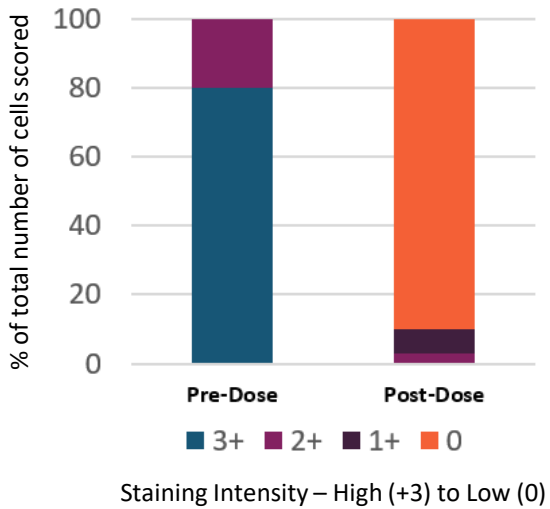
On Treatment



H-score: 13

Cohort 5 NSCLC Patient

IHC Scores



Staining Intensity – High (+3) to Low (0)

Observed AUC_{ss} value in Cohort 5 NSCLC patient within predicted target efficacious exposure range#

Plasma SAM Reduction of 79%

Tumor SDMA Reduction of 95%

Based on preclinical PK/PD analysis

IDEAYA Data: % Reduction of Tumor SDMA measured by IHC H-Score

IDE397 Preclinical and Clinical Pharmacodynamic Data Summary

Robust Plasma SAM and Exposure-Dependent Tumor SDMA Biomarkers

Preclinical & Interim Phase 1 Clinical Data

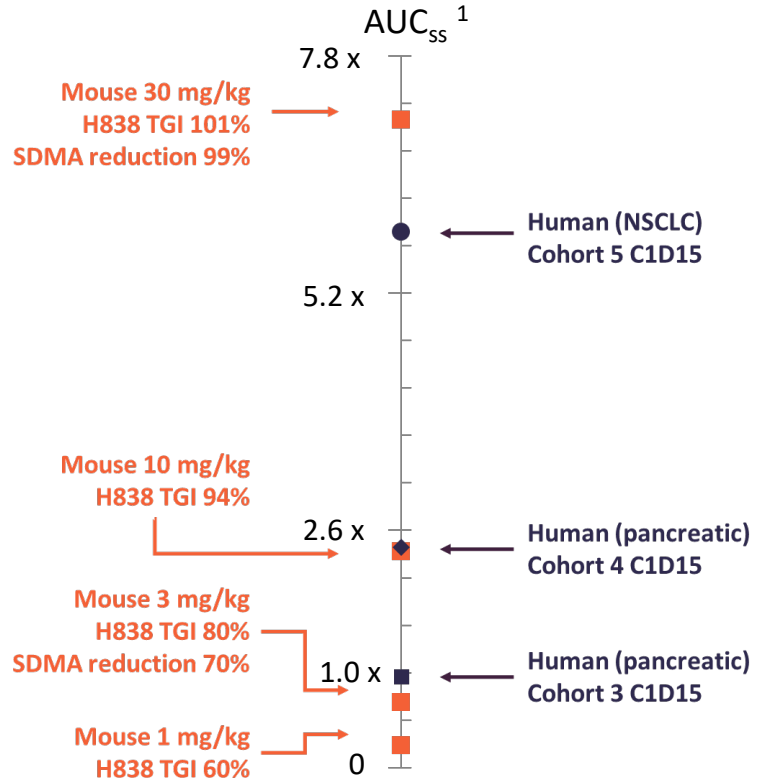
Preclinical

- IDE397 at 30mg/kg demonstrates regressions with observed ~80-100% tumor SDMA reduction in multiple MTAP-deleted *in vivo* PDX models

Interim Phase 1 Clinical Data

- IDE397 achieves targeted plasma SAM reduction of >60% across all Phase 1 doses of Cohort 1 through Cohort 5
- IDE397 demonstrates exposure-dependent tumor pharmacodynamic data in target tumor types, including ~95% reduction of tumor SDMA in Cohort 5

PK/PD AUC Comparing Preclinical to Clinical Experience



[1] AUC_{SS} values normalized to Cohort 3 value

IDE397 Next Steps and Phase 1 Program Summary

Key Upcoming Milestones

- Targeting to deliver GSK Option Data Package Mid-Year 2022
  - Potential $50 million Option Exercise Fee
- Targeting to initiate IDE397 Monotherapy Expansion and Combination Escalation Cohorts Mid-Year 2022
  - Mono Expansion Cohorts to include NSCLC and Combinations with Taxanes and other Standard of Care Combination Agents

IDE397 Phase 1 Interim Clinical Data Summary

- Favorable PK profile supports acceptable dosing regimen
- No drug-related SAEs observed through Cohort 5 and MTD not yet observed
- Robust plasma SAM and exposure dependent tumor pharmacodynamics observed in target tumor types
- Cohort 6 enrollment ongoing; first patient cleared without DLT
- Favorable Preliminary Risk / Benefit Profile vs. Historical
  - IDE397:
    - Observed preliminary signals of clinical activity, including robust pharmacodynamic modulation and tumor shrinkage
    - Dose-proportional exposure across all Cohorts 1 through 5 with favorable drug exposure relative to AE profile
    - MTD not yet observed with no drug-related SAEs through Cohort 5
  - GSK PRMT5: 26% SAEs (53% Grade 3/4) at 400mg QD Expansion Dose (n=19)*
  - AG-270: 18% Grade 3 or higher AE at 200mg QD Expansion Dose (n=11), and 67% Grader 3 or higher AE at 200mg BID (n=6)**

* ESMO 2019; ** AACR-NCI-EROTC Triple Meeting, 2019, DCR = Disease Control Rate

Corporate Update

Darovasertib Phase 2 Clinical and Preclinical PARG, Pol Theta and WRN Programs Maturing

Darovasertib (PKC) GNAQ/11, cMET Tumors

Daro + Crizotinib (cMETi) – Ph2 in MUM

- Metastatic Uveal Melanoma
- GNAQ/11 Skin Melanoma

Daro Monotherapy – Ph 1 (IST)

- Primary Adjuvant UM

Expansion Opportunities – Preclinical

- Daro + KRASi in KRAS Tumors
- Daro + Crizo in cMET Tumors

Key Updates

- Daro + Crizo clinical data presented December 2021 showed robust clinical activity with manageable side effect profile in MUM, including 100% DCR (n=16)
- Expanded relationship with Pfizer under clinical collaboration and supply agreements in support of potential registrational trial in MUM, subject to FDA feedback, and of evaluation in cMET driven tumors
- Targeting FDA guidance and clinical data update in MUM mid-2022, including tolerability, clinical efficacy

IDE161 (PARG) HRD / BRCA

IDE161 – Development Candidate

Key Updates

- Observed *in vivo* efficacy with enhanced TGI or tumor regressions in niraparib-resistant models
- Exercised option for an exclusive worldwide license from CRUK and University of Manchester
- Targeting IND submission Q4 2022

Pol Theta HRD / BRCA

Pol Theta Inhibitor – Candidate Selection

Key Updates

- Demonstrated in vivo efficacy in BRCA2 xenograft model in combination with niraparib, a PARPi
- IND enabling studies H1 2022
- Potential for up to $20 million aggregate milestone payments from GSK for preclinical to early Phase 1

Werner Helicase MSI-High

WRN Helicase Inhibitor – Lead Series

Key Updates

- Targeting Development Candidate 2023
- Potential for up to $20 million in aggregate milestone payments from GSK for preclinical to early Phase 1

Financial Results

Fourth Quarter and Full Year 2021

Key Updates

- Strong Balance Sheet with ~$368 M in Cash [1, 2]
- Anticipated to fund planned operations into 2025
- Operating Expenses ~$21 M Q4 and ~$78 M Full Year

(1) IDEAYA Earnings Release issued March 15, 2022
(2) Includes cash, cash equivalents and marketable securities as of December 31, 2022