

INVENTING NEW MEDICINES

WITH TARGETED PROTEIN DEGRADATION

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KYMER A

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Targeted Protein Degradation

What if you could remove disease causing proteins...
...with a small molecule-based technology?



Kymera: A Leading Targeted Protein Degradation Company

Founded: **2016**

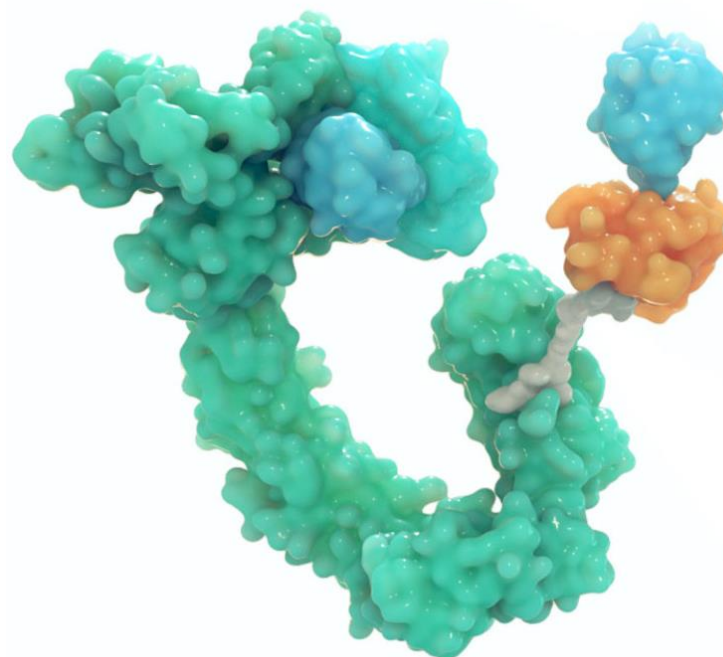
NASDAQ: **KYMR**

Employees: **~75**

Cash balance at Q4'20*: **~\$458M**

Cash runway*: **2025**

KYMER A



- Premier protein degrader discovery platform

- Key partnerships:



- Initial focus in immune-inflammation and oncology
- Expect **3 INDs** and clinical initiations by end of **2021**
- Dosing HV, I/I and cancer patients with first proof-of-biology in humans in **2021**

What We Are Building

Vision

A fully integrated **degrader medicines company** that discovers, develops, and commercializes transformative medicines while leading the evolution of targeted protein degradation (TPD)



Opportunity

- Potential to **expand the druggable proteome** dramatically

Platform

- Advancing **TPD beyond current opportunities**

Strategy

- Focusing on undrugged targets and clinical indications with **high unmet medical need and franchise potential**

Team

- Driven by a **culture of scientific innovation**

Kymera's Pipeline of Novel Protein Degraders

Pathway	Program	Indication(s)	Discovery	Preclinical	Phase 1	Phases 2/3	Next Milestone	Rights*
IL-1R/TLR	IRAK4	Hidradenitis Suppurativa, Atopic Dermatitis, Rheumatoid Arthritis, others	KT-474				Ph1: 1Q '21	
	Next Gen.							
	IRAKiMiD (IRAK4, Ikaros, Aiolos)	MYD88 ^{MT} DLBCL	KT-413				Ph1: 2H '21	
JAK/STAT	STAT3	Liquid & Solid Tumors					Ph1: 2H '21	
	STAT3	Autoimmune & Fibrotic Diseases						
Discovery Pipeline	Several Discovery Programs			Multiple programs in immune-inflammatory and genetically-defined oncology indications				
	1 Undisclosed Program			Research and development of degraders against a second undisclosed target with Sanofi				
	6 Undisclosed Programs			6 targets in 5 disease areas outside of immunology-inflammation and oncology				

● = Oncology ● = Immunology-Inflammation

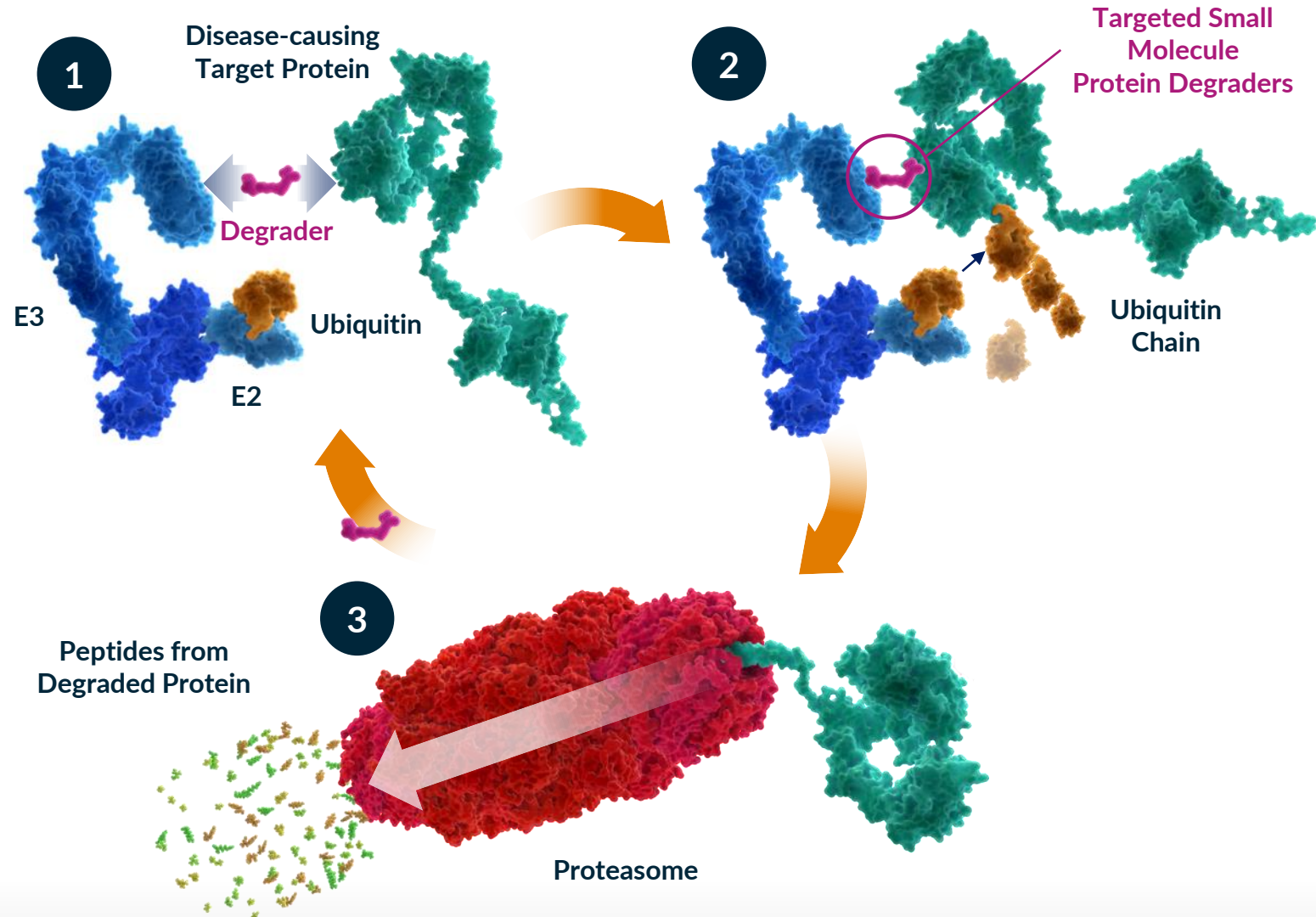
Pegasus™ Platform and R&D Approach

Targeted Protein Degradation

Biology

Co-opting a Naturally Occurring Process to Regulate Protein Levels

- 1 E3 ligase recognizes protein
- 2 Ubiquitin chain transferred
- 3 Protein is marked for elimination



KYMER A



Broad Opportunity
Only Binding Site Required

Efficient
Catalytic

Prolonged Impact
Targeted Protein Degradation

Targeted Protein Degradation

Next Potential Breakthrough Modality to Expand Drugged Proteome

Targeted Protein Degradation

Human Proteome

Existing Modalities



✓
✓
✓
✓

Undruggable Targets
Scaffold, transcript factor, multiple functions

Efficient
Development / Manufacturing

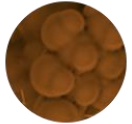
Systemic
Exposure

Oral
Bioavailability

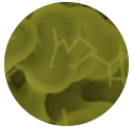
✓
X
X
X

Proprietary Pegasus™ TPD Platform

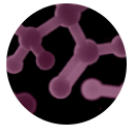
Key capabilities



E3 Ligase
Whole-
Body Atlas



E3 Ligase
Binders
Toolbox



Ternary
Complex
Modeling



Quantitative
System
Pharmacology
Model



Proprietary
Chemistry

- Identification of the **expression profiles of approximately 600 unique E3 ligases**
- Match target protein with the appropriate E3 ligase based on expression, distribution, intracellular localization, and biology
- **Toolbox of proprietary ligands** leverages the E3 Ligase Whole-Body Atlas
- Ternary complex modeling tool **optimizes the development** of highly efficient and selective degrader therapeutics
- Model **measures and predicts the diverse sets of parameters** that impact protein levels
- Based on understanding of PK/PD, both *in vitro* and *in vivo*, and across different tissues and cell types
- Proprietary chemistry expertise enables the design and optimization of both E3 ligases and target protein binders
- Ability to convert them into degraders with optimal pharmaceutical properties tailored to specific patient populations and diseases

Leading the Evolution of Targeted Protein Degradation

What if you could remove disease causing proteins...

...only where it matters?

Pegasus: E3 Ligase Whole-Body Atlas

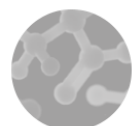
Different expression profiles of E3's provide opportunity for tissue selective/restrictive degradation



E3 Ligase
Whole-
Body Atlas



E3 Ligase
Binders
Toolbox



Ternary
Complex
Modeling

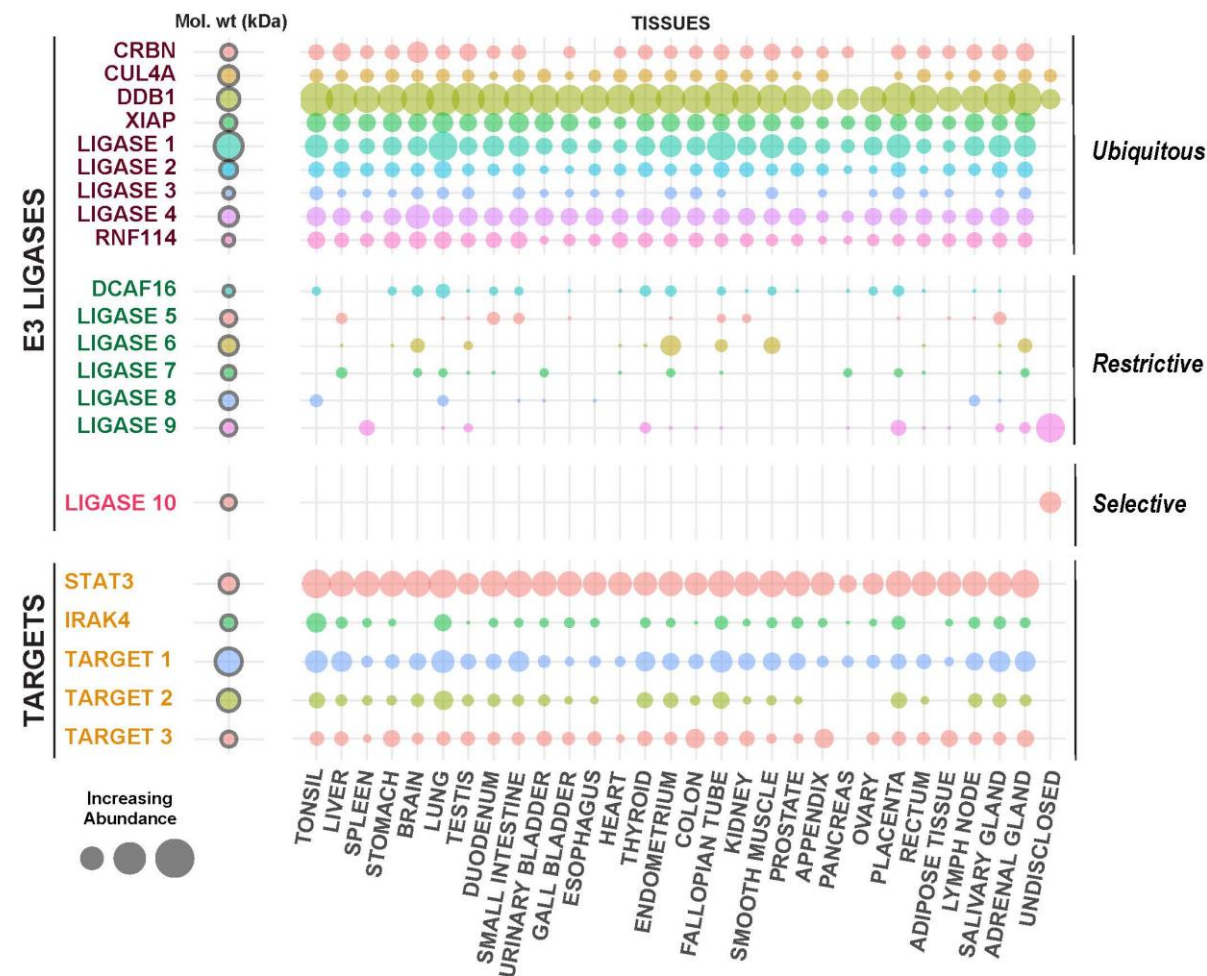


Quantitative
System
Pharmacology
Model



Proprietary
Chemistry

- Focused on determining the expression profiles of ~600 unique E3 ligases
- Patterns mapped in both disease and healthy contexts
- Ability to match a target protein with appropriate E3 ligase based on expression and biology
- Vision to develop tissue-selective or tissue-restrictive degraders to enable novel therapeutic opportunities



Kymera Drug Development Principles

Initial focus on pathways that have been clinically and commercially validated with undrugged nodes



Unmet
Medical
Need



Validated
Biology

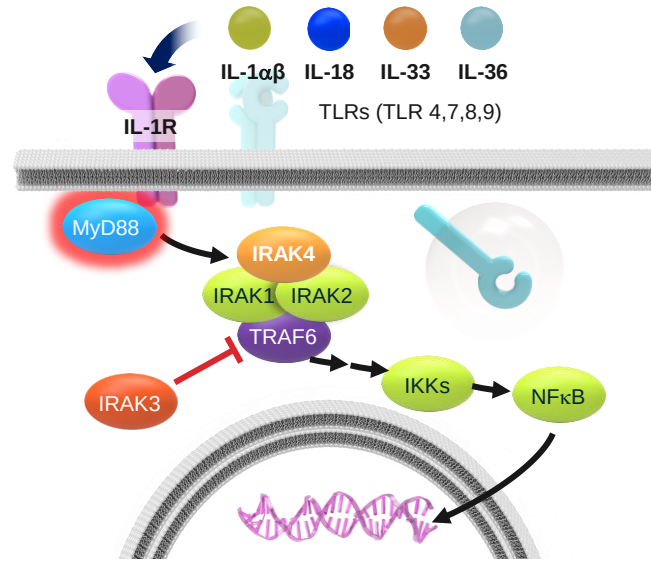


Undrugged
Node

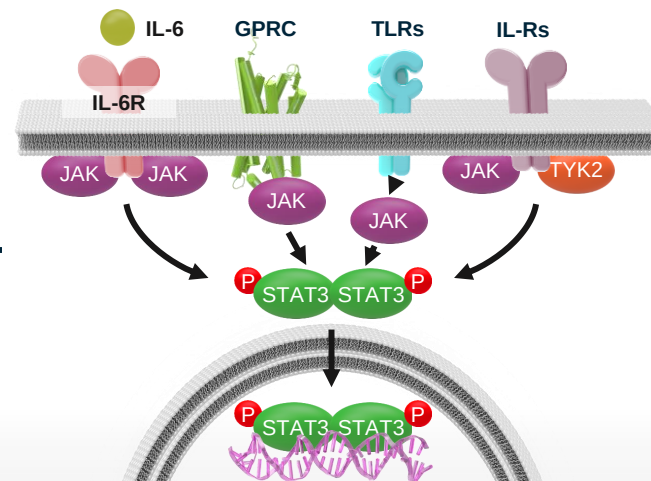


Precision
Medicine
Approach

IL-1R/TLR Pathway



JAK-STAT Pathway



Clinical Pathway Validation

IL1-Rα/IL-1β : Rheumatologic Diseases
IL-18: Macrophage Activation Syndrome
IL-1β: CANTOS Data, Atherosclerosis, Lung Cancer
IL-33: Atopic Dermatitis
IL-36: Generalized Pustular Psoriasis

IL-6R: Rheumatoid Arthritis
IL-6: Multicentric Castleman's Disease
JAK1/2: Myelofibrosis
JAK3: Alopecia Areata
TYK2: Autoimmune Diseases
STAT3 ASO: AZD9150 in Oncology



IRAK4

IRAK4 Biology and Degradation Rationale

- IRAK4 is a key component of the myddosome protein complex
- Myddosome is involved in innate immunity that mediates signals through IL-1R and TLRs
- IL-1R/TLR signaling through the myddosome complex is dependent on IRAK4 kinase and scaffolding functions
- Believe degrading IRAK4 can provide a single oral small molecule solution to many diseases impacted by this pathway
- Sanofi collaboration on development of degraders targeting IRAK4 outside oncology and immuno-oncology

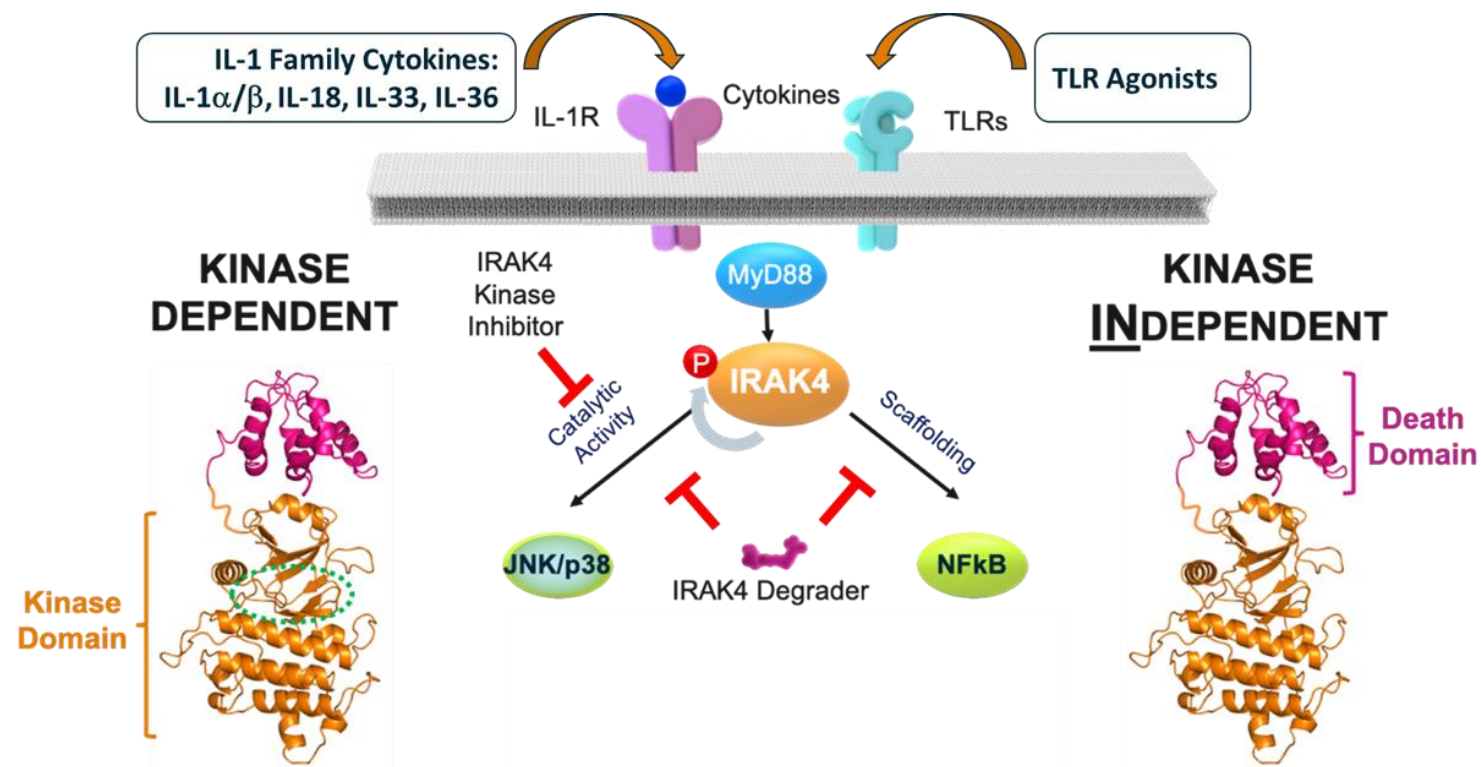
Indications/Expected Timeline

HS, AD, RA

Phase 1 SAD initiation: 1Q 2021

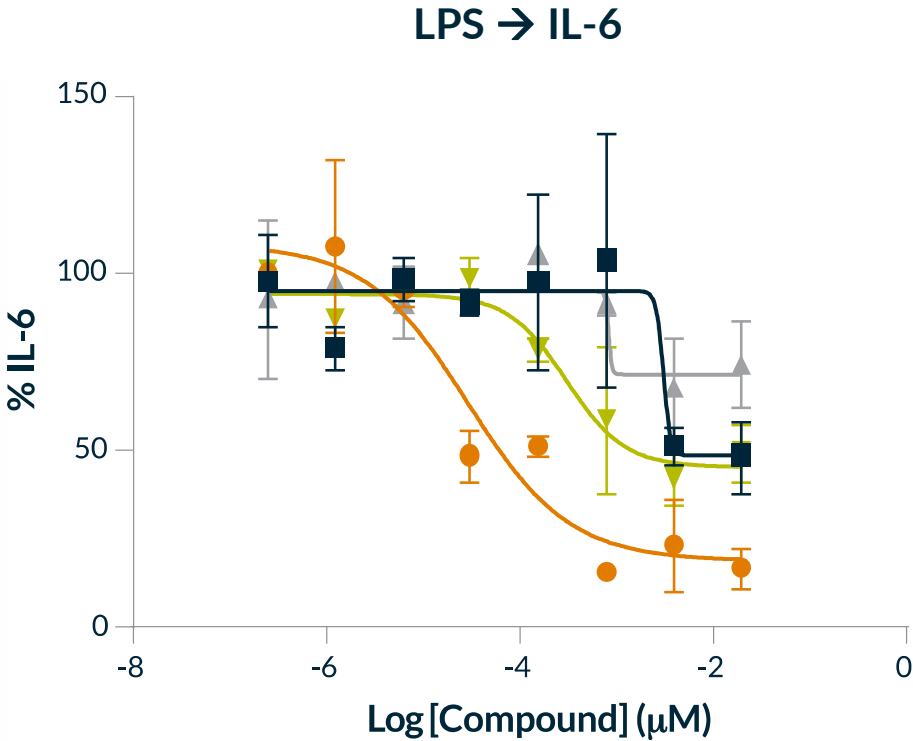
Phase 1 MAD enrollment: 2H 2021*

Phase 1 proof-of-biology in healthy volunteers: 4Q 2021

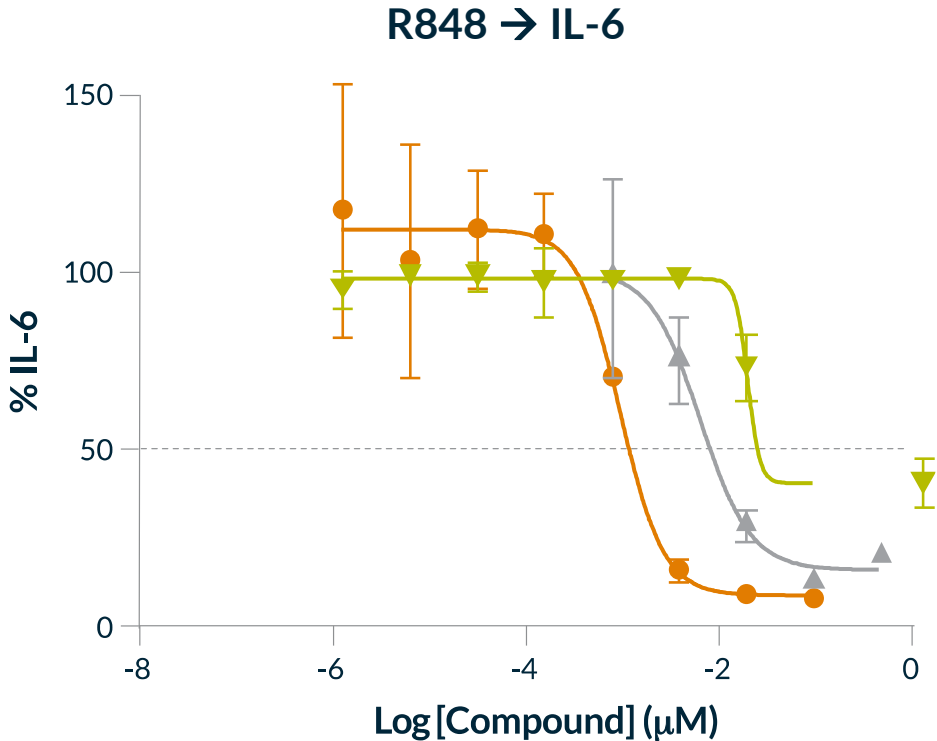


IRAK4 Degradation Superior to Kinase Inhibition in Cytokine Production

- Functional activity of KT-474 assessed by measuring pro-inflammatory cytokine levels upon activation
- Cells pre-treated with KT-474, a negative control, and two small molecule IRAK4 kinase inhibitors
- KT-474 better able to inhibit IL-6 under both LPS and R848 than clinically active IRAK4 SM kinase inhibitor PF-06550833



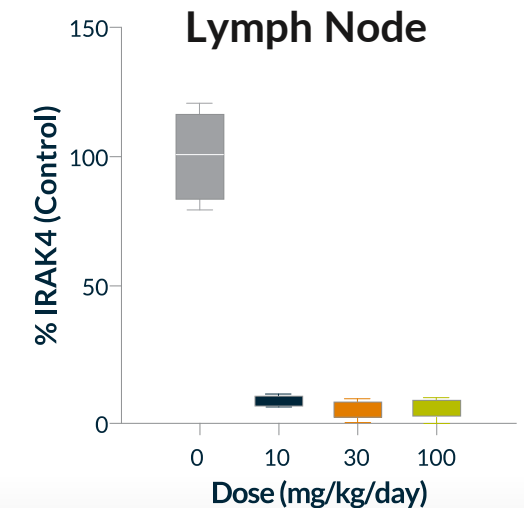
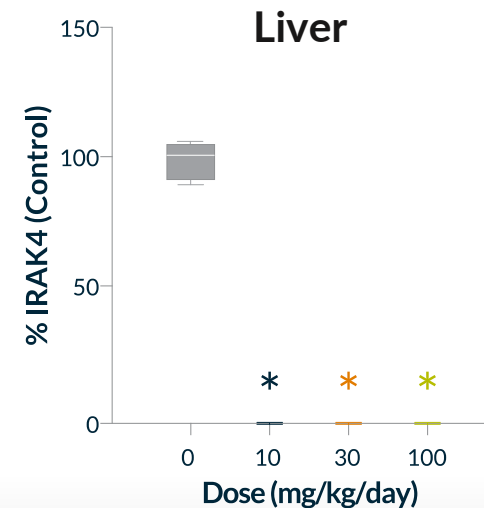
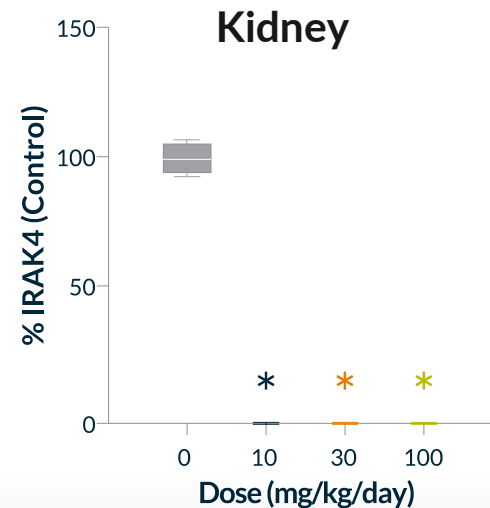
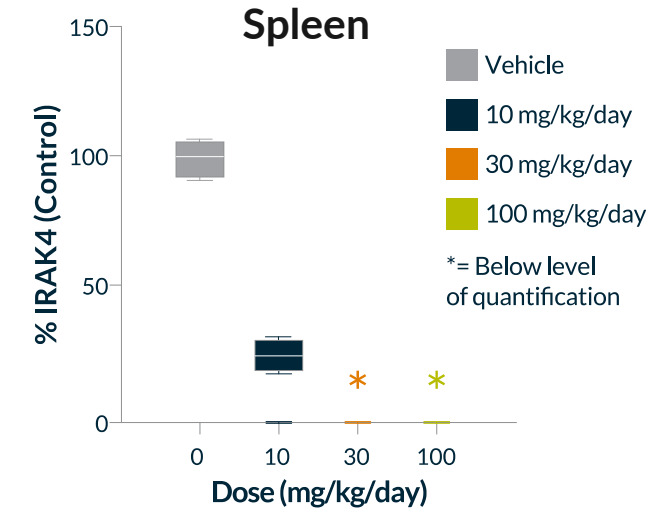
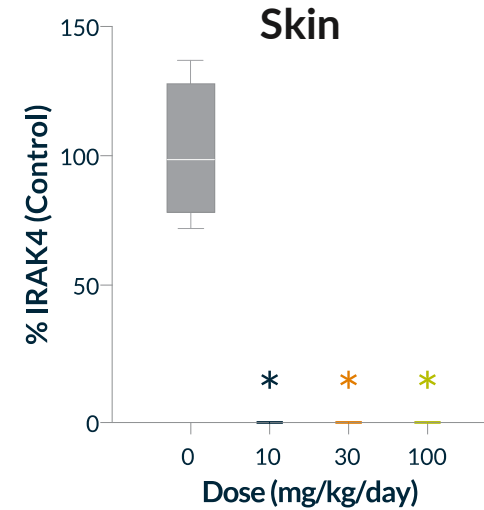
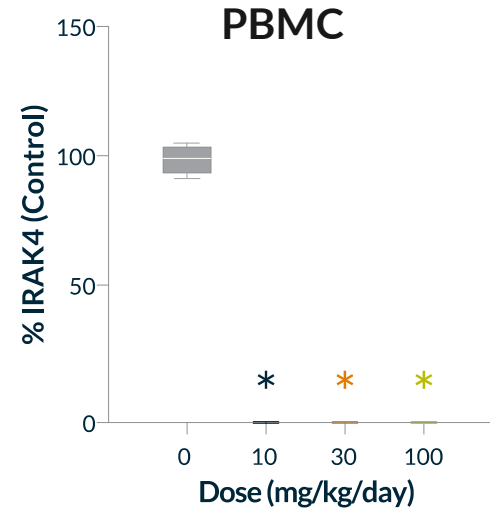
Legend	Compound	IL-6 IC ₅₀ (nM)
	KT-474	3
	Negative control	335
	IRAK4 SMI (PF-06550833)	N/A
	IRAK4 SMI (other)	N/A



Legend	Compound	IL-6 IC ₅₀ (nM)
	KT-474	0.7
	IRAK4 SMI (PF-06550833)	5
	IRAK4 SMI (other)	49

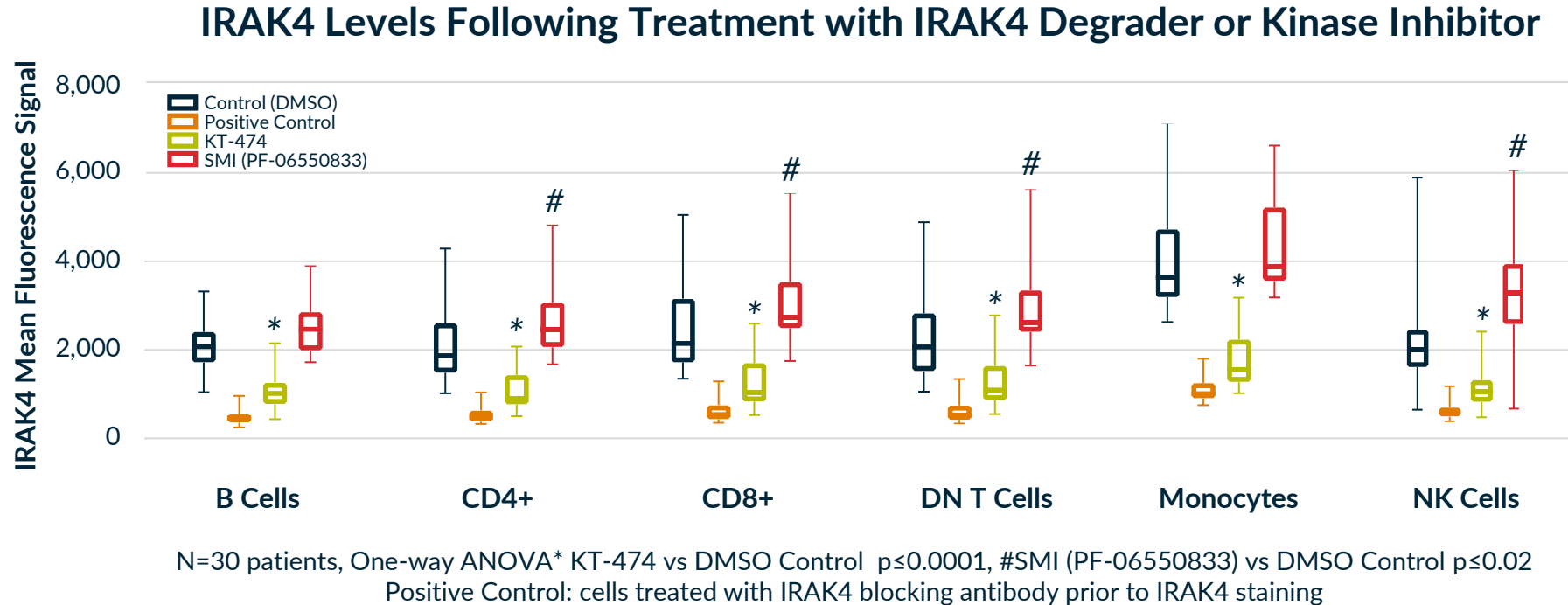
KT-474: Close to Complete IRAK4 Degradation and Well Tolerated in Preclinical Non-rodent Model

- Orally-administered KT-474 evaluated in a 14-day non-GLP tox and PKPD study in rodent and non-rodents (shown).
- Almost complete knockdown demonstrated across multiple tissues at multiple doses
- Compound well-tolerated at all doses up to 600 mg/kg for rodents and 100 mg/kg for non-rodents



Vehicle
10 mg/kg/day
30 mg/kg/day
100 mg/kg/day
* = Below level of quantification

Non-Interventional Study: IRAK4 Degradar Downregulates IRAK4 Expression Across All PBMC Subsets



KEY TAKEAWAYS

- Kymera demonstrated that **IRAK4 levels are higher in lesional and peri-lesional skin compared to non-lesional**
- **Ex vivo incubation of HS blood with KT-474 reduced IRAK4 to a level approaching the lower limits of detection across all PBMC subsets**, irrespective of baseline expression intensity, whereas an IRAK4 kinase inhibitor increased IRAK4 levels in T and NK cells
- Treatment with an IRAK4 kinase inhibitor led to an increase in IRAK4 levels of up to 2.6-fold in T and NK cells

KT-474 Development Plan

Opportunity

Hidradenitis Suppurativa (HS)

- Chronic and debilitating inflammatory skin disease
- Affects ~325K in US, ~25% with moderate-to-severe disease
- Adalimumab (anti-TNF antibody) is approved, which provides some benefit to ~50% of patients with moderate-to-severe disease, substantial unmet need persists

Atopic Dermatitis (AD)

- Chronic, pruritic inflammatory skin disease
- Affects over 11M in US
- Dupilumab (IL-4R α targeting antibody) approved with only 40% of patients meeting primary endpoint in Phase 3 trials

Rheumatoid Arthritis (RA)

- Chronic, systemic autoimmune disease that can cause irreversible joint damage
- Affects over 1.3M in US
- Multiple therapies targeting the IL-1R/TLR pathway are approved

Other

- Additional immune-inflammatory diseases impacted by IL-1R/TLR pathway

Clinical Strategy

Non-Interventional Study

- Ongoing study, initiated June 2020, interim positive results reported October 2020
- Evaluating 40 patients (HS: n=30; AD: n=10)
- Biomarker endpoints in blood and skin: IRAK4, cytokines, acute phase reactants
- Milestone: present final trial results in HS and AD (1H 2021)

Phase 1 SAD/MAD Study

- Randomized, placebo-controlled, dose escalation study (SAD and MAD)
- Primary endpoint is safety
- Key secondary endpoints include PK and PD (proof-of-biology), such as IRAK4 levels in blood and skin, levels of pro-inflammatory cytokines, and *ex-vivo* stimulation of PBMC
- Milestones: Phase 1 SAD initiation (1Q 2021), initiate enrollment of MAD portion, including HS and AD patients (2H 2021), and present healthy volunteer proof-of-biology (4Q 2021)*

Phase 2 Trials

- Randomized, placebo-controlled trials in patients in indications such as HS, AD, RA
- Milestone: establish clinical proof-of-concept (2H 2022/1H 2023)



IRAKIMiD

 KYMERA

IRAKIMiD

A combo in a single molecule

- MYD88 mutation drives differentiation and proliferation in ~25% of diffuse large B cell lymphoma (DLBCL)
- IMiDs downregulate IRF4, increasing IFN signaling and further suppressing NFκB activation and show activity in lymphoma
- Inhibiting both MYD88 and IRF4-dependent NFκB and activating IFN signaling drive cell death in MYD88-mutant lymphomas and leads to full and durable responses *in vivo*
- Combining two therapeutically relevant pathways in a single molecule has the potential to be first single agent targeted therapy agent in lymphoma (MYD-88 mut)

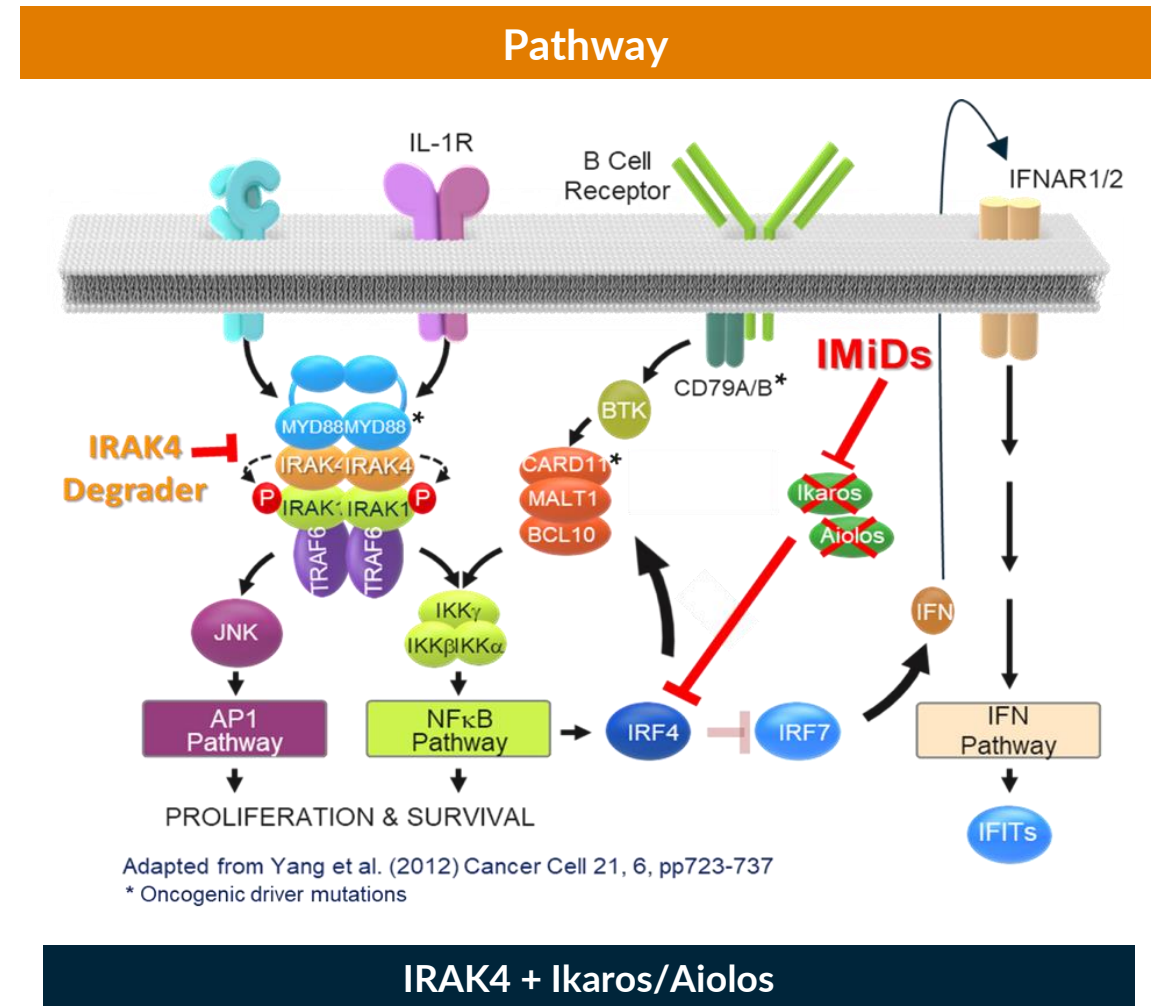
Indications/Expected Timeline

MYD88-mutant DLBCL

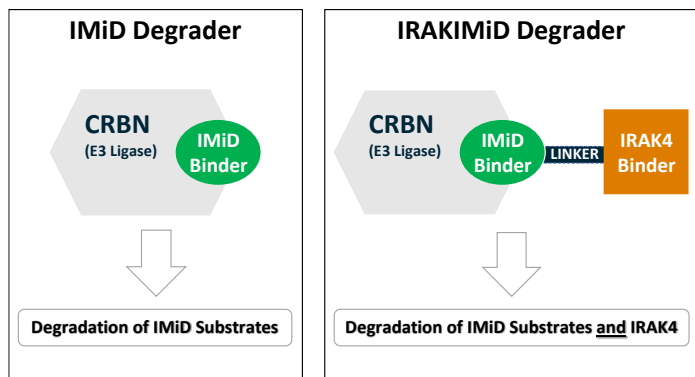
Current: KT-413 in IND-enabling activities

IND/Phase 1 initiation: 2H 2021

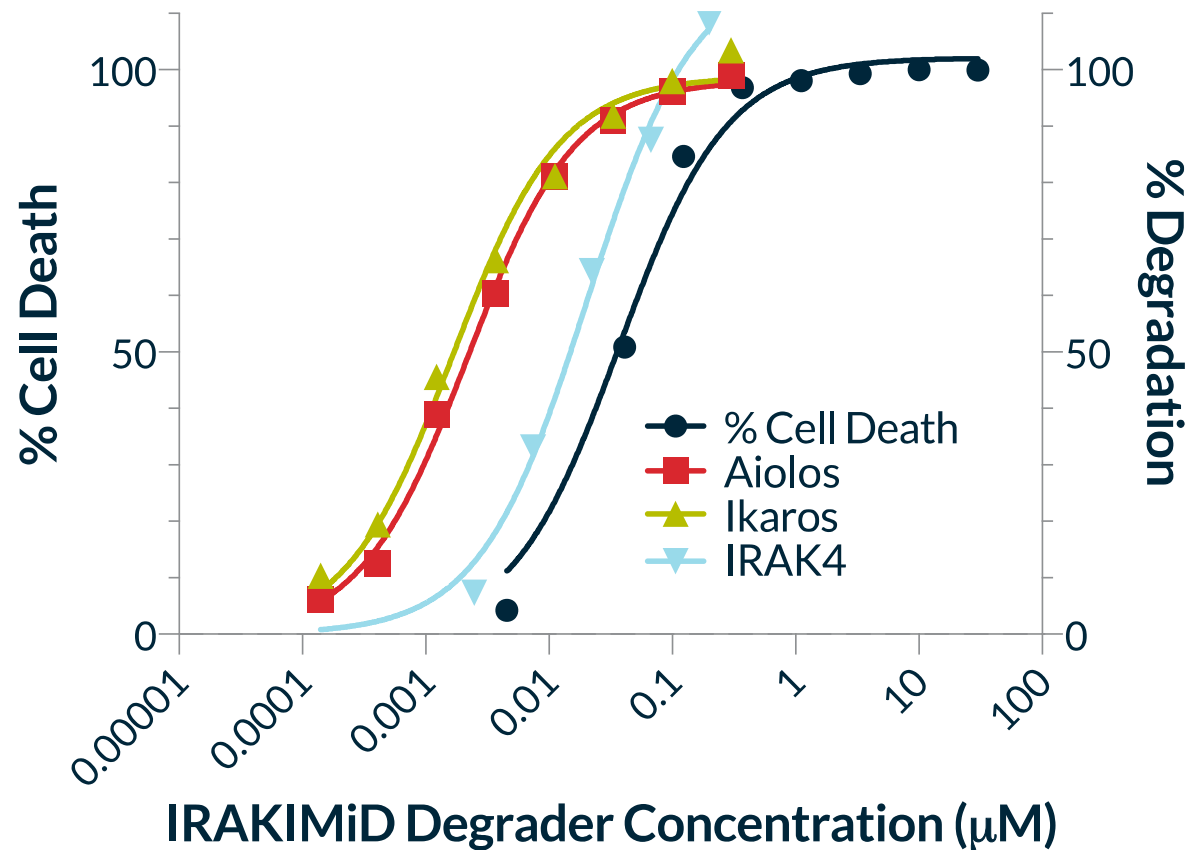
Phase 1 proof-of-biology in patients: 2022



Degradation of IRAK4, Ikaros and Aiolos Correlates to Cell Killing



- IRAK4, Ikaros and Aiolos degradation measured in MYD-88-mutated OCI-Ly10 cells after 24 h of drug exposure
 - $IRAK4\ DC_{50} = 4\text{ nM}$
 - $Ikaros/Aiolos\ DC_{50} = 2/2\text{ nM}$
- Degradation correlates with cell killing effects
 - $IC_{50} = 31\text{ nM}$



KT-413: Selective for MYD88 Tumors Irrespective of Co-mutations

- KT-413 IRAKIMiD DC is a selective and efficient degrader of both IRAK4 and the IMiD substrates
 - *IRAK4* $DC_{50} = 8\text{ nM}$
 - *Ikaros/Aiolos* $DC_{50} = 2\text{ nM}$
- Degradation leads to cell viability effects **preferentially in MYD88-mutant lines irrespective of other mutational status**
- Data support potential for broadly targeting tumors harboring MYD88 mutations

Substrate			DC ₅₀ nM)
IRAK4			8
Ikaros/Aiolos			2/2

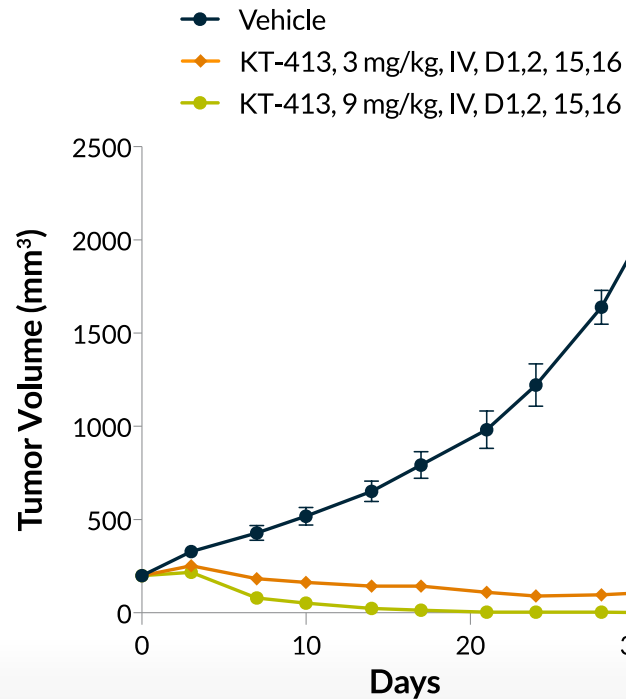
MYD88	Cell Line	Co-mutations	Cell (IC ₅₀ nM)
mut	OCI-LY10 CTG IC ₅₀ (nM)	CD79A	7
mut	SU-DHL2 CTG IC ₅₀ (nM)	TNFAIP3, IRF4, BCL6	14
mut	TMD8 CTG IC ₅₀ (nM)	CD79A, IRF4	29
Wild type	OCI-LY19 CTG IC ₅₀ (nM)	None	3,400
Wild type	U2932 CTG IC ₅₀ (nM)	BCL6	2,600

PK/PD in NHP is Consistent with Exposure and PD Associated with Efficacy

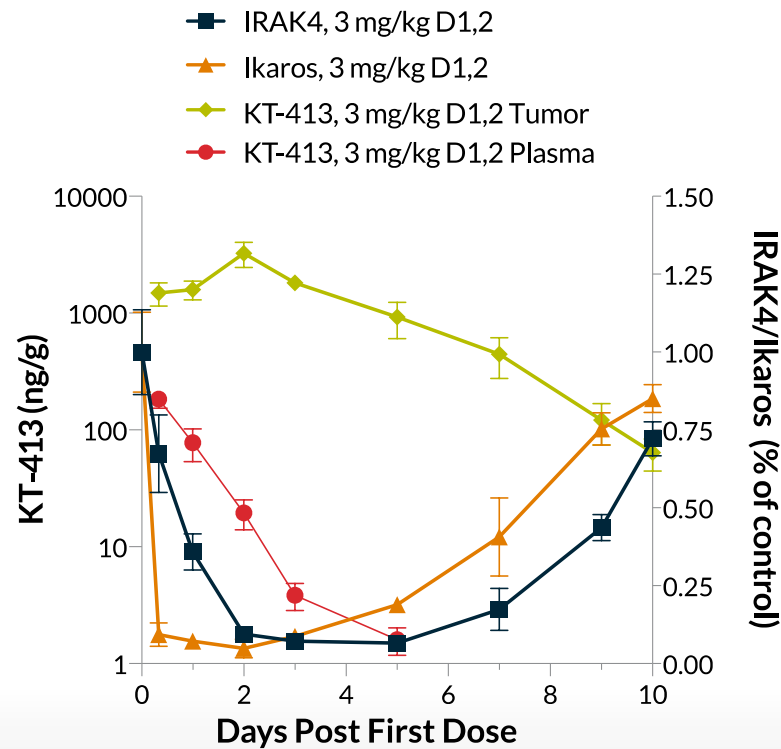
- Efficacy in OCI-Ly10 associated with >75% degradation in IRAK4 and IMiD substrates for >72h on intermittent (Q2W) dosing
- NHP doses on QW and Q2W dosing is associated with almost complete degradation of IRAK4 and IMiD substrates 3 days post dose

Xenograft Efficacy

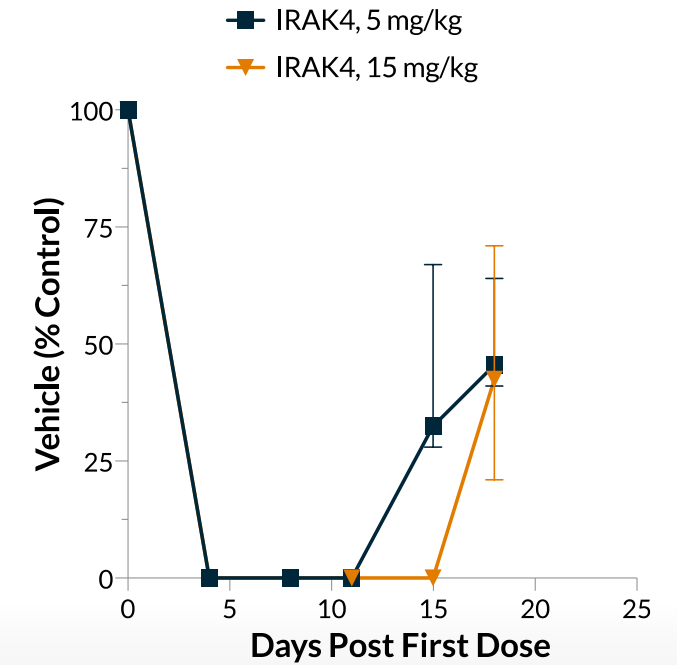
OCI-Ly10



KT-413 IV PK/PD in OCI-Ly10



PBMC PK/PD IRAK4 D1,2,8,9 Schedule



KT-413 Development Plan

Opportunity

MYD88-mutant DLBCL

- DLBCL is the most common subtype of non-Hodgkin's lymphoma, affecting **~30,000 patients in the US each year**
- MYD88 is mutated in at **least 25% of DLBCL patients** (~7,500 each year in US)
- Front-line treatment includes R-CHOP (chemo/rituximab)
- DLBCL 5-year survival rate is ~64%, and MYD88 mutations in DLBCL are often associated with poorer response to chemotherapy and reduced overall survival

Other MYD88-mutant B cell Lymphomas

- MYD88 gene has been implicated as an important oncogenic driver in B cell lymphomas
- For example, **MYD88 is mutated in approximately 90% of Waldenström macroglobulinemia** cases

Other

- Additional IL1R/TLR/NF-κB driven cancers

Clinical Strategy

Phase 1 Trial in B Cell Lymphomas

- Multi-center dose escalation study (US sites)
- Plan to enroll relapsed/refractory B cell lymphomas, including MYD88-mutant DLBCL
- Safety, tolerability, PK and PD (proof-of-biology) and preliminary clinical activity of monotherapy and select combinations
- Clinical and biomarker endpoints
- Phase 1b expansion cohorts in DLBCL (MYD88-mut and -wt)

Program Milestones:

- Submission of IND application and, if cleared, initiation of Phase 1 clinical trial in r/r B cell lymphomas, including MYD88-mutant DLBCL (2H 2021)
- Presentation of additional KT-413 preclinical data in DLBCL as well as other potential indications (2021)
- Establish Phase 1 proof-of-biology in patients (2022)
- Establish clinical proof-of-concept (2H 2022/1H 2023)



STAT3

STAT3 Biology and Degradar Rationale

- STAT3 is a traditionally largely undrugged transcription factor activated through cytokine and growth factor receptors via JAKs and non-JAKs mediated mechanisms
- High degree of validation of JAK-STAT pathway in oncology and immuno-oncology supported also by numerous publications
- STAT3 plays a role in tumor biology, evasion of immune surveillance and inflammation/fibrosis
- No known drugs specifically affect STAT3 broadly across all relevant cell types
- First-in-class opportunity to address STAT3 driven pathology across large and diverse indications

Indications/Expected Timeline

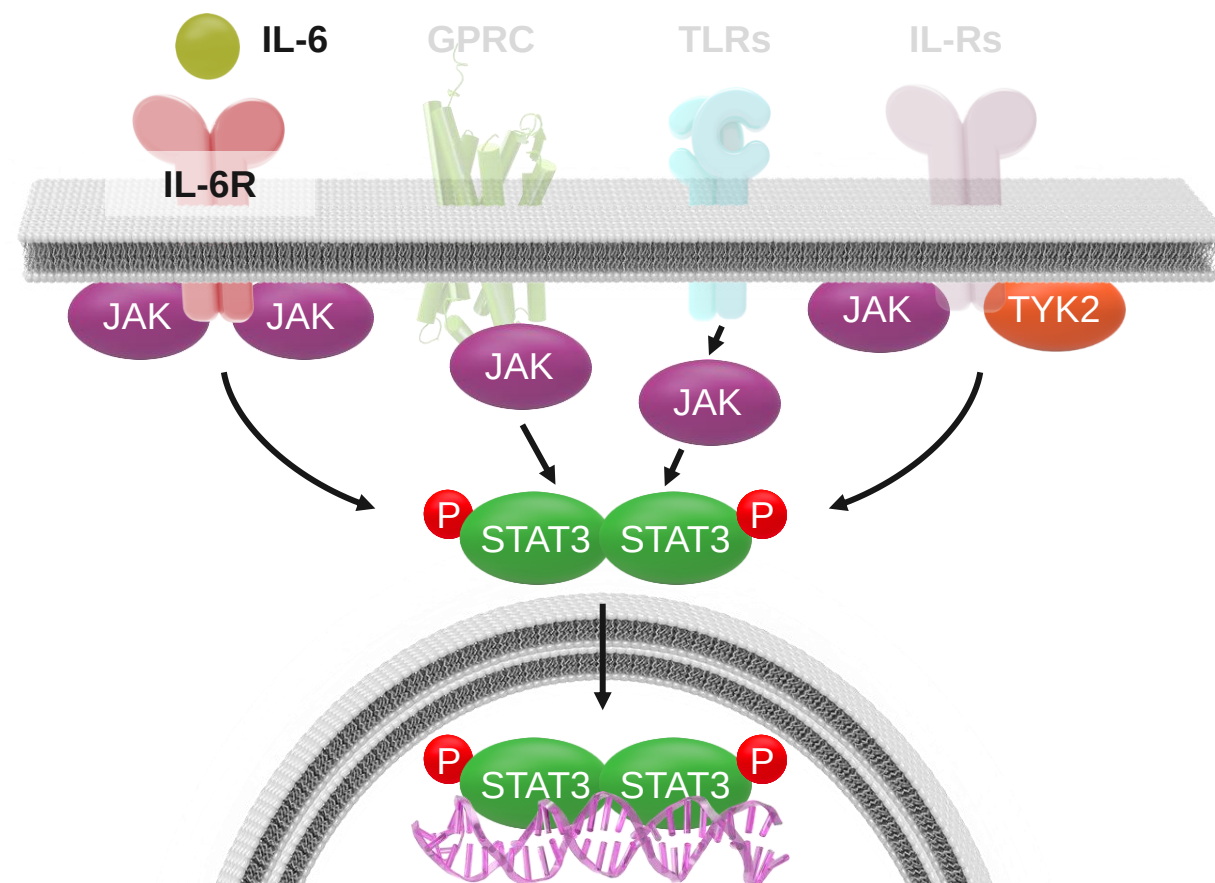
Hematological Malignancies/Solid Tumors and Autoimmune/Fibrosis

Current: Preclinical development

Nomination of development candidate: 1H 2021

IND/Phase 1 initiation: 4Q 2021

Phase 1 proof-of-biology in patients: 2022



STAT3 Disease Impact in Oncology & Autoimmunity

CANCER

Liquid Tumors

Genetically-defined STAT3 mutation and/or hyperactivation

ALCL, T-LGL leukemia, NK/T-cell lymphoma nasal type

STAT3 activation and dependency

DLBCL, AML, multiple myeloma

Solid Tumors

Cell Intrinsic: STAT3 role in EMT/TKI resistance

Combinations in TKI / chemotherapy resistant settings

Cell Extrinsic: STAT3 role in IO

T-cell infiltrated tumors. Combinations with immune-modulators

I/I FIBROSIS

Autoimmune

STAT3 GOF syndrome

Genetically-defined STAT3 mutation characterized by enteropathy, arthritis, dermatitis, lung disease

Immune-inflammatory

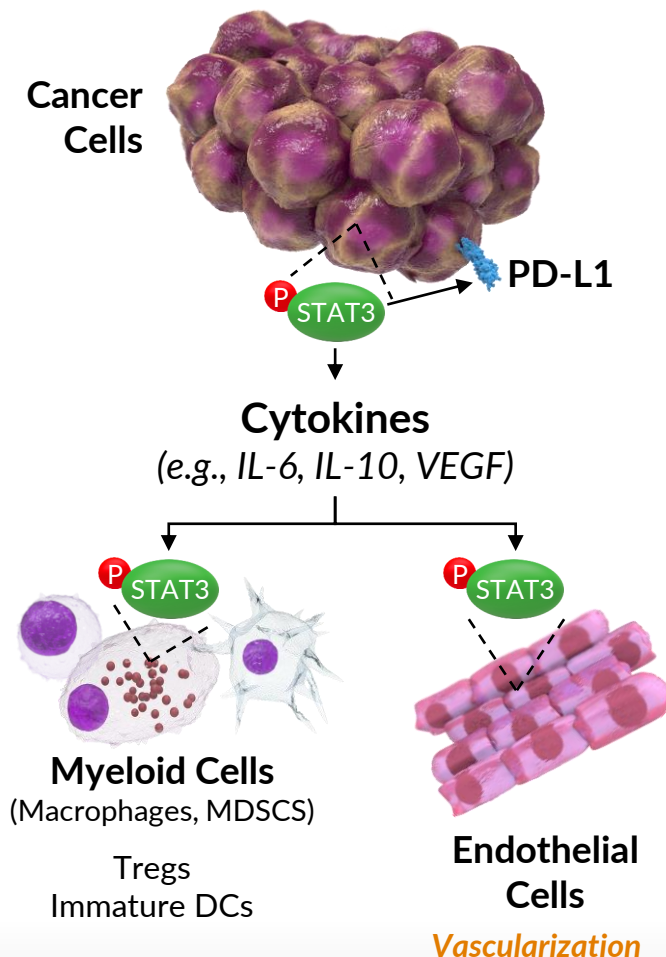
Systemic sclerosis, atopic dermatitis, rheumatoid arthritis, Crohn's disease /ulcerative colitis

Fibrosis

Chronic inflammation / fibrosis

Idiopathic pulmonary fibrosis, CKD/renal fibrosis

Survival, proliferation, EMT, stemness



Full and Durable Regressions Across Multiple *in vivo* Preclinical Tumor Models

CANCER

Liquid Tumors

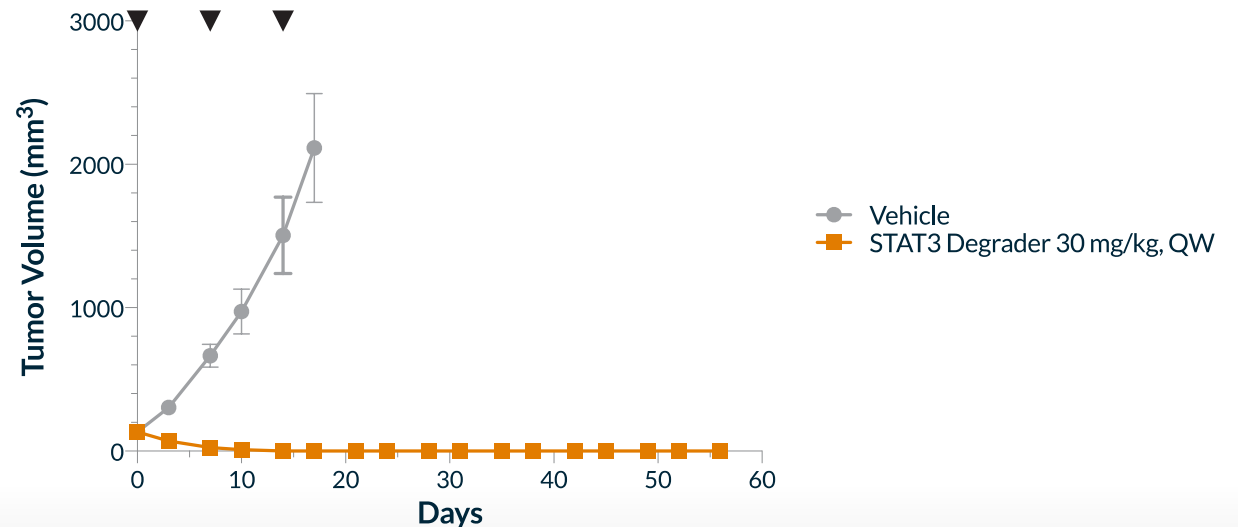
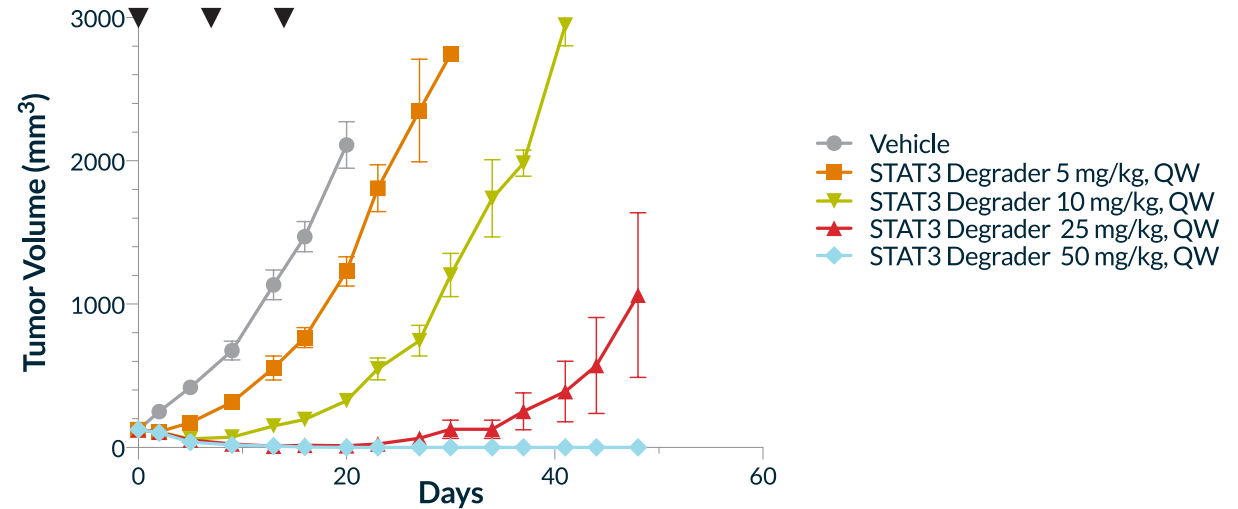
Solid Tumors

- Mice bearing STAT3-dependent ALK+ ALCL SU-DHL-1 (above) and STAT3-driven ALK+ ALCL xenograft model SUP-M2 (below) tumors dosed with STAT3 degrader
- Dose and degradation dependent tumor growth inhibition observed with once-a-week IV dosing
- 30 mg/kg sufficient to drive full tumor regression that was durable for multiple weeks after the last dose

I/I
FIBROSIS

Autoimmune

Fibrosis



STAT3 Degradar Development Plan in Liquid & Solid Tumors

Clinical Strategy

Phase 1 Trial in Relapsed/Refractory Liquid and Solid Tumor Patients

- Multi-center dose escalation study
- Safety, tolerability, PK and PD (POB) and preliminary clinical activity
- Clinical and biomarker endpoints
- Phase 1b expansion cohorts in liquid and solid tumors separately
- Option to amend protocol to explore select combinations

Program Milestones:

- Nomination of STAT3 development candidate for liquid and solid tumor indications (1H 2021)
- Presentation of additional preclinical data in liquid and solid tumors (2021)
- Submission of IND application and initiation of Phase 1 clinical trial (4Q 2021)
- Establish Phase 1 proof-of-biology in patients (2022)

The background is a dark blue field filled with intricate, flowing patterns of light blue and purple. These patterns resemble smoke, liquid, or energy, with some areas forming spherical shapes. The overall effect is dynamic and futuristic.

Corporate Summary

Strategic Partnerships to Accelerate Growth

Supports discovery, development, and commercialization within and outside of core therapeutic areas

Strategic Collaborators



- Established July 2020; **\$150M** upfront; **>\$2B** of potential milestones, plus tiered royalties
- Focused on **IRAK4** in I/I + 2nd program; KYMR advances IRAK4 through Ph 1; Sanofi Ph 2 and beyond
- KYMR retains U.S. co-dev and co-co opt-in rights, and rights to IRAK4 in oncology



- Established May 2019; **\$70M** total upfront; **>\$1B** of potential milestones, plus tiered royalties
- **6 targets** in 5 disease areas
- Outside of Kymera's core focus areas in oncology and immune-inflammatory



- Established April 2018
- Gained access to GSK's **DEL capabilities** to screen for ligands to targets and E3 ligases



- Blood-based cancers
- Leveraging patient network and access

Academic Collaborators



Financial Summary

Well positioned to advance a leading TPD pipeline

Financial Highlights

- Over \$600 million raised to date (equity and partnership)
- \$220 million from partnerships upfronts
- IPO priced August 2020 at \$20
- 44.5 million shares outstanding (10/30/2020)

Q3'20 Results

- Collaboration Revenues: \$14.5 million
- R&D Expenses: \$15.8 million
- G&A Expenses: \$6.8 million
- Net Loss: \$8.0 million

Cash and Financial Guidance

- ~\$458 million in cash, cash equivalents and investments at Dec. 31, 2020*
- Expect cash, cash equivalents, and investments to fund operational plans into 2025, excluding any future potential milestones from collaborations, while the Company continues to identify opportunities to accelerate growth and to expand pipeline, technologies and clinical indications

Near-Term Milestones Provide Significant Opportunity

Program	Compound	Indication(s)	Expected Upcoming Milestones
IRAK4	KT-474	HS, AD, RA, others	- Initiate SAD portion of Phase 1 trial in healthy volunteers (1Q 2021) Present final Non-Interventional trial results in HS and AD (1H 2021) - Initiate enrollment in MAD portion of Phase 1 trial in HV, as well as HS and AD patients (2H 2021)* Establish Phase 1 proof-of-biology in healthy volunteers (4Q 2021) - Establish clinical proof-of-concept (2H 2022/1H 2023)
IRAKIMiD (IRAK4, Ikaros, Aiolos)	KT-413	MYD88 ^{MT} DLBCL	Submit IND and, if cleared, initiate Phase 1 clinical trial in r/r B cell lymphomas (2H 2021) - Present additional KT-413 preclinical data in DLBCL, as well as other indications (2021) Establish Phase 1 proof-of-biology in patients (2022) - Establish clinical proof-of-concept (2H 2022/1H 2023)
STAT3	Undisclosed	Liquid & Solid Tumors	- Nominate development candidate for liquid & solid tumor indications (1H 2021) - Present additional preclinical data in liquid & solid tumor indications (2021) Submit IND, and if cleared, initiate Phase 1 clinical trial (4Q 2021) Establish Phase 1 proof-of-biology in patients (2022) - Establish clinical proof-of-concept (2H 2022/1H 2023)
Discovery Programs & Platform			- Continue pipeline expansion by advancing early-stage discovery programs toward IND-enabling studies - Further expand Pegasus platform to generate novel degrader product candidates - Leverage Whole-Body Atlas to unlock new opportunities across broad therapeutic applications

● = Oncology ● = Immunology-Inflammation

THANK YOU

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The KYMERA logo is positioned on the left side of a wide banner. The 'K' is orange and stylized with two vertical bars. The letters 'YMER A' are white. The banner background features a dark, starry night sky with a constellation of stars connected by lines, and a silhouette of a forested mountain range at the bottom.

KYMER A

January 2021

Appendix

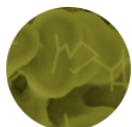
Pegasus™ Platform and R&D Approach

Pegasus: E3 Ligase Whole-Body Atlas

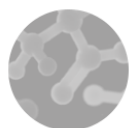
A Bone Marrow Sparing E3 Ligase



E3 Ligase
Whole-
Body Atlas



E3 Ligase
Binders
Toolbox



Ternary
Complex
Modeling



Quantitative
System
Pharmacology
Model



Proprietary
Chemistry

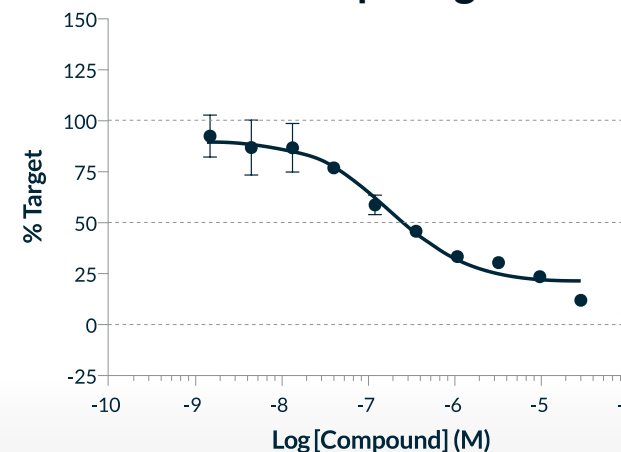
- E3 Ligase Whole-Body Atlas queried to identify a tissue sparing E3 ligase based on target protein unwanted pharmacology (i.e. bone marrow for a particular target of interest)
- A bone marrow sparing E3 ligase identified
- Screening and optimization lead to a novel binder to a previously unliganded E3 ligase (E3 ligase binders toolbox)
- A novel degrader based on a bone marrow sparing E3 ligase demonstrated target degradation

This E3 Ligase is Not Expressed in Bone Marrow



⬇ Ligand Identification

TPD with Bone Marrow Sparing Novel E3 Ligase



Target	Target Protein
DC ₅₀ (nM)	206
Dmax (%)	88

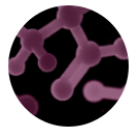
Ternary Complex Modeling / Quantitative System Pharmacology Model



E3 Ligase
Whole-
Body Atlas



E3 Ligase
Binders
Toolbox



Ternary
Complex
Modeling

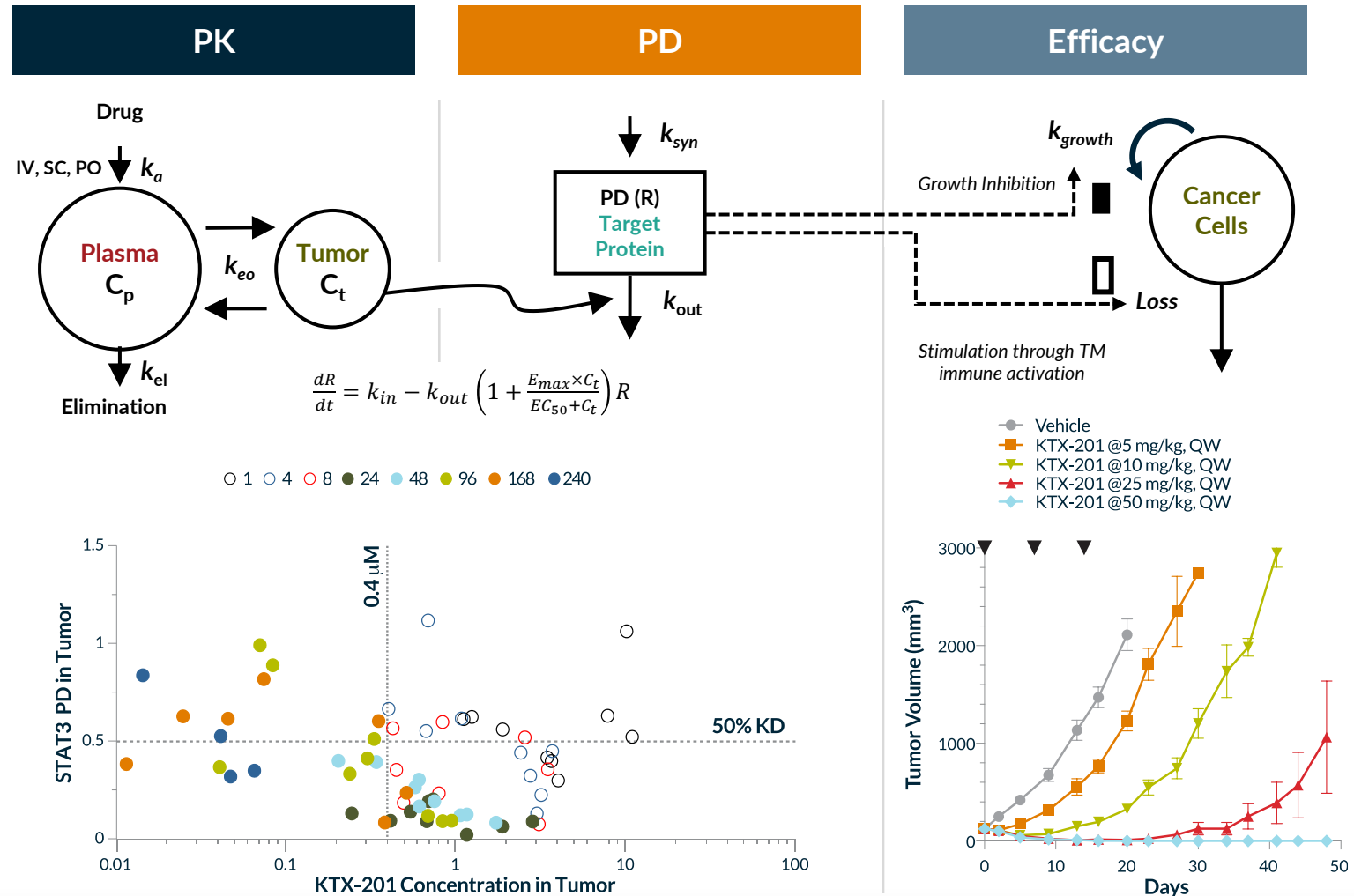


Quantitative
System
Pharmacology
Model



Proprietary
Chemistry

- Refined understanding of each parameter impacting degradation profiles
- Modeling predicts how relative E3 ligase and protein concentrations impact degradation
- Designed to solve complex equations to accurately translate PK/PD into optimal human dosing





E3 Ligase
Whole-
Body Atlas



E3 Ligase
Binders
Toolbox



Ternary
Complex
Modeling



Quantitative
System
Pharmacology
Model



Proprietary
Chemistry

- A comprehensive approach that allows for rapid hit finding and the rational design and optimization of targeted protein degraders (TPDs)
- A large, chemically diverse toolbox of privileged linkers that can confer favorable pharmacokinetic properties to enable oral absorption
- A collection of proprietary ligands to known and novel E3 ligases that allow for degradation in desired tissues of interest and establish a strong intellectual property position
- Computational chemistry expertise, including a novel and proven approach for predicting ternary complexes, to expedite all activities from hit finding to late lead optimization
- Leveraging binary and ternary complexes to rationally guide potency and selectivity
- Process chemistry expertise with demonstrated ability to rapidly deliver kg quantities of TPDs

Development Candidate Profile

Characteristic	Metric	KT-413
Potency	IRAK4 DC ₅₀ (nM)	8
Human <i>in vitro</i> clearance	HLM (μL/min/mg)	3.5
<i>In vivo</i> clearance	Monkey CL (mL/min/kg)	3.2
Bioavailability	Monkey PO PK (%F)	41

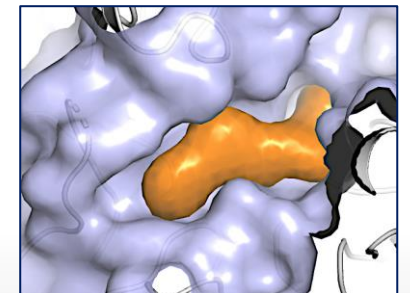
Ligand to Novel Tissue Restricted E3 Ligase

Fragment Screening Hit
E3 Ligase IC₅₀: >1 mM



Lead Ligand
E3 Ligase IC₅₀: 30 nM
cLogP: 0.74
MW: 399

E3 Ligase X Ray Co-crystal

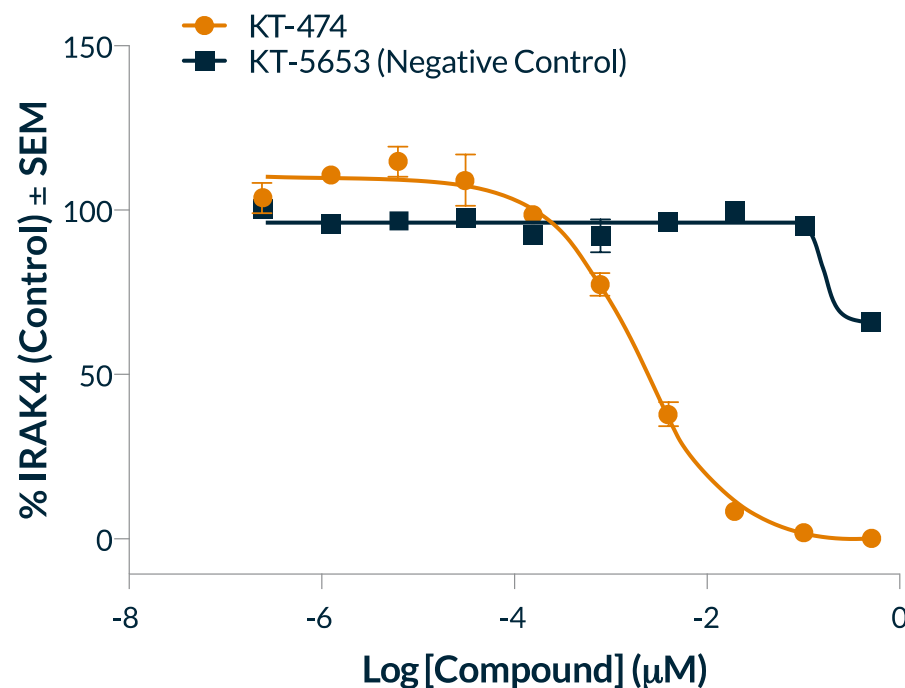




IRAK4

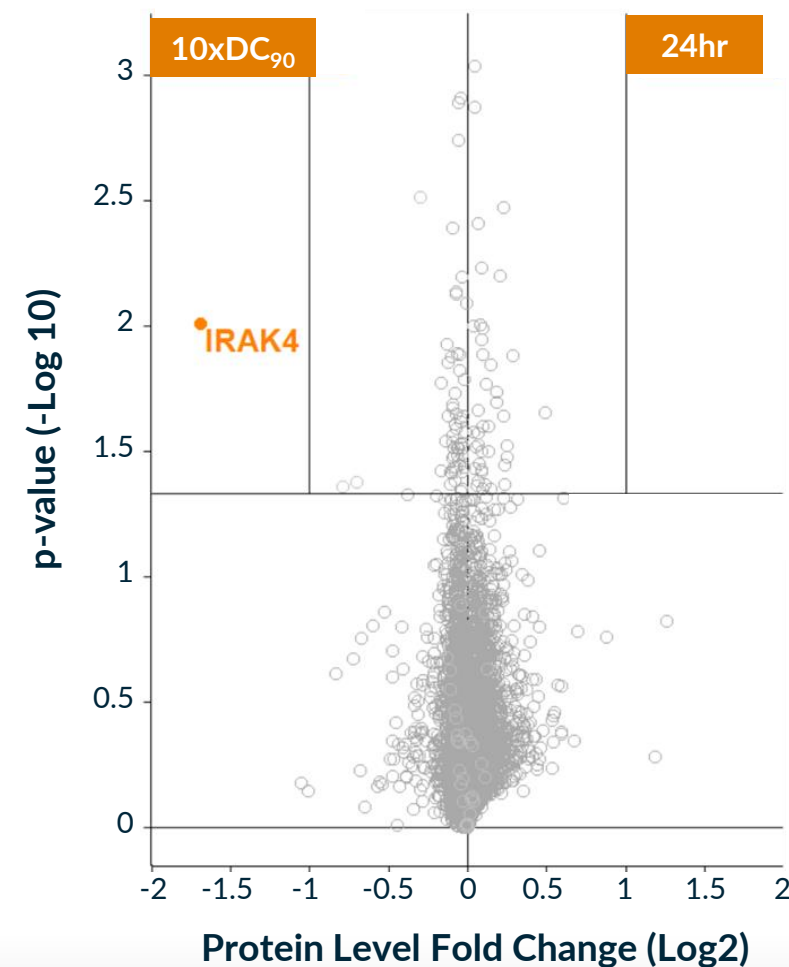
KT-474: Specific IRAK4 Degradation

Degradation in Human Monocytes



- Calculated DC_{50} of 2.1 nM and E3 ligase dependent degradation of IRAK4 in human immune cells
- IRAK4 was only protein of over 10,000 to be degraded by KT-474 in human immune cells at concentration 10-fold above the DC_{90}

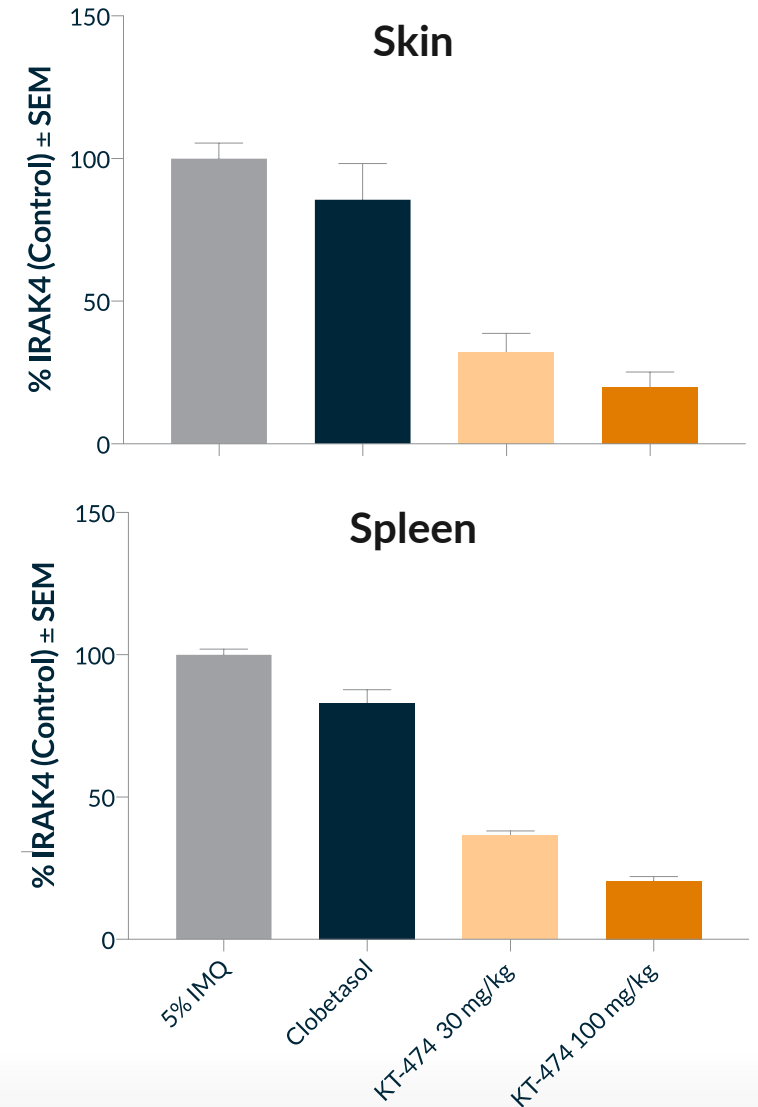
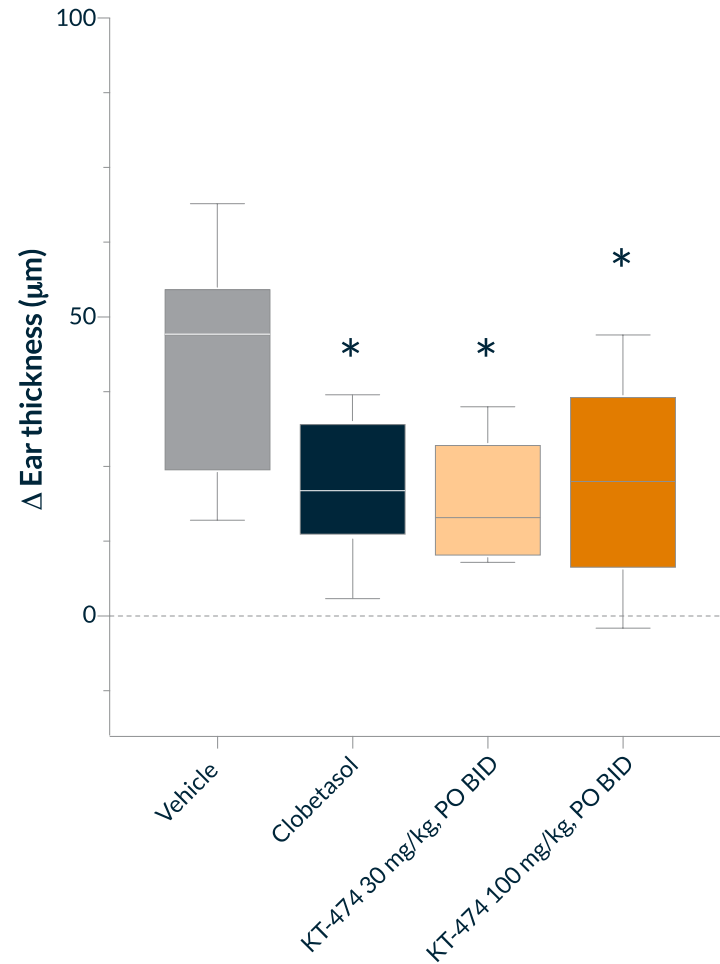
Selectivity in Human PBMC



IRAK4 Degradation *In Vivo* Active in Preclinical Mouse Psoriasis Model

IL-1R/TLR driven

- Ability to inhibit topical skin thickening induced by imiquimod was measured in a mouse model of psoriasis
- Orally dosed KT-474 inhibited thickening, a reflection of local and systemic inflammation, comparable to a topic corticosteroid after 2 or 4 days of dosing
- Inhibition shown at doses achieving at least 60-70% IRAK4 knockdown in skin and spleen



Non-Interventional Study: Trial Design and Baseline Demographics

Design

Number of Sites	Single center (York Dermatology Clinic and Research Center, Ontario, Canada) PI: Dr. Afsaneh Alavi, MD, MSch, FRCPC
Number of Patients	40 (30 HS and 10 AD)
Inclusion Criteria	1. Age 18 or older 2. Active Hidradenitis Suppurativa (HS) or Atopic Dermatitis (AD), diagnosed by PI 3. Mild, moderate, and severe HS patients (by IHS4 score), and moderate to severe AD (by EASI score)
Exclusion Criteria	1) Patients currently on a biologic or other immunosuppressive treatment for HS or AD 2) Use of biologic treatment for HS or AD within 3 months or 5 half-lives, whichever is longer 3) Use of non-biologic immunosuppressive treatment (eg. Cyclosporin) in the last 4 weeks.
Data Collection at Study Entry	Medical history, disease severity in HS (Hurley, PGA, IHS4, HASI) and AD (EASI), prior treatments, comorbidities, duration of disease
Sample Collection	Whole blood, plasma, skin (lesional, peri-lesional, non-lesional)

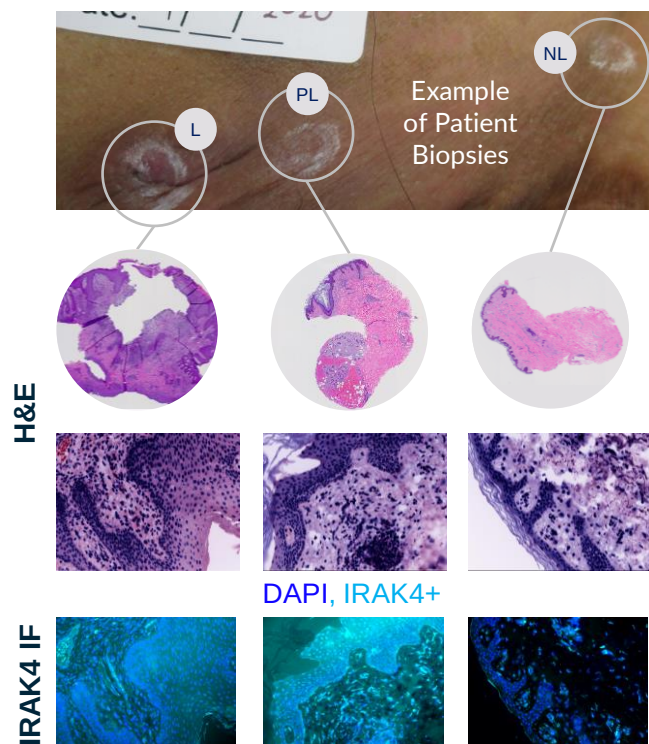
Baseline Demographics & Biomarkers

Study Duration	• FPI: 28May2020 • HS accrual completed; enrollment of AD patients ongoing
Patients Enrolled to Date	• 30 HS: 9 mild, 10 moderate, 11 severe • 2 AD
Demographics	• Age 19-56 yrs • 9 male, 23 Female • Duration of disease: 1-38 years • Race: 97% were non-Hispanic or Latino
Biomarker Endpoints	• Flow cytometry for IRAK4 in ex vivo treated whole blood • Targeted MS of IRAK4 in skin biopsies • IRAK4 immunofluorescence in skin biopsies • Cytokines from ex vivo treated whole blood • Plasma cytokines and acute phase reactants • Cytokines in skin biopsies

Non-Interventional Study: IRAK4 Expression is Highest in Lesional (L) & Peri-Lesional (PL) Skin

IRAK4 Immunofluorescence (IF)

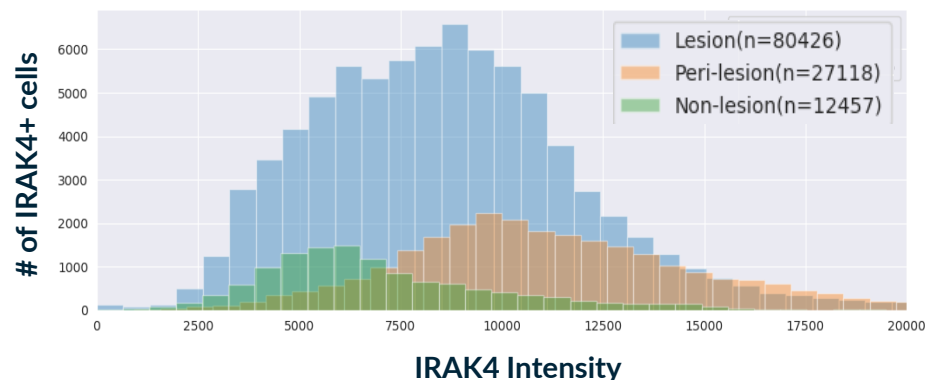
N=10 | IHS4 severity: 4 mild, 3 moderate, 3 severe



IF Analysis

- L, PL, NL IRAK4 positive cells counted and binned into intensity ranges as depicted by the horizontal bars below
- Cell counts per intensity bin were summed from the 3 biopsy locations

Cell Count by Intensity per Biopsy Location



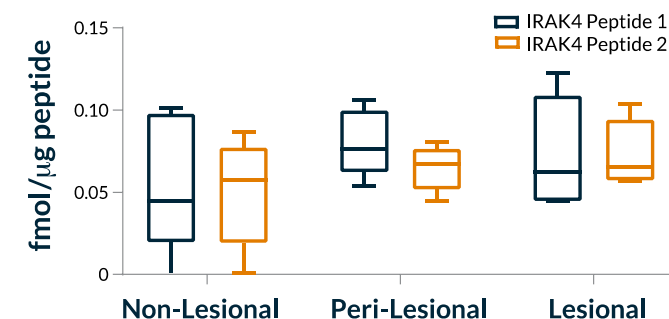
IRAK4 Mass Spectrometry (MS)

N=5 | IHS4 severity: 0 mild, 2 mod, 3 severe

MS Analysis

- Two peptides were chosen providing strong concordance in absolute quantification
- Plot represents the range of fmol/ug peptide across the 3 biopsy locations

IRAK4 Absolute Quantification Normalized to PARK7



CONCLUSIONS

L and PL biopsies have more IRAK4+ cells and higher intensity IRAK4 staining than NL as measured by IF. MS with trend towards higher level of IRAK4 in L and PL compared to NL.

IRAK4 Conclusions

- IRAK4 is a key undrugged node in a pathway with demonstrated clinical impact in several immune-inflammatory diseases
- IRAK4 degradation is superior to small molecule kinase inhibition and/or upstream pathway blockade through mAb thanks to the ability to fully block the broader family of IL-1 family cytokine and TLR agonists in a context-independent manner
- Kymera has developed a first-in-class potent, selective and orally active IRAK4 degrader, KT-474, with franchise potential across a wide variety of immune-inflammatory diseases such as HA, RA, AD and others
- KT-474 is more potent and more broadly active than leading IRAK4 small molecule kinase inhibitors and has demonstrated activity in a variety of preclinical models with a promising activity and safety profile
- In a Non-Interventional study in HS patients, Kymera has demonstrated that IRAK4 levels are higher in lesional and peri-lesional skin compared to non-lesional
- *Ex vivo* incubation of HS blood with KT-474 reduces IRAK4 to a level approaching the lower limits of detection across all PBMC subsets, irrespective of baseline expression intensity, whereas an IRAK4 kinase inhibitor increases IRAK4 levels in T and NK cells
- Kymera is positioned to initiate the SAD portion of the Phase 1 trial of KT-474 in healthy volunteers in 1Q 2021

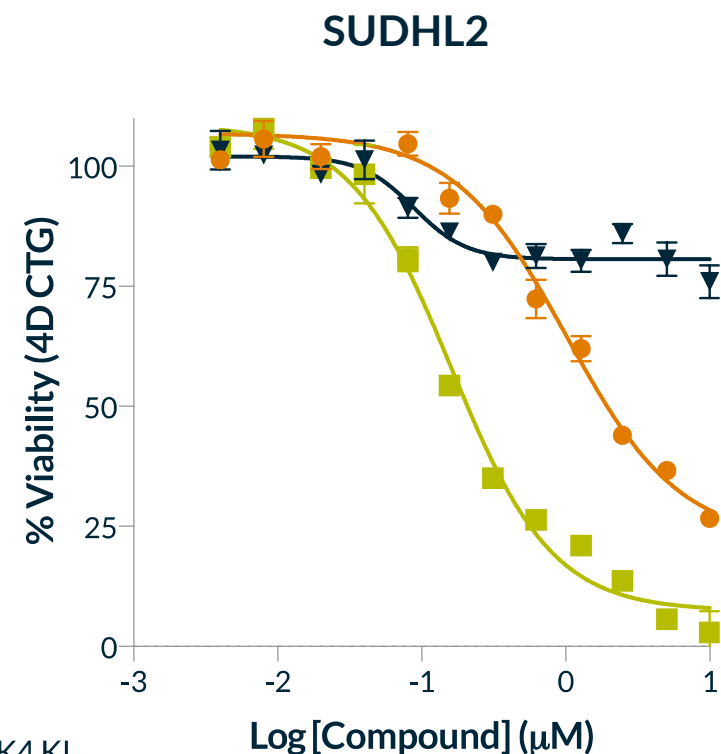
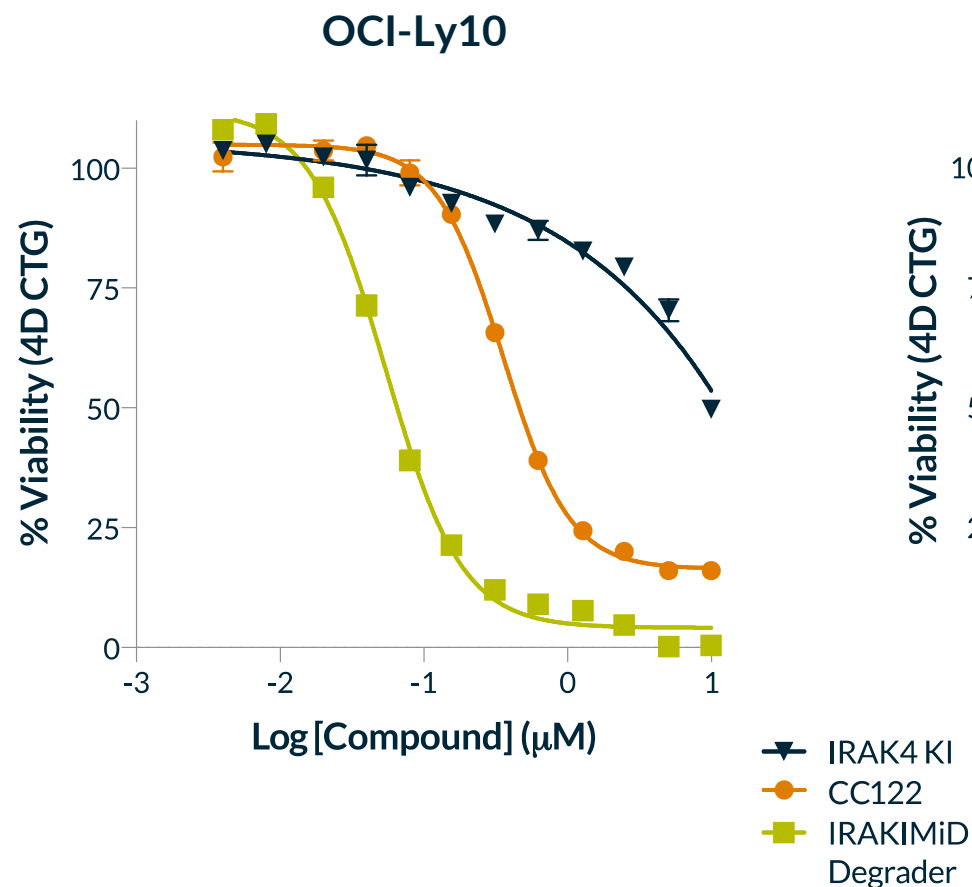


IRAKIMiD

 KYMERA

IRAKMiDs Superior to IRAK4 Inhibition and IMiD Single Agents

- MYD88-mutated ABC-DLBCL cell lines OCI-Ly10 and SUDHL2 evaluated in a 4-day viability assay
- Activity of IRAKMiD compared to an IMiD compound alone and IRAK4 kinase inhibitor alone assessed
- IRAKMiD degrader ($IC_{50} = 31$ nM) significantly more selective and efficient than IRAK4 SM kinase inhibitor or a third generation clinically active IMiD CC-122 in cell viability



KT-413 Shows Regressions in MYD88^{MT} Patient-Derived Xenograft Models

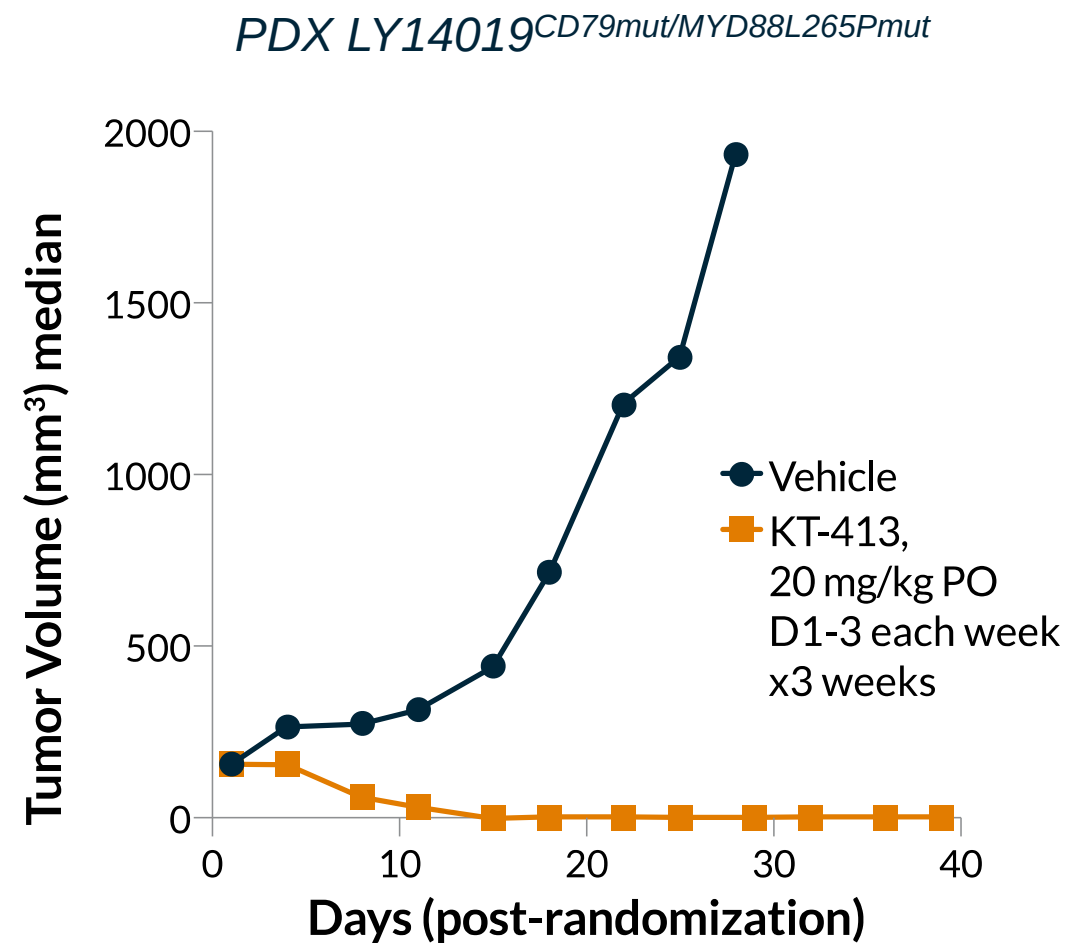
Model	MYD88	CD79B	TNFAIP3	Other	KT-413 (%TGI)
LY14019	L265P	MT	MT		100
LY2264	L265P	MT		IRF4	100
LY2298	L265P	MT		BCL2/BCL6	90
LY12699	L265P	MT			87
LY2345	WT		MT		70
LY2301	WT				30
LY0257	L265P			BCL2/BCL6/IKZF3	0

KT-413 dosed orally shows strong tumor growth inhibition (>85% TGI) in 4/5 MYD88-Mutated DLBCL PDX Models

- Activity is observed regardless of co-mutations that activate NFkB and IRF4 pathways
- The non-responsive MYD88^{MT} model LY0257 harbors a mutation in Aiolos and is reported to be insensitive to lenalidomide
- The functional consequence of Aiolos mutations in IRAKIMiD and IMiD response is being investigated

Some level of tumor growth inhibition observed in MYD88-WT PDX

- May be consistent with IMiD activity of KT-413



PDX models run at Crown Biosciences

IRAKIMiD Conclusions

- Degradation of IRAK4 and IMiD substrates in a single molecules confers an exclusively potent *in vivo* profile
- Promising DMPK characteristics - can be administered PO and IV, providing potential for flexibility in dosing; initial development in IV formulations
- Potent, selective degrader of IRAK4 and IMiD substrates
- Strong single agent activity in MYD88-MT DLBCL with strong tumor regressions in multiple models support potential for clinical responses as a single-agent in a selected population
- *In vivo* activity in both PO and IV schedules with intermittent dosing as little as QW or Q2W (D1 or D1,2) is efficacious
- Activity across multiple MYD88 CDX and PDX models, with different co-mutations, with complete and durable tumor regressions in several models
- Initial development for KT-413 is focused in MYD88MT DLBCL as potential first targeted agent in this patient population, further development opportunities are being prioritized



STAT3

Highly Specific Degradation of STAT3

CANCER

Liquid Tumors

Solid Tumors

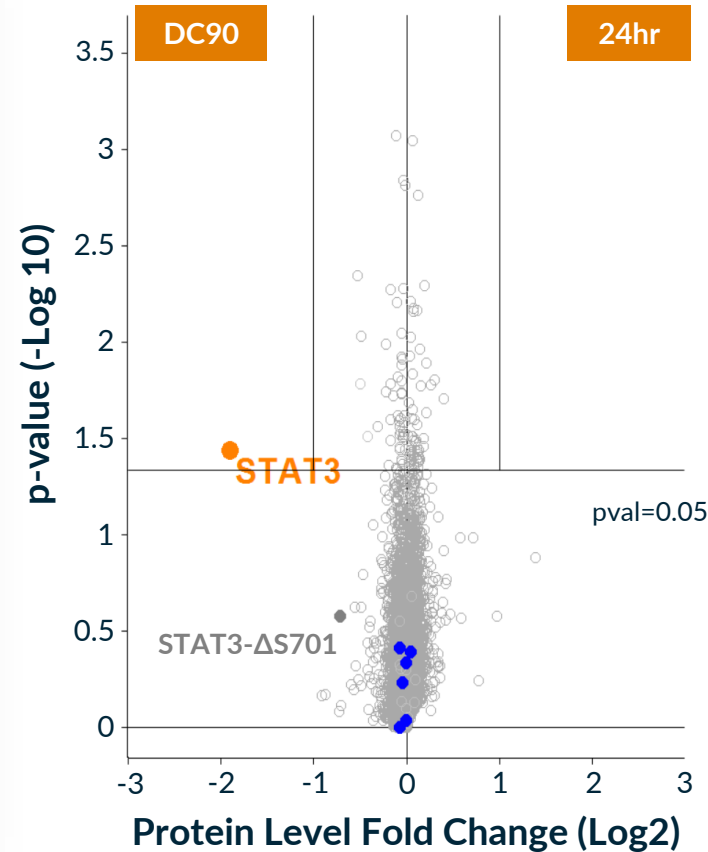
I/I
FIBROSIS

Autoimmune

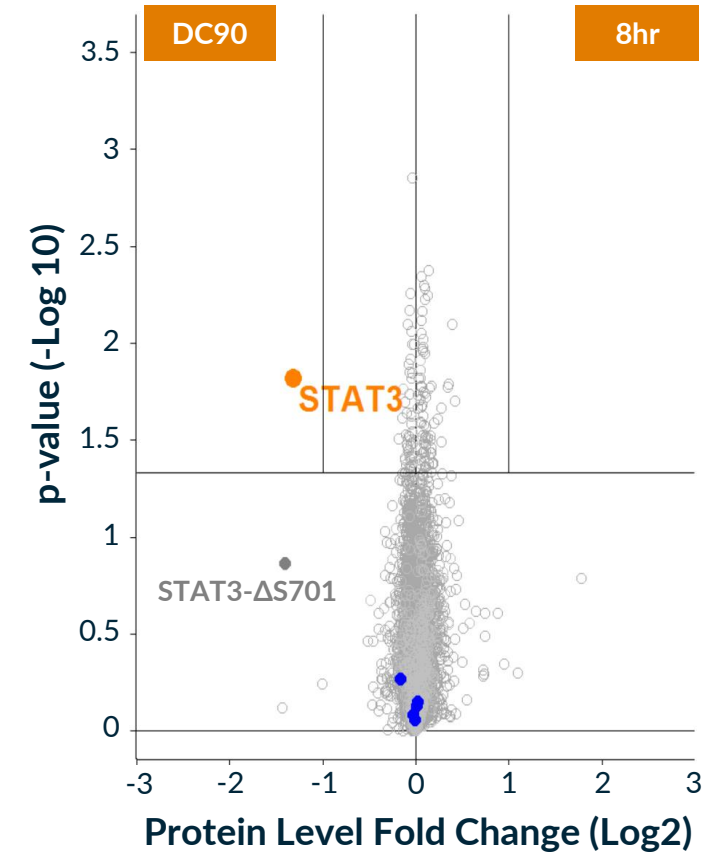
Fibrosis

- Deep mass spectrometry-based proteomics to assess STAT3 specificity performed
- hPBMc and tumor cells (SU-DHL-1) treated with Kymera's STAT3 degrader
- STAT3 was the only protein to be degraded with statistical significance
- Data demonstrate highly selective degradation profile

hPBMCs



SU-DHL-1



● STAT Family Members: STAT1, STAT2, STAT3, STAT4, STAT5A, STAT5B, STAT6

STAT3 Degradation and Downstream Effects Across Tumor Cells

CANCER

Liquid Tumors

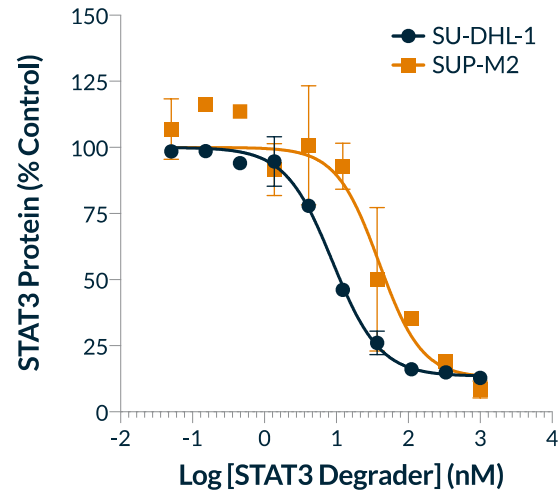
Solid Tumors

I/I
FIBROSIS

Autoimmune

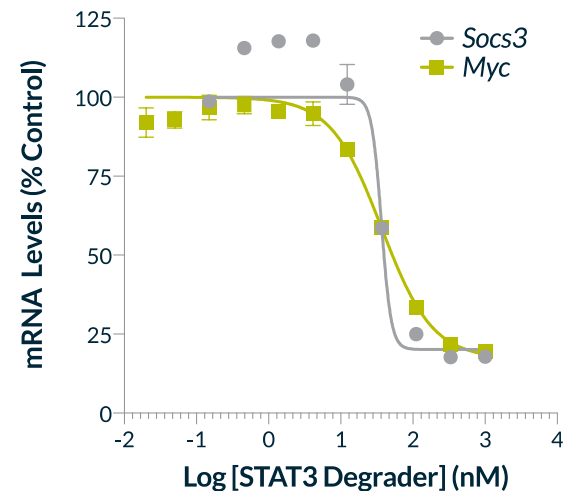
Fibrosis

STAT3 Degradation



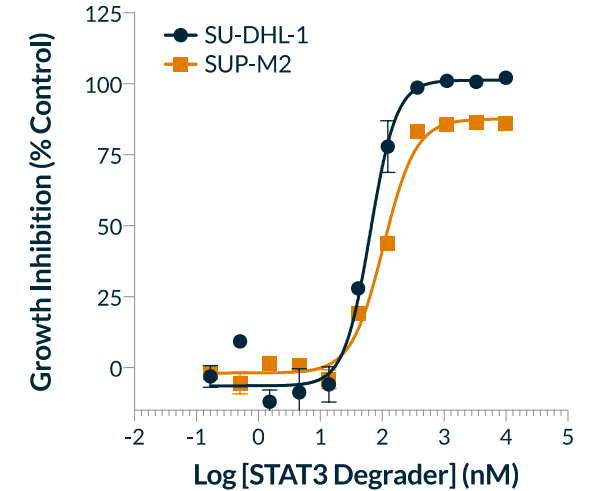
- STAT3 protein levels measured in two STAT3-dependent cell lines
- STAT3 degrader decreased levels of STAT3 by greater than 95% with DC₅₀ of 15nM and 86 nM, respectively

Gene Transcription Effects



- Expression of STAT3 downstream target genes in SU-DHL-1 cells measured
- Treatment with STAT3 degrader for 24 hours led to significant downregulation of STAT3 target genes, including SOCS3 (IC₅₀ = 36 nM) and MYC (IC₅₀ = 37 nM)

Cell Viability Effects



- Impact of STAT3 degradation on viability of lymphoma cells measured
- Inhibited growth of SU-DHL-1 and SUP-M2 cells with IC₅₀ values of 64 and 105 nM, respectively

Effects of STAT3 Degradation on Tumor Microenvironment

CANCER

Liquid Tumors

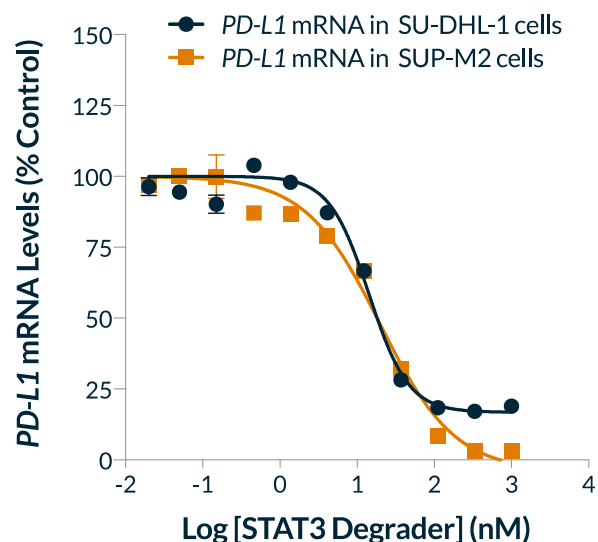
Solid Tumors

Autoimmune

I/I
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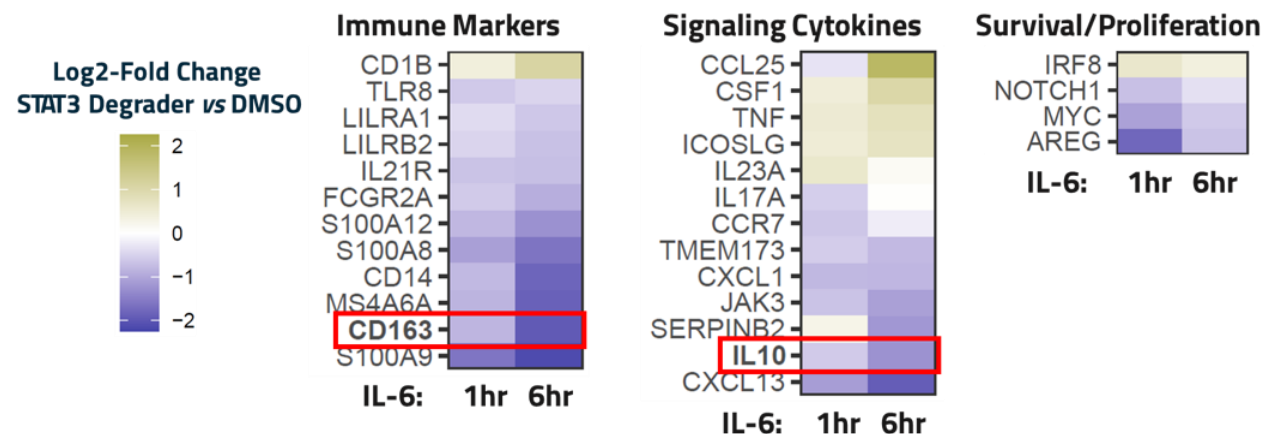
Fibrosis

PD-L1 Downregulation



- Treatment of cells with Kymera's STAT3 degrader reduced transcription of PD-L1 mRNA
- STAT3 degradation may reverse a key tumor intrinsic mechanism for immune suppression

Increased Inflammation in Tumor Associated Immune Cells



- STAT3 degrader blocked IL-6-induced increases in gene expression in hPBMC
- Data suggest degradation of STAT3 reverses expression of genes contributing to immune suppression

STAT3 Degradar *In Vivo* Active in Preclinical PD-1/L-1 Refractory Solid Tumor Model

CANCER

Liquid Tumors

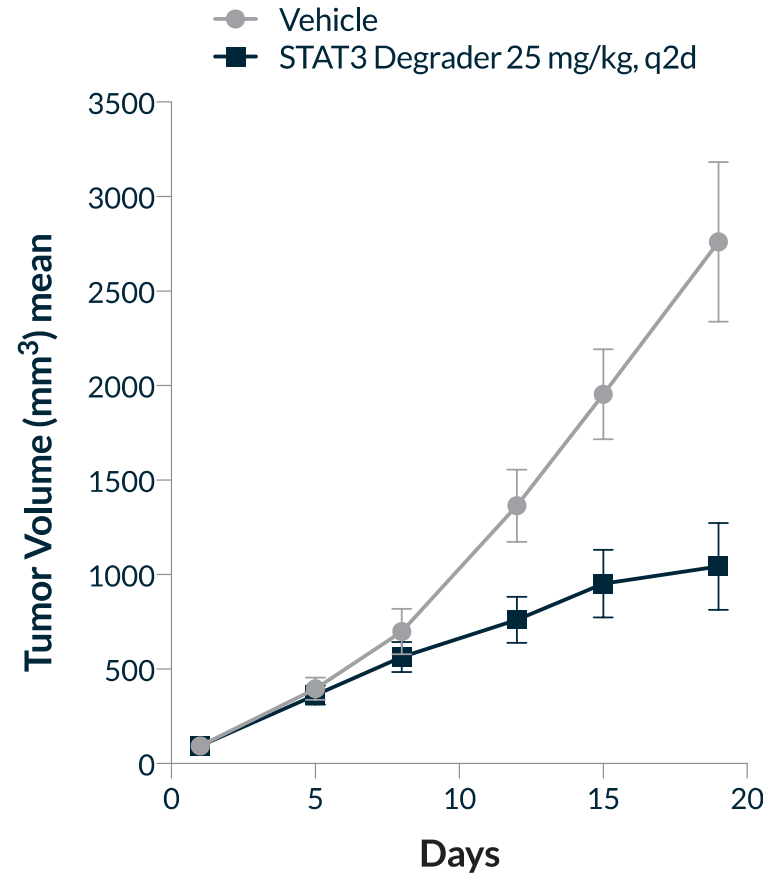
Solid Tumors

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FIBROSIS

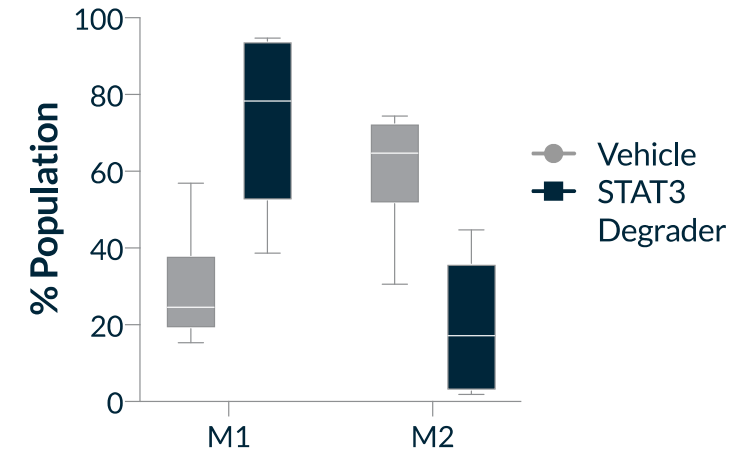
Autoimmune

Fibrosis

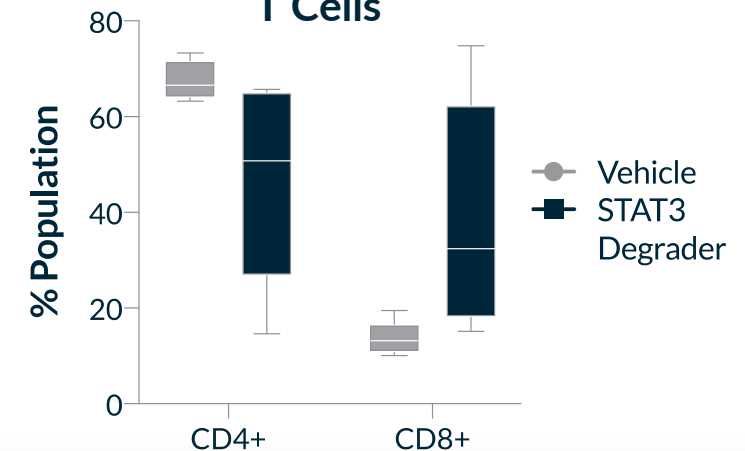
- Kymera's STAT3 degrader assessed in colorectal cancers (CT-26) known to be refractory to approved immunotherapies
- STAT3 degrader significantly reduced tumor growth when administered every two days
- Analysis of tumors showed synergistic modulation of immune cells (M2/M1 and T cells) within the tumor microenvironment to favor an anti-tumor response



Macrophages (M1/M2)



T Cells



STAT3 Degradator Active in T Cell Activation Preclinical *In Vivo* Model

Multiple Sclerosis Model

CANCER

Liquid Tumors

Solid Tumors

I/I
FIBROSIS

Autoimmune

Fibrosis

- A preclinical model of experimental autoimmune encephalomyelitis (T cell activation) was used to evaluate STAT3 degradation
- Kymera STAT3 Degradator completely prevented onset of the disease in mice

