From Serendipity to Rational Design

Taking Molecular Glue Degraders to New Heights | August 2024

Monte Rosa Therapeutics

Forward-Looking Statements

This communication includes express and implied "forward-looking statements," including forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include all statements that are not historical facts and, in some cases, can be identified by terms such as "may," "might," "will," "could," "would," "should," "expect," "intend," "plan," "objective," "anticipate," "believe," "estimate," "predict," "potential," "continue," "ongoing," or the negative of these terms, or other comparable terminology intended to identify statements about the future. Forward-looking statements contained herein include, but are not limited to, statements about our ability to grow our product pipeline, statements around the Company's QuEEN™ discovery engine and the Company's view of its potential to identify degradable protein targets and rationally design MGDs with unprecedented selectivity, statements around the productivity of the QuEEN discovery engine and the potential of the Company's MGDs against a broad spectrum of targets, statements about the advancement and timeline of our preclinical and clinical programs, pipeline and the various products therein, including (i) our ongoing clinical development of our GSPT1 degrader referred to as MRT-2359, including our expectations for the nature, significance, and timing for our disclosure of any updated data from our Phase 1/2 clinical trial of MRT-2359 in MYC-driven solid tumors in the second half of 2024, timing for our identification and any disclosure of a recommended Phase 2 dose for MRT-2359 in the second half of 2024, and timing of enrollment of Phase 2 expansion cohorts in the second half of 2024, (ii) the ongoing development of our VAV1-directed degrader, referred to as MRT-6160, including the ongoing Phase 1 SAD/MAD study and the expected timing of disclosure initial clinical data expected in the first quarter of 2025, our expectations of indications for our Phase 2 POC studies for MRT-6160, includng the relevance of preclinical data for such indications, the timing for initiation of our Phase 2 studies, and our expectations regarding the potential clinical benefit for MRT-6160, (iii) the ongoing development of our NEK7-directed MGD, referred to as MRT-8102, and our expectations around its potential across neurologic indications amongst others, as well as potential use in gout, pericarditis, and other peripheral inflammatory conditions, including our expectations to submit an IND to the FDA in the first quarter of 2025, and our statements around multiple anticipated clinical readouts, including results from proof-of-concept patient studies for MRT-2359, MRT-6160, and MRT-8102, advancement and application of our pipeline, including identification and the timing thereof of a development candidate for CDK2 until the end of 2024, statements around the advancement and application of our platform, statements concerning our expectations regarding our ability to nominate and the timing of our nominations of additional targets, product candidates, and development candidates, statements regarding regulatory filings for our development programs, including the planned timing of such regulatory filings, such as IND applications, and potential review by regulatory authorities, our use of capital, expenses and other financial results in the future, availability of funding for existing programs, ability to fund operations into the first half of 2027, as well as our expectations of success for our programs, strength of collaboration relationships and the strength of our financial position, among others. By their nature, these statements are subject to numerous risks and uncertainties, including those risks and uncertainties set forth in our most recent Annual Report on Form 10-K for the year ended December 31, 2023, filed with the U.S. Securities and Exchange Commission on March 14, 2024, and any subsequent filings, that could cause actual results, performance or achievement to differ materially and adversely from those anticipated or implied in the statements. You should not rely upon forward-looking statements as predictions of future events. Although our management believes that the expectations reflected in our statements are reasonable, we cannot guarantee that the future results, performance, or events and circumstances described in the forward-looking statements will be achieved or occur. Recipients are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date such statements are made and should not be construed as statements of fact. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, any future presentations, or otherwise, except as required by applicable law. Certain information contained in these materials and any statements made orally during any presentation of these materials that relate to the materials or are based on studies, publications, surveys and other data obtained from third-party sources and our own internal estimates and research. While we believe these third-party studies, publications, surveys and other data to be reliable as of the date of these materials, we have not independently verified, and make no representations as to the adequacy, fairness, accuracy or completeness of, any information obtained from third-party sources. In addition, no independent source has evaluated the reasonableness or accuracy of our internal estimates or research and no reliance should be made on any information or statements made in these materials relating to or based on such internal estimates and research. These materials remain the proprietary intellectual property of Monte Rosa Therapeutics and should not be distributed or reproduced in whole or in part without the prior written consent of Monte Rosa Therapeutics.

Monte Rosa Therapeutics – Company Overview

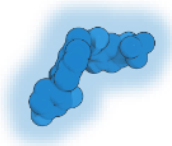
Taking molecular glue degraders (MGDs) to new heights

Arsenal of rationally designed MGDs with potential to solve many of the limitations of other modalities by degrading therapeutically relevant proteins with unprecedented precision

Highly productive**, industry-leading discovery engine** combining experimentation **with AI to enable rational design of novel MGDs**

Partnership with Roche to develop MGDs for oncology and neurological conditions **– expands platform reach into neurology**

Phase 1/2 clinical study ongoing with MRT-2359 in MYC-driven cancers; interim data demonstrated optimal pharmacodynamic modulation and **early signs of clinical activity; RP2D and Phase 1 data expected H2 2024**



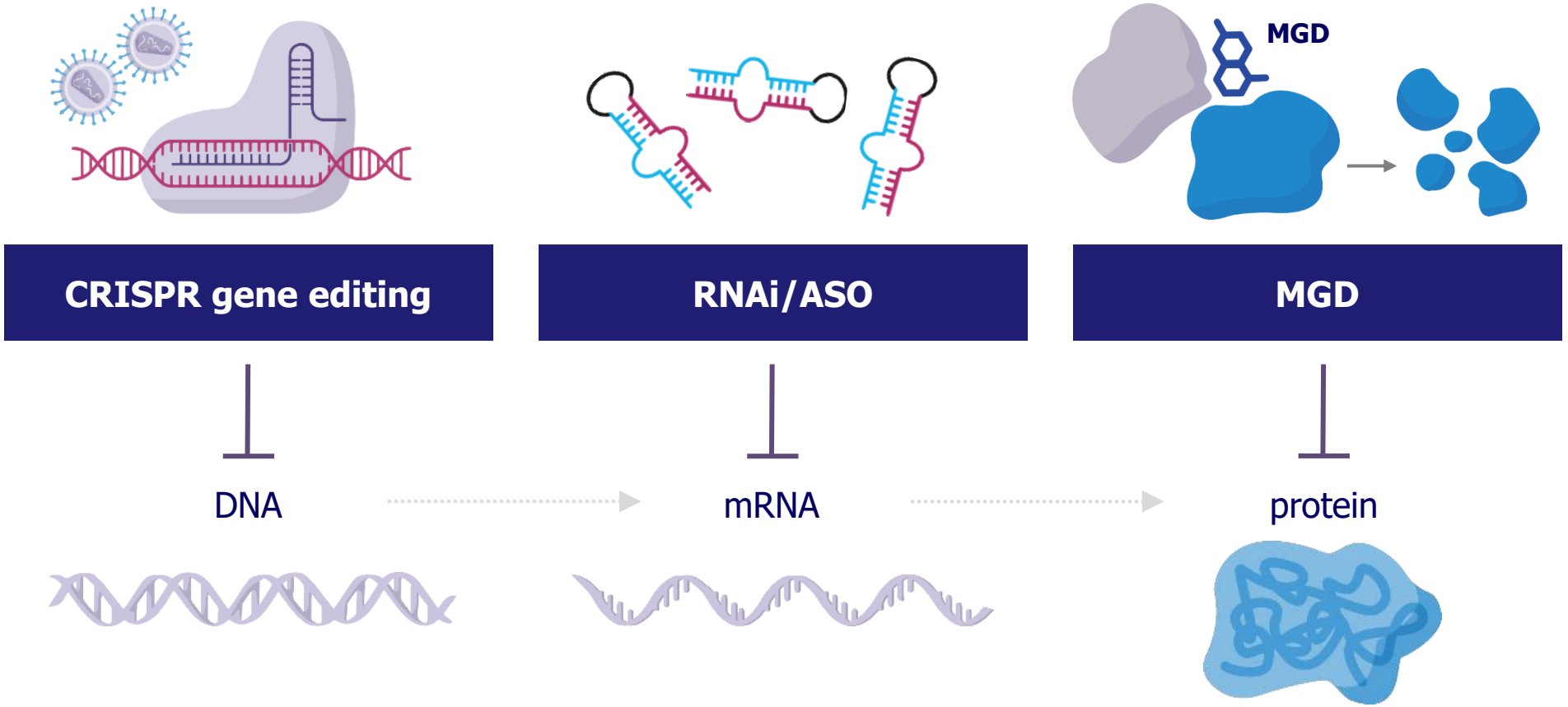
MRT-6160, highly selective VAV1-directed MGD, in Phase 1 study, data expected in Q1 2025; broad potential applications across autoimmune diseases

MRT-8102, highly selective NEK7-directed MGD for IL-1β/NLRP3-driven inflammatory diseases with IND submission anticipated H1 2025

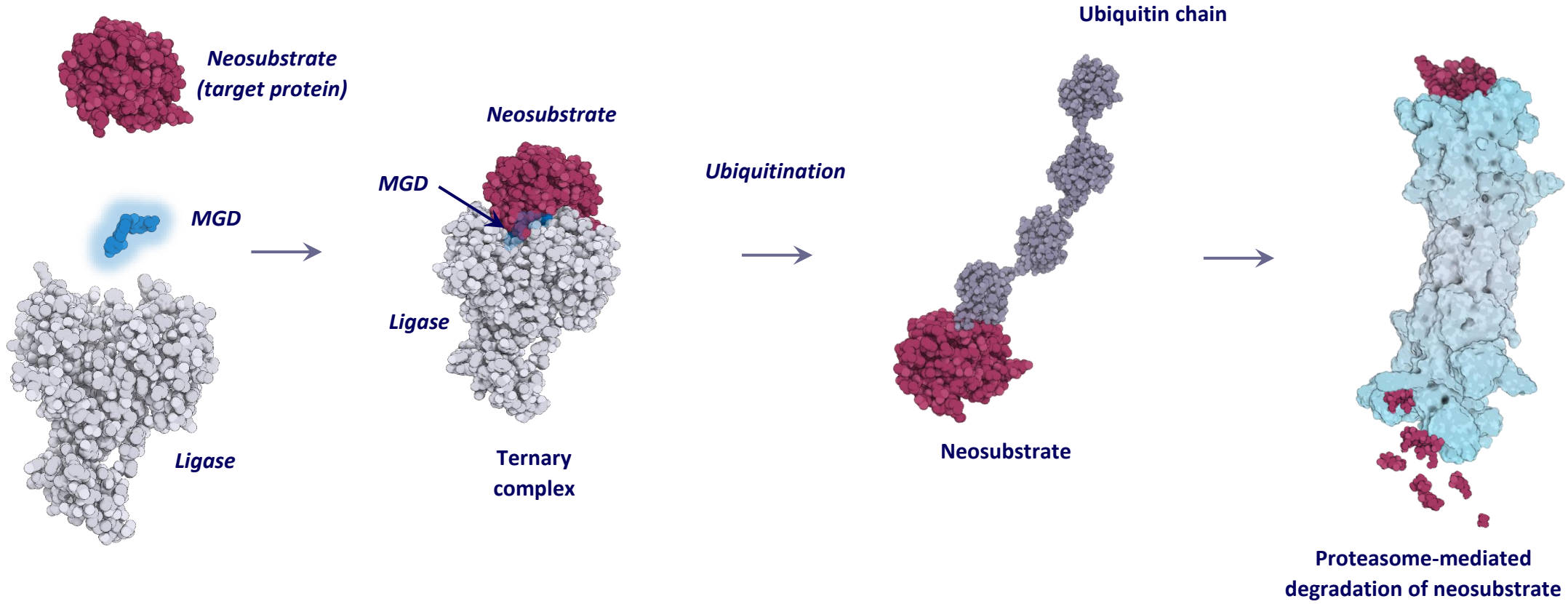
Strong financial position providing cash runway into H1 2027 through multiple anticipated clinical readouts including results from proof-of-concept patient studies for MRT-2359, MRT-6160 and MRT-8102

Three Ways to Eliminate a Disease-Causing Protein

MGDs can directly and precisely target proteins that cause disease



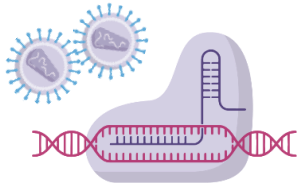
Our Molecular Glue Degraders (MGDs) Edit the Proteome



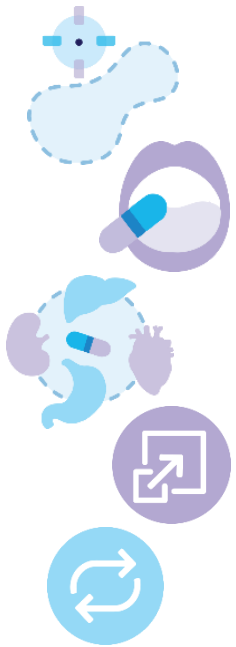
Monte Rosa's rationally designed MGDs have potential applications in Oncology, Immunology, Neuroscience and other therapeutic areas

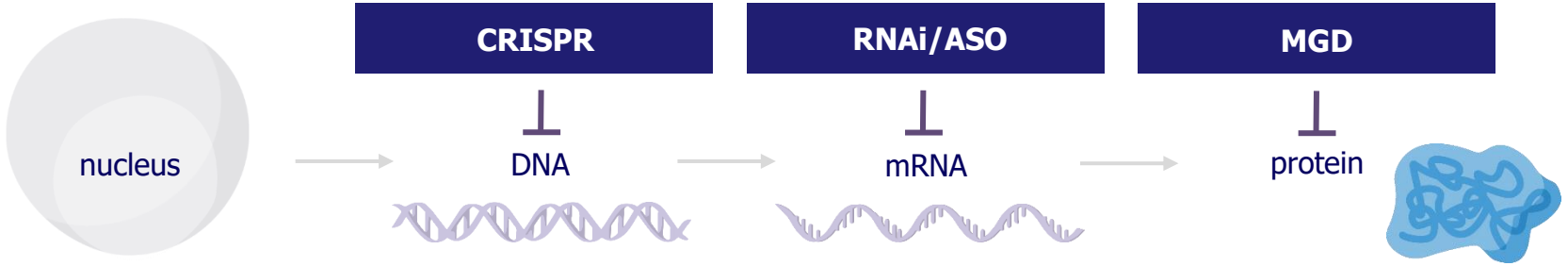
Molecular Glue Degraders (MGDs) – A Highly Differentiated Modality

Advantages of large molecule modalities with orally dosed small molecules



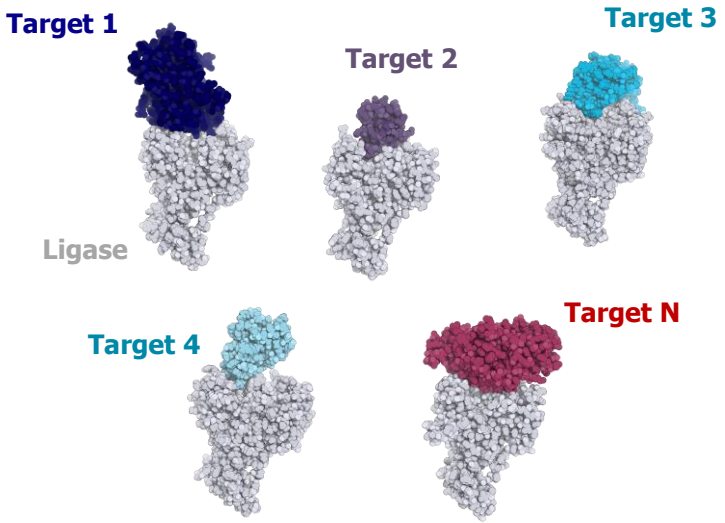
Properties	CRISPR	RNAi/ASO	MGD
Address undruggable space	✓	✓	✓
Orally bioavailable			✓
Systemic distribution			✓
Scalable manufacturing			✓
Reversible			✓





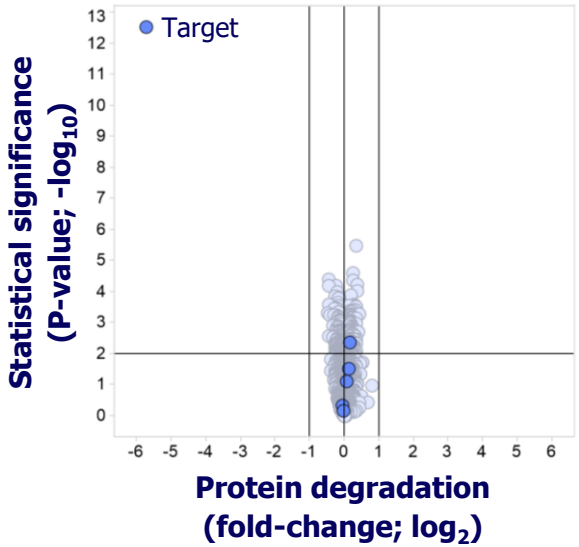
Key Advantages of Our Rationally Designed MGDs

Unique Target Space



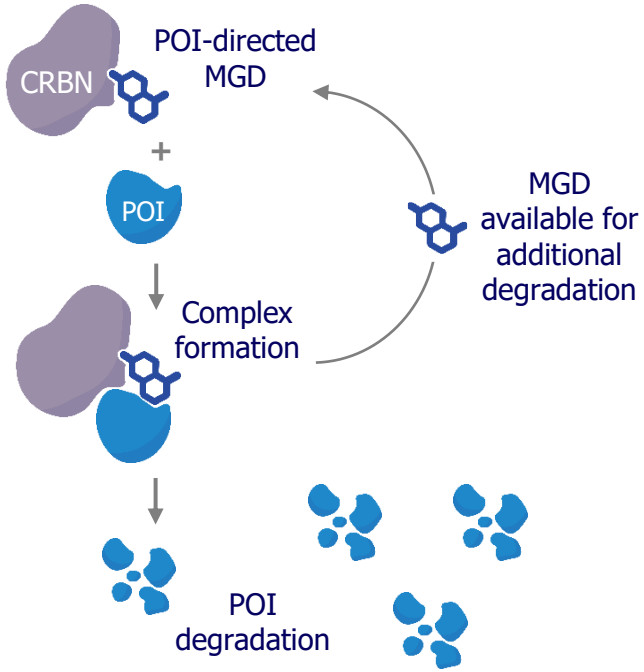
Disease-agnostic platform with initial focus on highly credentialed, undruggable oncology and immunology/inflammation targets

Unprecedented Selectivity



Unique insights into anatomy of protein-protein-MGD interaction allows unprecedented MGD selectivity

Catalytic Mechanism of Action



Long lasting, catalytic protein degradation effect creates differentiated target product profiles

POI = protein of interest

Monte Rosa Therapeutics – Key Firsts and Accomplishments

From serendipity to rational design of MGDs

Built **a proprietary molecular glue-based targeted protein degradation platform** developing breakthrough therapeutics that selectively degrade disease-causing proteins

Established **a target-centric** drug discovery approach combining experimentation with AI enabling **rational design** of highly potent and selective MGDs

Presented interim data from **Phase 1/2 trial of GSPT1-directed MGD MRT-2359 for the treatment of MYC-driven tumors; optimal pharmacodynamics*, favorable safety profile and initial clinical activity observed**

Progressed VAV1 MGD MRT-6160 to clinical development and NEK7 MGD MRT-8102 into IND enabling studies; MRT-6160 is the *first* known MGD specifically developed for a non-oncology indication

Advanced several additional **highly credentialed targets** as amenable to degradation through our platform including CDK2, Cyclin E1, and multiple discovery targets; began expanding approach **to E3 ligases** beyond cereblon

Established **validating discovery collaboration with Roche** in oncology and neurological diseases

* Based on optimal PD modulation in preclinical studies

Monte Rosa Therapeutics

Portfolio

Monte Rosa Pipeline and Upcoming Milestones

Target	Compound	Indication(s)	Discovery / IND-Enabling / Clinical	Next Anticipated Milestone	Ownership
GSPT1	MRT-2359	NSCLC, SCLC and other MYC-driven Malignancies		RP2D and Phase 1 data in H2 2024	
VAV1	MRT-6160	Autoimmune Disease – Systemic and CNS		Phase 1 data in Q1 2025	
NEK7	MRT-8102	IL-1β/NLRP3 driven Inflammatory Diseases		IND submission in H1 2025	
	LO (2nd generation)			Development candidate	
CDK2	LO	Breast Cancer		Development candidate in 2024	
CCNE1 (Cyclin E1)	LO	CCNE1 amplified tumors		Development candidate	
Discovery Targets	-	Multiple		Lead optimization	
Discovery Targets	-	Oncology and Neurological Diseases		Undisclosed	Roche

Oncology Immunology Inflammation Various

Monte Rosa Therapeutics

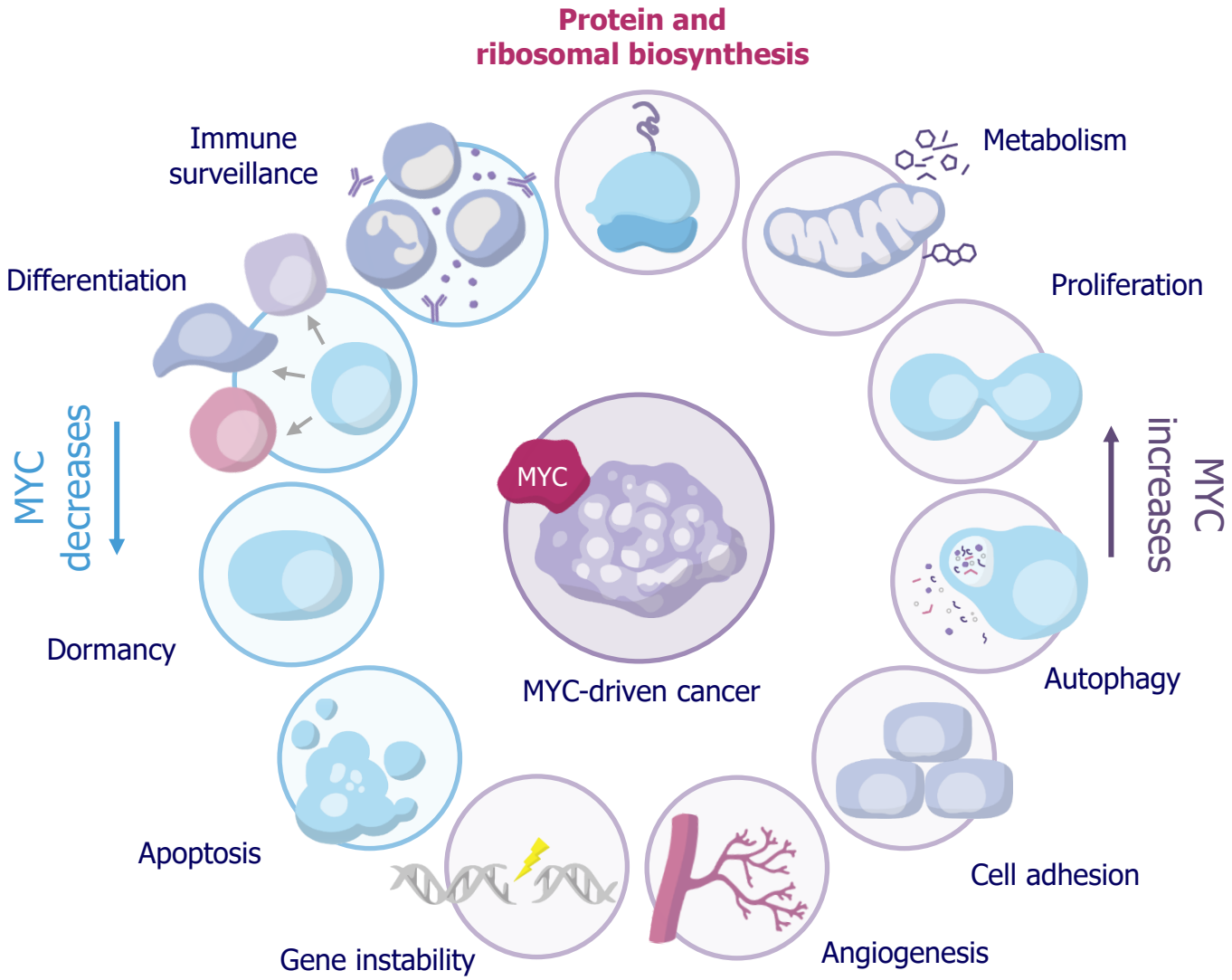
GSPT1 program (MRT-2359)

MYC is a Key Regulator of Cancer Growth and Immune Evasion

- Frequently activated across many cancers including some of the most common (e.g. lung, prostate, breast)
- Drives cancer progression through effects on both cancer cells and tumor microenvironment
- MYC signaling can enable tumor cells to evade immune response
- Very challenging to drug with conventional approaches; no approved MYC-targeted therapies

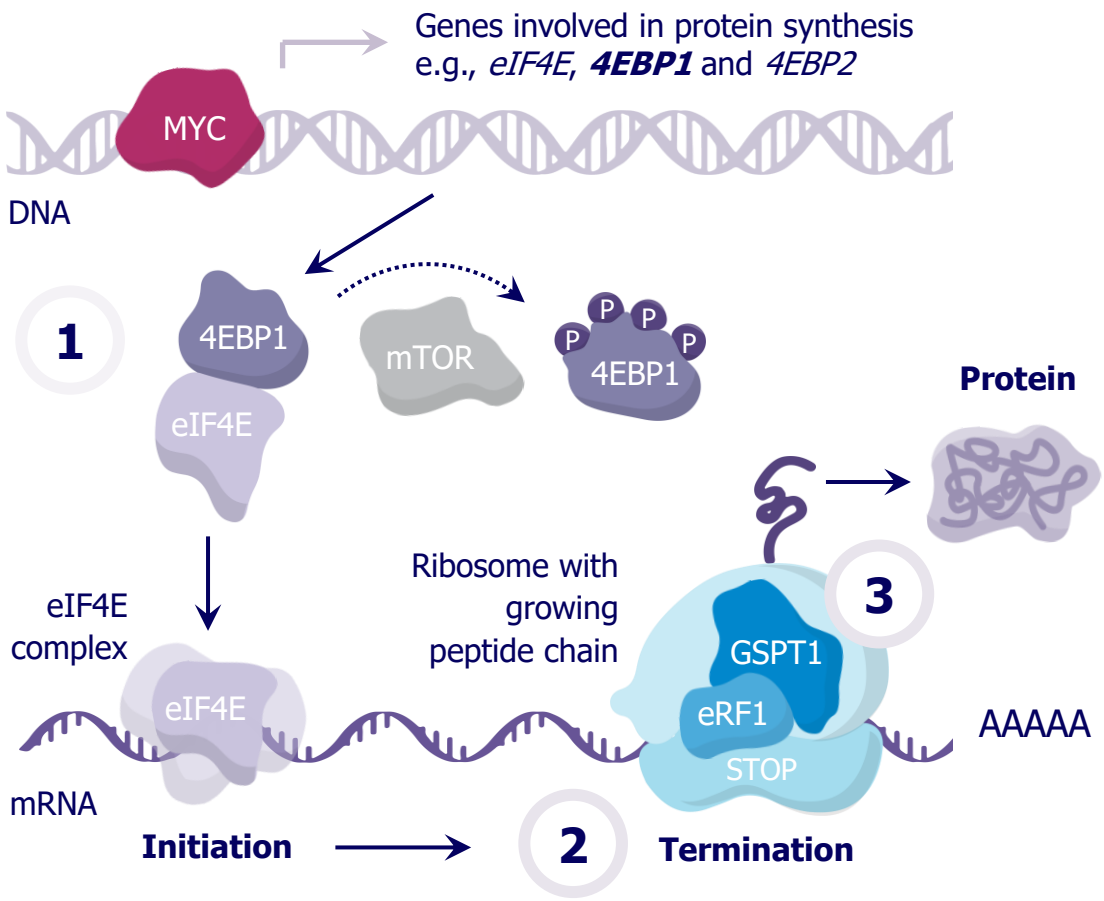
- MRT-2359 is designed to specifically target MYC-driven tumors

MYC Impacts Many "Hallmarks of Cancer"



Source: Dhanesekaran R et al. Nat Rev Clin Oncol 2022

Targeting MYC-driven Tumors and Their Addiction to Protein Translation Through GSPT1 degradation



1

Addiction

To sustain growth, MYC-driven tumors are **addicted to protein translation**

2

Dependency

This addiction creates a dependency on the **translation termination factor GSPT1**

3

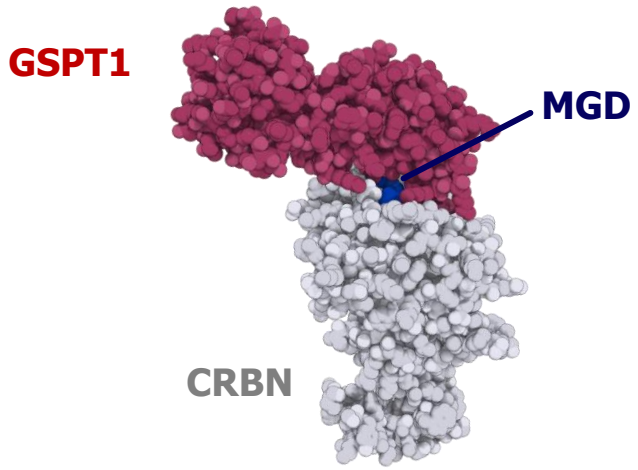
Therapeutic vulnerability

GSPT1 is a therapeutic vulnerability of MYC-driven tumors
leading to preferential activity of GSPT1 MGDs

MRT-2359 is a Potent and Highly Selective GSPT1-directed MGD

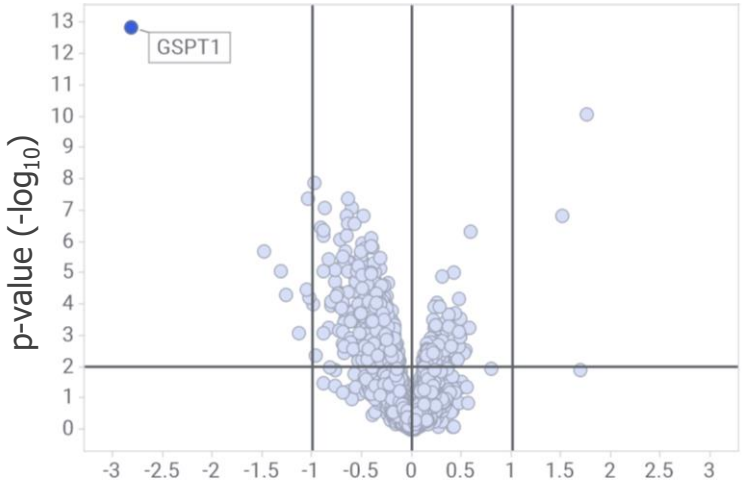
MRT-2359 is a potent GSPT1-directed MGD

Ternary complex modelling



in vitro data	
CRBN binding, K_i	113 nM
Ternary complex, EC_{50}	< 7 nM
Degradation, DC_{50} (in disease relevant cell lines)	1 - 20 nM

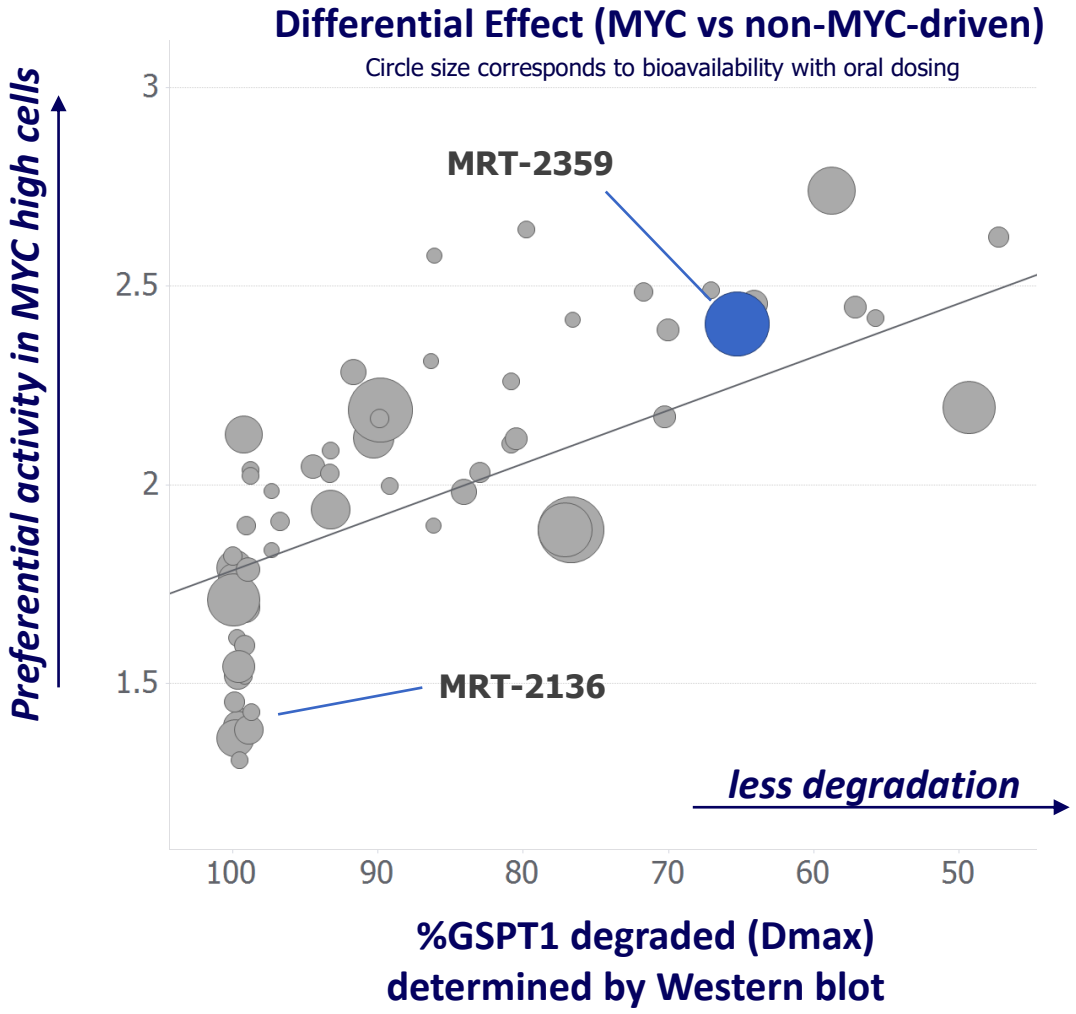
MRT-2359 induces selective GSPT1 degradation and shows favorable ADME/DMPK profile



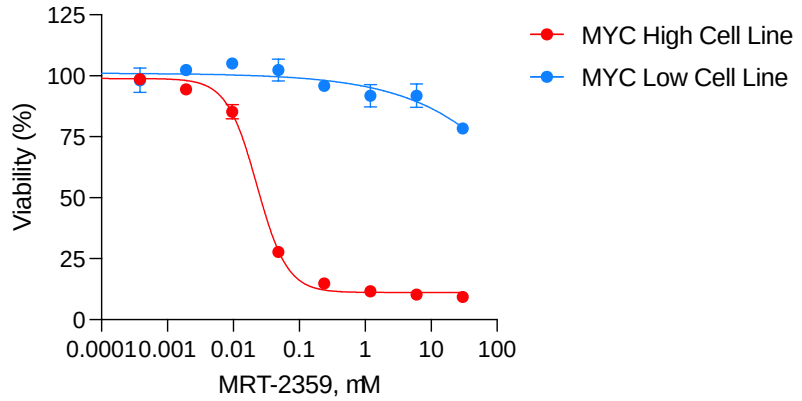
No degradation of other known cereblon neosubstrates

ADMET profile	
CYP DDIs	> 30 µM
hERG inhibition patch clamp	EC_{50} > 30 µM
Oral bioavailability all species	~50%

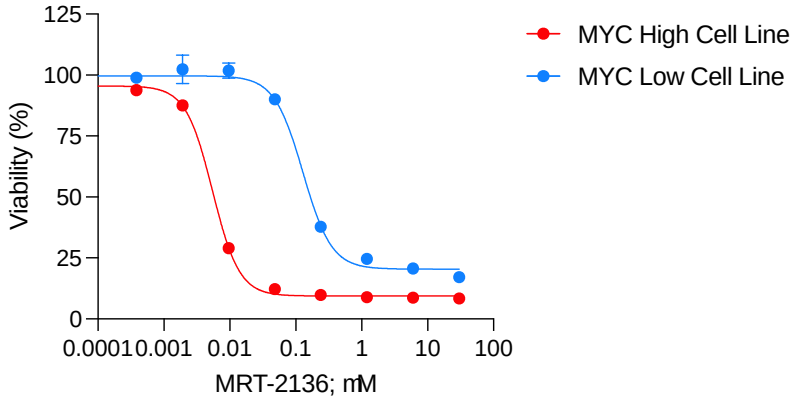
MRT-2359 Has Optimized Depth of Degradation To Achieve Preferential Activity in MYC High Cancer Cells



MRT-2359 displays preferential activity in MYC driven NSCLC cells



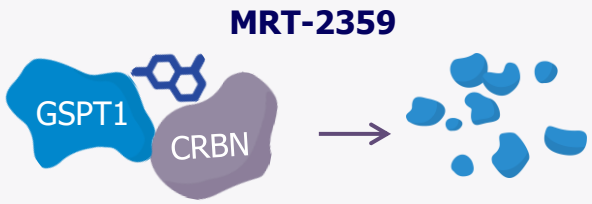
Non-optimal GSPT1 MGD (MRT-2136) shows limited preferential activity



Three Mechanisms Driving Preferential Activity in MYC High Tumor Cells

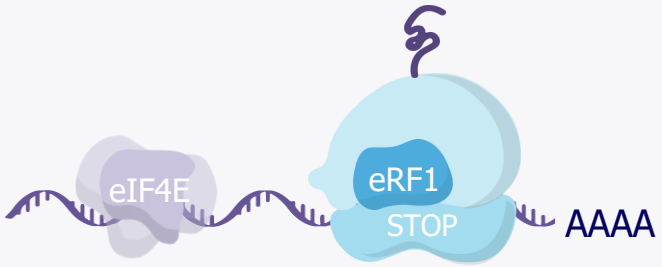
Preferential GSPT1 degradation

MRT-2359 leads to deeper degradation of GSPT1 in cancer cells with high MYC expression



Inhibition of translation

MRT-2359-induced reduction of GSPT1 preferentially impairs protein synthesis in tumor cells with high MYC expression

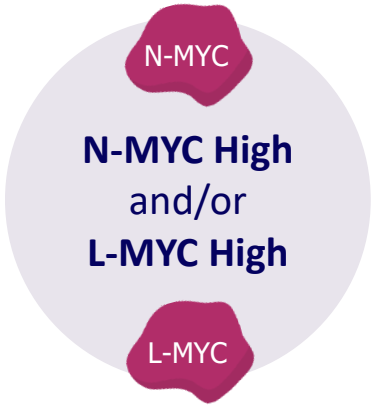


MYC down-modulation

In a feedback loop, MRT-2359 decreases MYC expression and transcriptional activity

Large Potential Opportunities in MYC-Driven Tumors

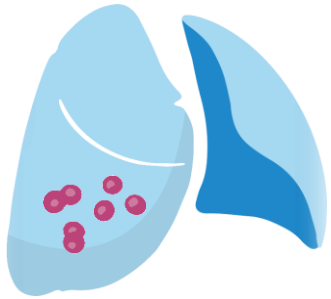
High unmet need with no currently approved therapies specifically for MYC high tumors



SCLC (70-80% L/N-MYC high)

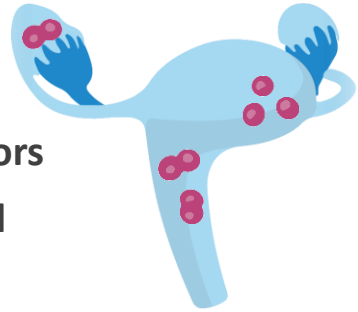
NSCLC
N-MYC high (5-10%)
SCLC/NE transformation

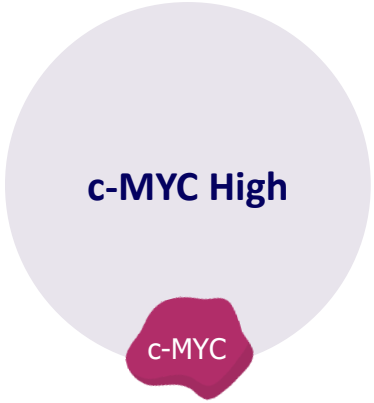
Neuroendocrine lung cancer



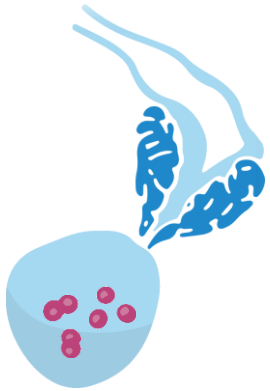
Neuroendocrine tumors

L-/N-MYC amplified tumors

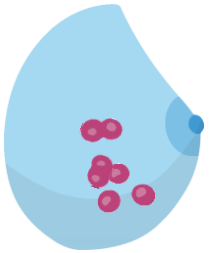




Prostate cancer
Including ARV7 positive



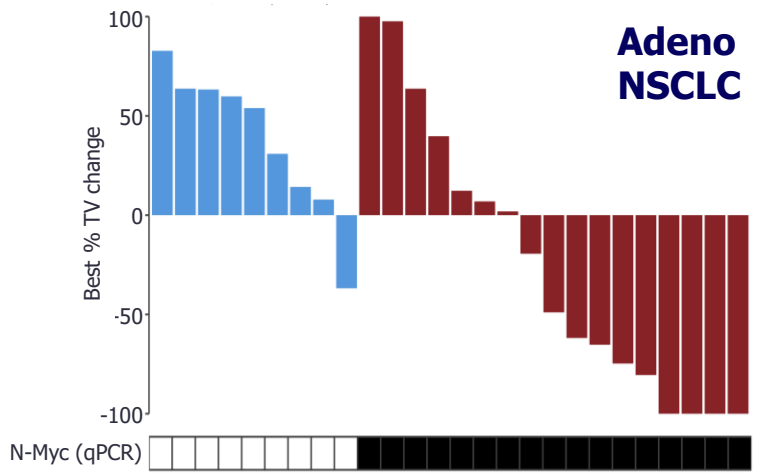
Breast cancer
ER positive metastatic

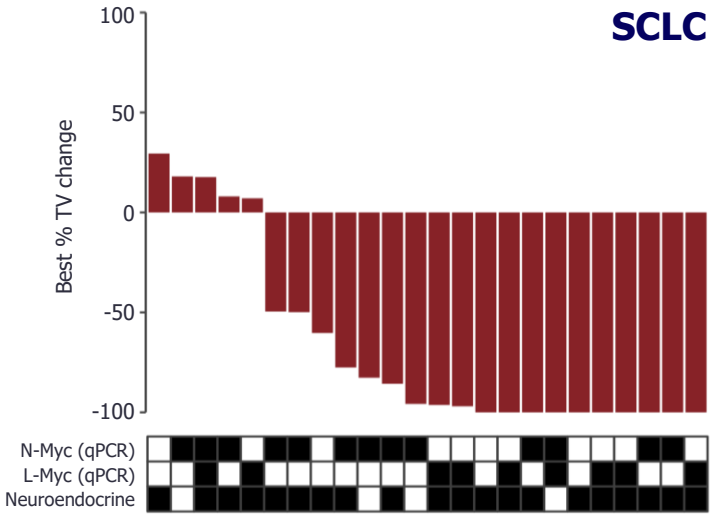


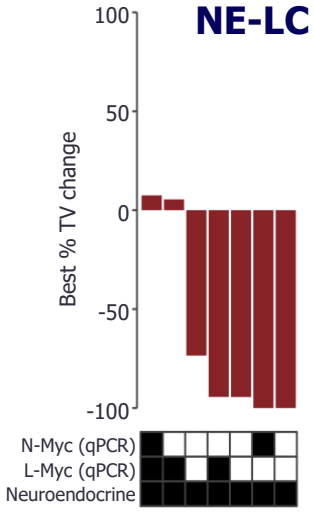
Preclinical Validation of Activity of MRT-2359 in Lung Cancer PDX Models

Collection of PDX models

MRT-2359
10 mg/kg QD

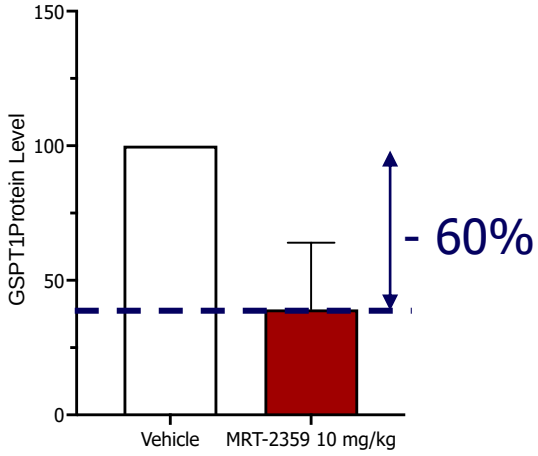






PD modulation

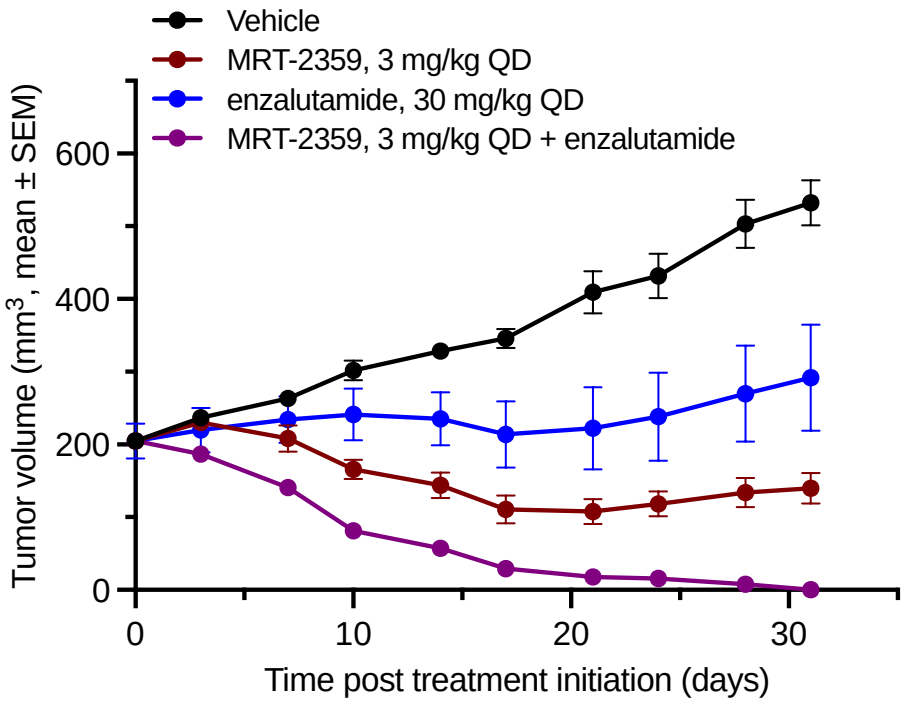
Targeted mass spectrometry
in 7 representative models



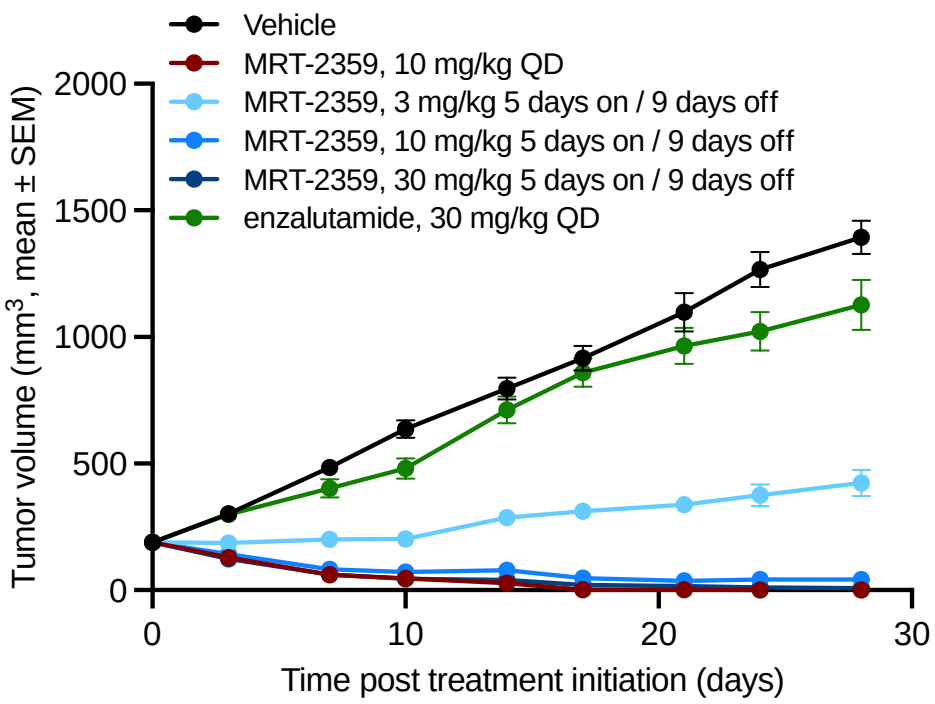
biomarker negative biomarker positive

MRT-2359 Leads to Tumor Regressions in Preclinical Models of Castration Resistant Prostate Cancer and ARV7-driven Prostate Cancer

MRT-2359 displays activity in castrate resistant VCAP model

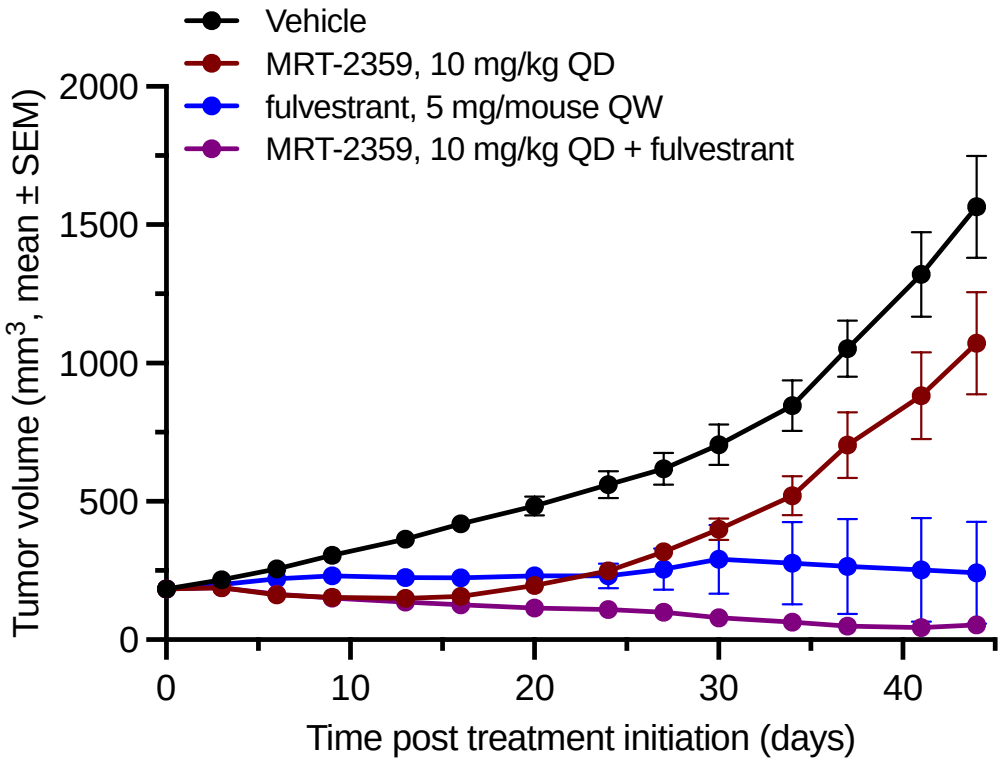


MRT-2359 displays activity in ARV7 driven 22RV1 model



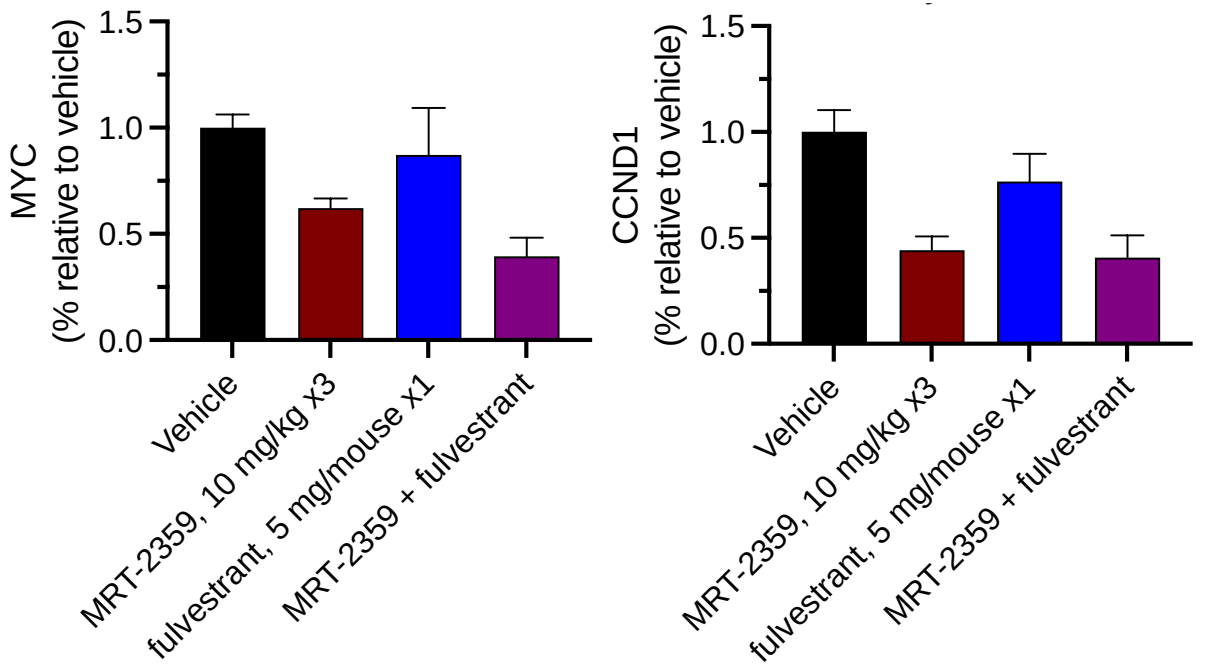
MRT-2359 Leads to Tumor Regressions in Preclinical Model of ER-positive Breast Cancer

MRT-2359 displays activity in MCF7 model of ER-positive breast cancer



MCF7 Breast CDX (ER+, HER2-)

MRT-2359 reduces MYC and CCND1 *in vivo*



MRT-2359-001 Phase 1/2 Clinical Study Design

Phase 1: Dose Escalation

Lung cancer, high-grade neuroendocrine tumors and solid tumors with N-/L-MYC amplification

RP2D (expected H2 2024)

- 2mg 5/9
- 1.5mg 5/9
- 1mg 5/9
- 0.5mg 5/9
- DL 3 21/7
- 0.75mg 21/7
- 0.5mg 21/7

Backfill: Up to 6 additional pts for each dose level

5/9 = 5 days on drug, 9 days off drug.
21/7 = 21 days on drug, 7 days off drug.

Phase 2: Expansion Cohorts

- **NSCLC***
- **SCLC****
- **N-MYC/L-MYC amplified tumors**
- **HR+/Her2- Breast Cancer (+Fulv)**
- **Prostate cancer (+Enza)**

* Efficacy guided stratification per N-/L-MYC expression
** Retrospective stratification per N-/L-MYC expression

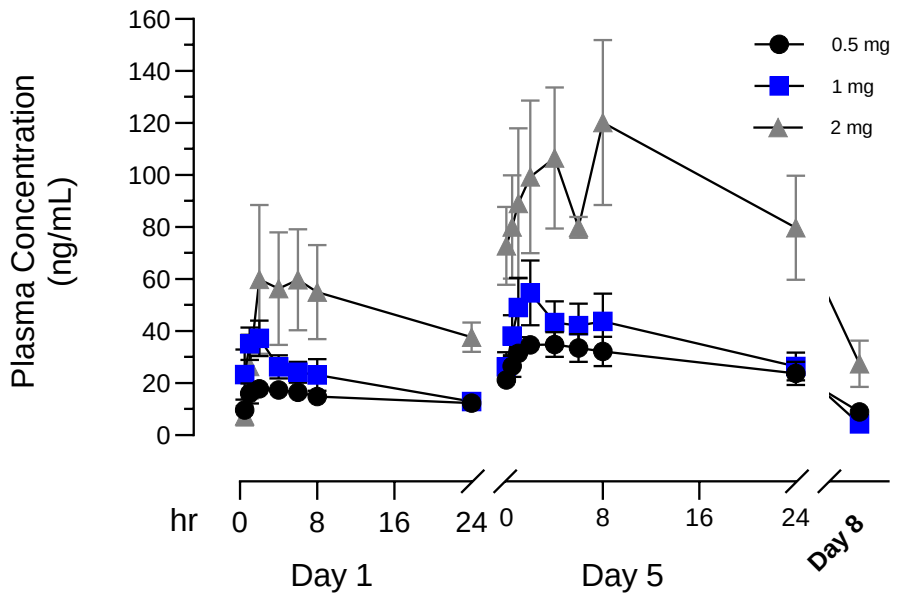
MRT-2359 Phase I Interim Data – October 2023

Objectives of Phase I interim analysis

- ✓ Demonstrate dose dependent PK
- ✓ Demonstrate significant GSPT1 degradation at safe dose levels in PBMCs and tissue biopsies (60% based on preclinical data)
- ✓ Share potential preliminary efficacy signals in biomarker positive patients

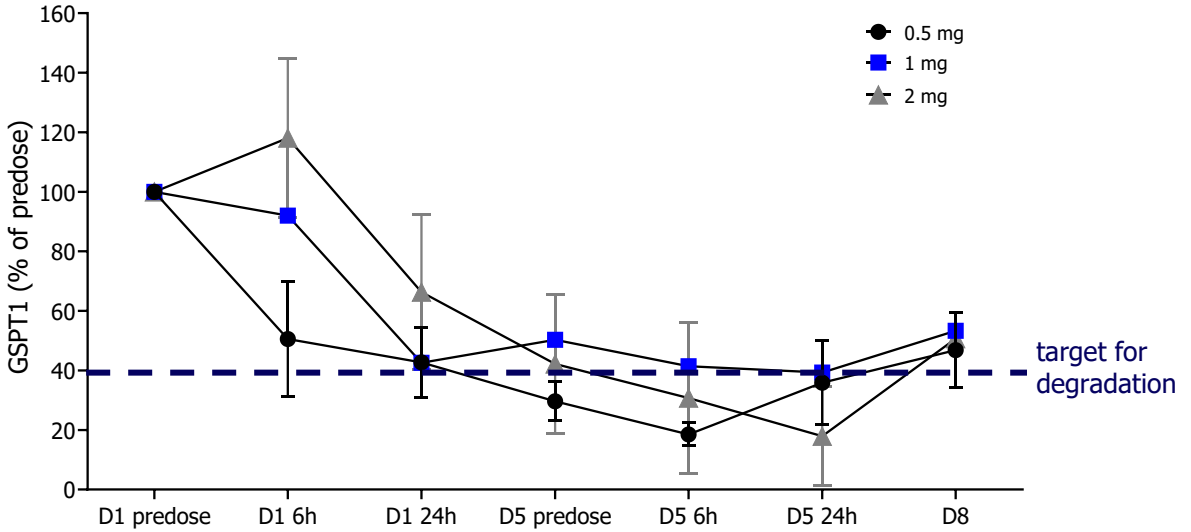
MRT-2359 Induces Optimal GSPT1 Degradation in PBMCs*

MRT-2359 displayed dose dependent plasma exposure



- Dose dependent exposure in line with preclinical PK models
- No food effect observed

MRT-2359 displayed deep GSPT1 degradation in PBMCs at all dose levels

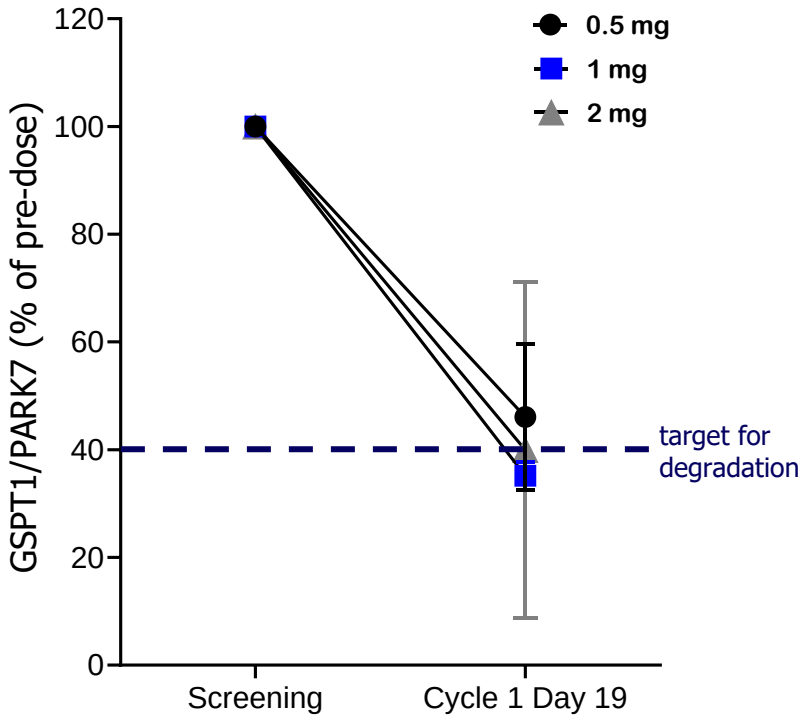


- GSPT1 expression assessed using targeted mass spectrometry
- PD modulation in PBMCs observed across all dose levels; level of degradation (~ 60%) in line with maximal degradation observed in preclinical studies using the same method
- Level of degradation equivalent across all dose levels, suggesting saturated PD response from 0.5 to 2 mg

* as presented on 10/17/23

MRT-2359 Induces Optimal GSPT1 Degradation in Tissue Biopsies*

MRT-2359 reduced GSPT1 protein expression in human tissue biopsies



- GSPT1 degradation assessed from pre-treatment screening biopsies and biopsies taken at day 19
- Matched biopsies obtained from 11 patients across the 3 cohorts analyzed
- GSPT1 expression assessed using targeted mass spectrometry
- PD modulation seen in tissue biopsies in line with PD modulation seen preclinically at efficacious dose levels using same assay (targeted mass spectrometry)

* Based on optimal PD modulation in preclinical studies as presented on 10/17/23

Summary of Treatment-Related Adverse Events (AEs) in ≥ 2 patients[#]

No observed clinically significant hypocalcemia or hypotension/cytokine release syndrome

AE Preferred Term	0.5 mg (N=9)[##]		1 mg (N=7)[##]		2 mg (N=5) [##]		Overall (N=21)	
	Any Grade	Grade ≥ 3	Any Grade	Grade ≥ 3	Any Grade	Grade ≥ 3	Any Grade	Grade ≥ 3
Thrombocytopenia[###]	0	0	0	0	4 (80%)	3 (60%)[***]	4 (19%)	3 (14%)
Neutropenia[*]	0	0	0	0	2 (40%)	1 (20%)	2 (10%)	1 (5%)
Leukopenia	0	0	0	0	2 (40%)	2 (40%)	2 (10%)	2 (10%)
Nausea	3 (33%)	0	2 (29%)	0	1 (20%)	0	6 (33%)	0
Vomiting	1 (11%)	0	2 (29%)	0	1 (20%)	0	4 (19%)	0
Diarrhea[**]	1 (11%)	0	3 (43%)	0	1 (20%)	0	5 (24%)	0
Hypokalemia	0	0	1 (14%)	0	1 (20%)	0	2 (10%)	0
Fatigue	0	0	2 (29%)	0	0	0	2 (10%)	0
Decreased appetite	0	0	2 (29%)	0	0	0	2 (10%)	0
Rash	2 (22%)	0	0	0	0	0	2 (10%)	0

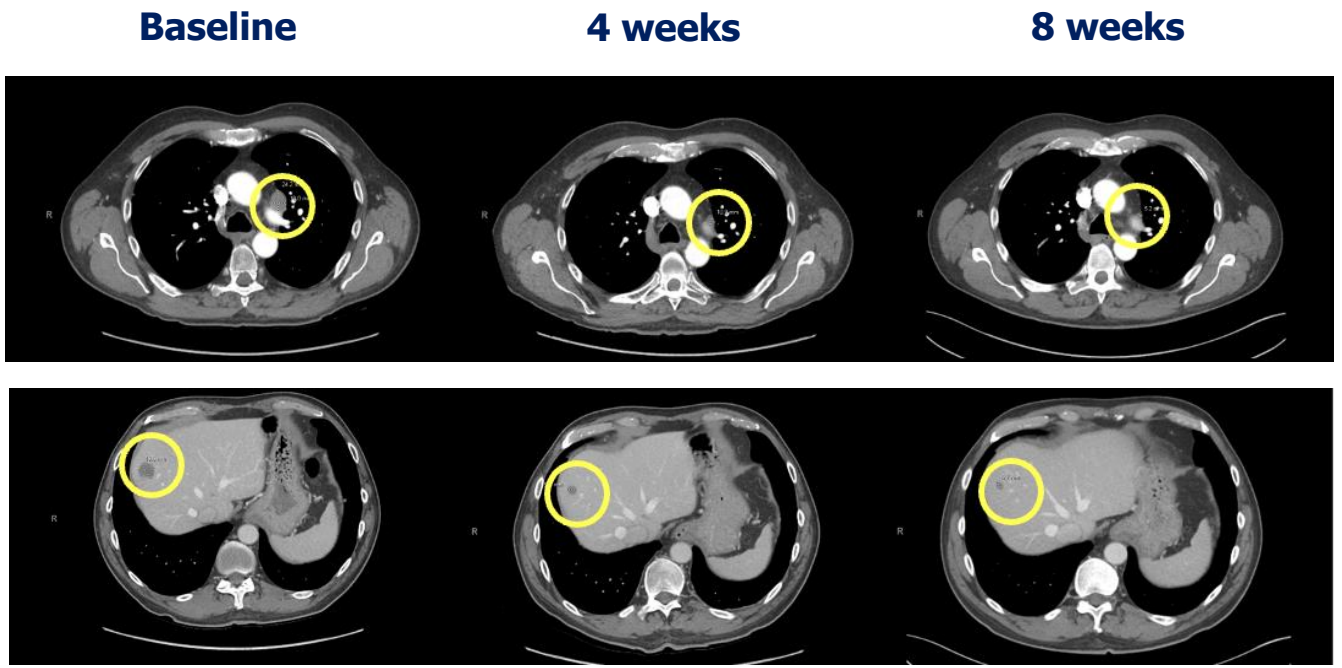
Note: As presented on 10/17/23

[#] Data cut-off: 7 SEP 2023
[##] MRT-2359 was given orally daily on the 5 days on and 9 days off schedule
[###] Data combined for 'thrombocytopenia' and 'platelet count decreased'

[*] Data combined for 'neutropenia' and 'neutrophil count decreased'
[**] Data combined for 'diarrhea' and 'feces soft'
[***] Dose limiting toxicity: Grade 4 thrombocytopenia in 2 patients

Confirmed Partial Response in High Grade Neuroendocrine Bladder Cancer*

- High Grade (HG) neuroendocrine bladder cancer
- Baseline tumor biopsy demonstrated high N-MYC expression
- 4 prior lines of therapy including chemotherapy and pembrolizumab
- Patient initiated on 2 mg for first 5/9 regimen, then lowered to 1 mg and 0.5 mg and remains on therapy (> 3 month)
- CT scan after 4 weeks demonstrated PR (-34% per RECIST 1.1) that continued to improve at week 8 (-59% per RECIST 1.1)

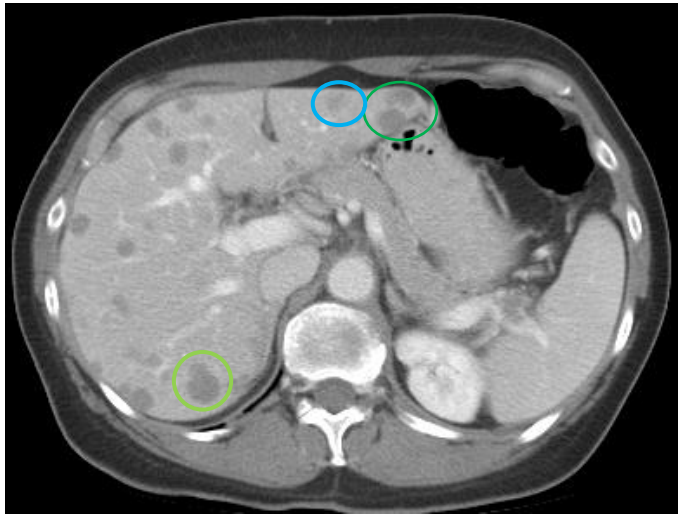


* as presented on 10/17/23

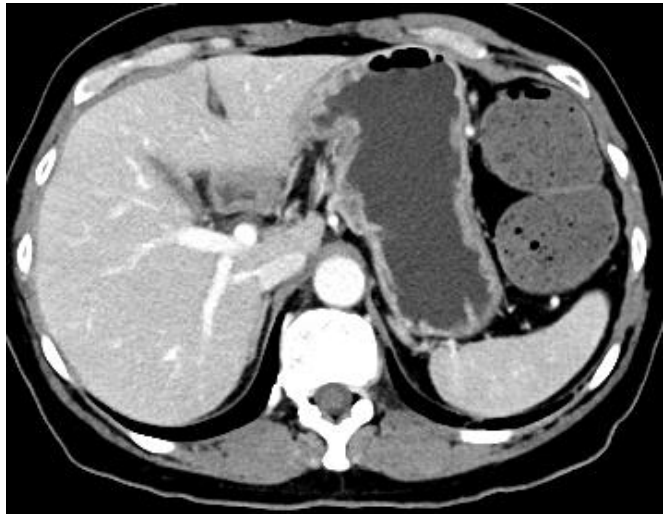
Unconfirmed Partial Response in NSCLC with SCLC/NE Transformation*

- NSCLC (adenocarcinoma)
- Baseline tumor biopsy demonstrated SCLC/NE transformation, low N- and L-MYC expression
- Multiple lines of prior therapy including chemotherapy, pembrolizumab and atezolizumab
- Patient initiated on 0.5 mg
- CT on C1D22 demonstrated resolution of liver metastases (-41% per RECIST 1.1)
- Patient experienced frequent dose interruptions due to bowel obstruction unrelated to MRT-2359

Baseline



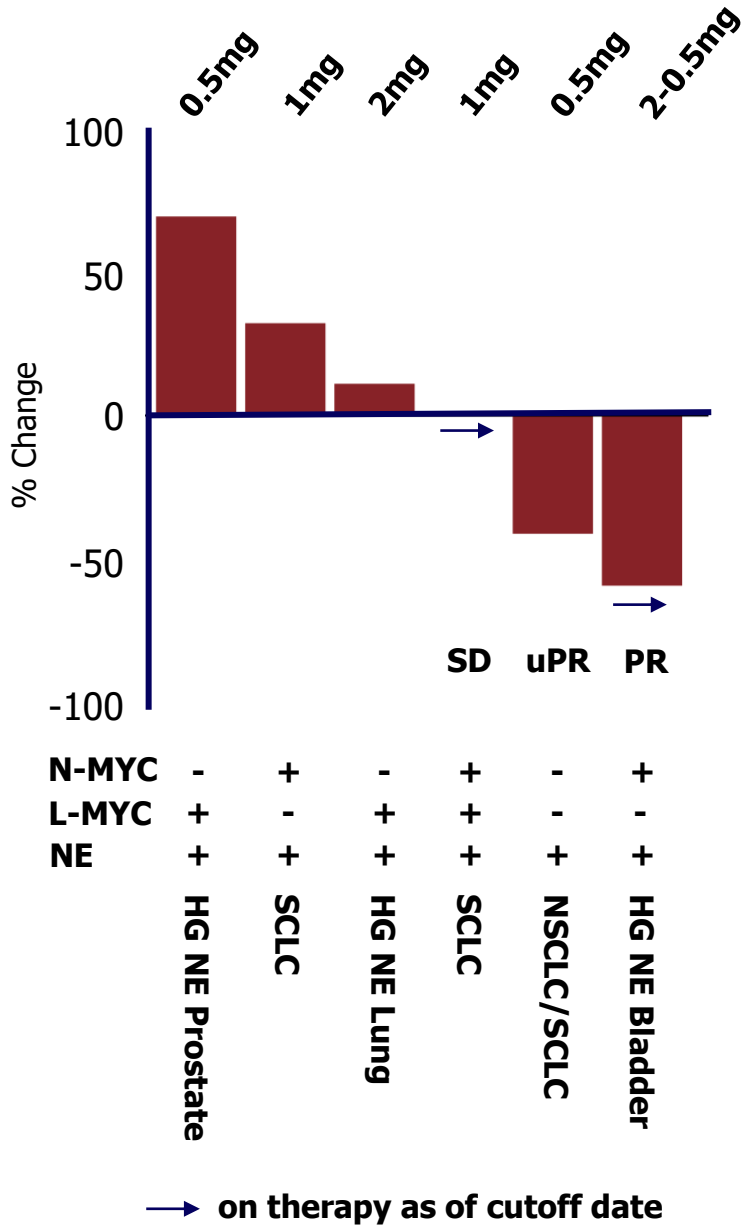
3 weeks



* as presented on 10/17/23

MRT-2359-001 – Preliminary Efficacy Data*

- As of September 7th, 2023, of 15 evaluable patients treated across 3 cohorts, tumors from 6 patients were identified as biomarker positive
- Of these 6 biomarker positive patients, 2 have experienced a PR (1 confirmed, 1 unconfirmed) and 1 patient has SD
  - PR (-59%) – HG NE bladder carcinoma
  - uPR (-41%) – NSCLC with SCLC/NE transformation
  - SD (0%) – SCLC (remains on therapy for > 4 months)
- In addition, one patient with NSCLC and unclear biomarker status remains on therapy for > 7 months with stable disease
- No clinical activity seen in biomarker negative patients



* as presented on 10/17/23

Favorable Safety Profile at Clinically Active Doses*

Safety profile supports further development

- Preferential and more rapid degradation of GSPT1 in MYC high tumor cells enables favorable adverse event (AE) profile at clinically active doses of 0.5 and 1 mg – no Grade ≥3 AEs
  - Grade 1-2 AEs primarily GI-related and manageable
- No observations of previously reported limitations of other GSPT1-targeted agents
  - No observed clinically significant hypocalcemia or hypotension/cytokine release syndrome at any dose level
- Grade 4 thrombocytopenia identified as dose limiting toxicity (DLT) at 2 mg
- Favorable safety profile with lack of hypocalcemia has enabled exploration of 21/7 schedule, starting at 0.5 mg
- RP2D expected in Q2 of 2024

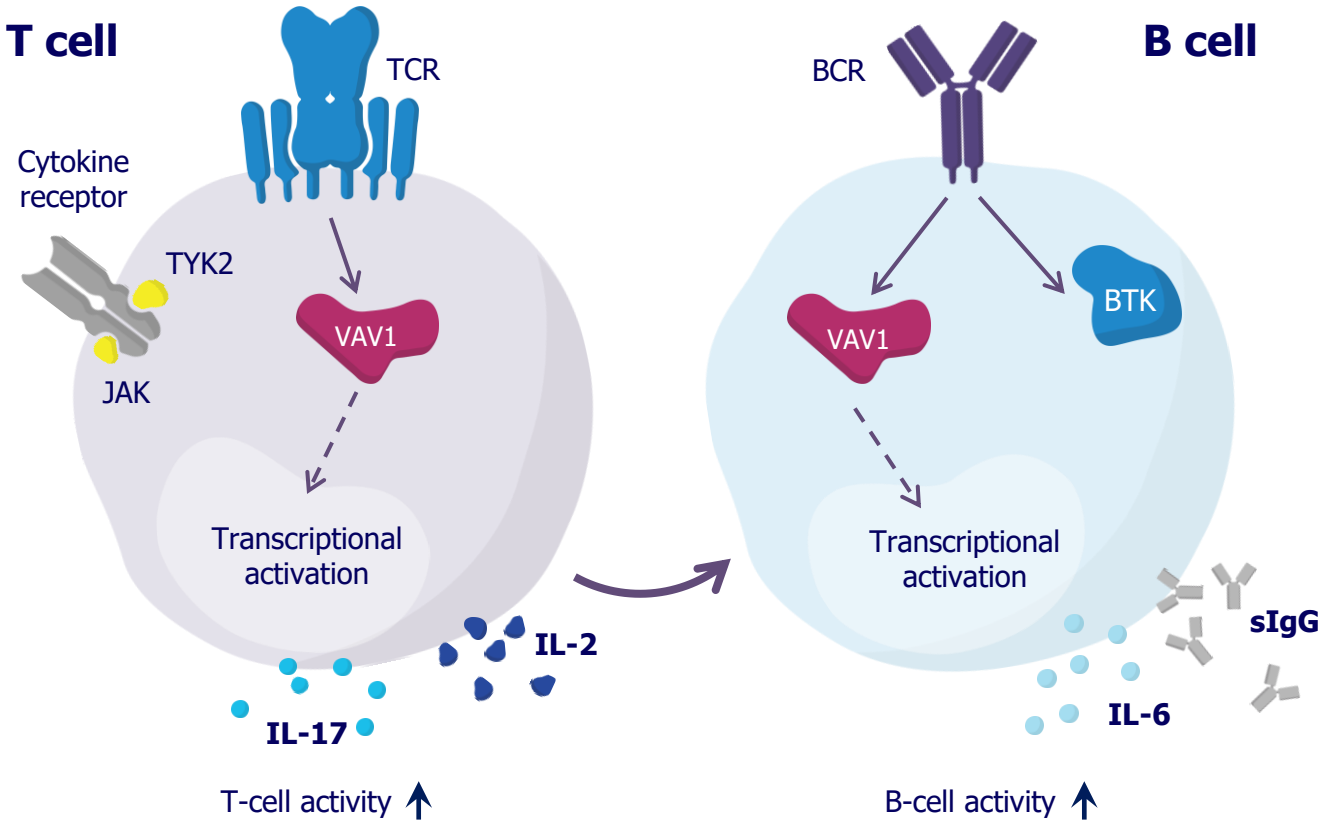
* as presented on 10/17/23

Monte Rosa Therapeutics

VAV1 Program (MRT-6160)

VAV1 is a Key Regulator of T- and B-cell Receptor Activity

VAV1-directed MGDs have the potential to modulate T- and B-cell function



VAV1 signaling increases cytokine production, proliferation, and differentiation

Therapeutic hypothesis:

- VAV1 is a pivotal scaffolding protein and signaling molecule downstream of both the T-cell and B-cell receptors – confirmed by multiple CRISPR screens VAV1 knockout (KO) mice
- VAV1 degradation is predicted to impact both T- & B-cell function and has the potential to treat a broad set of autoimmune diseases

Clinical Opportunity:

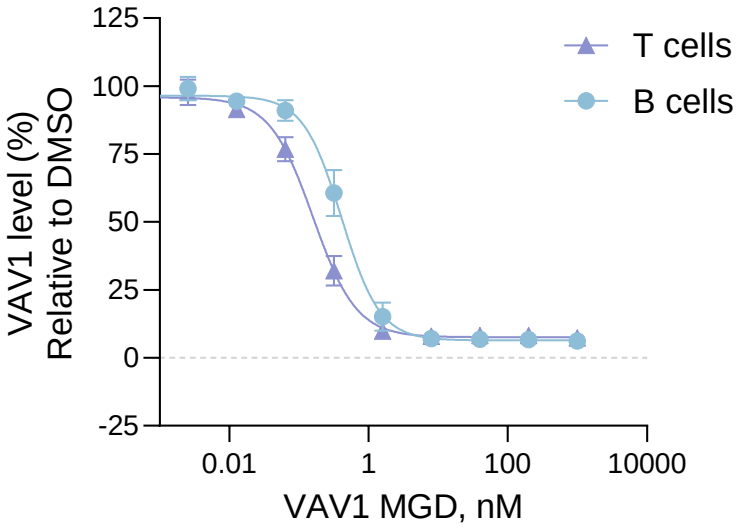
Autoimmune/inflammatory disorders including inflammatory bowel disease (4.1M patients), rheumatoid arthritis (6.2M patients), multiple sclerosis (1.3M patients), and myasthenia gravis (~300K patients)

TCR = T-cell receptor. BCR = B-cell receptor. IL-2, IL-17 and IL-6 are cell signaling molecules (cytokines) that promote immune response. sIgG is the most common circulating antibody.

Patient diagnosed prevalence #s, major markets (US, EU and JP): Decision Resources Group (DRG)

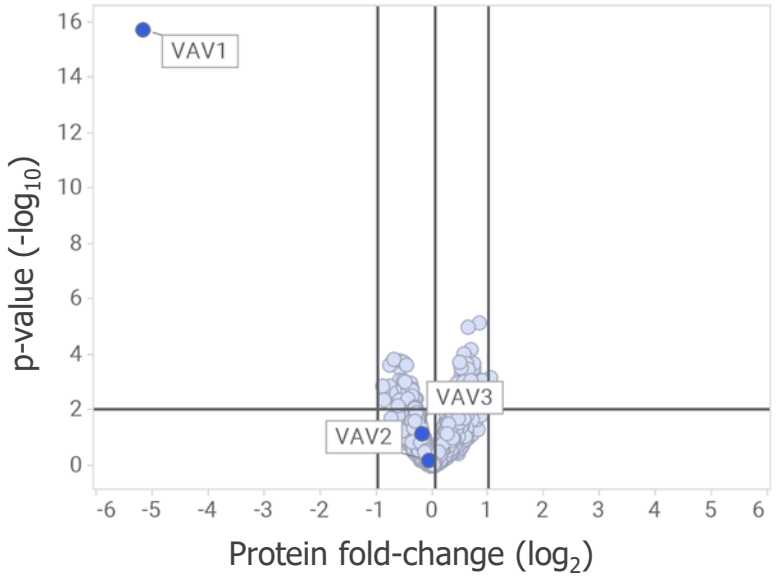
MRT-6160 is a Potent and Highly Selective VAV1-directed MGD

MRT-6160 is a potent VAV1-directed MGD



in vitro data	
CRBN binding, IC_{50}	670 nM
Ternary complex, EC_{50}	11 nM
Degradation, DC_{50} /D_{max} (Jurkat)	7 nM / 97 %

MRT-6160 induces highly selective VAV1 degradation and has a favorable ADME/DMPK profile

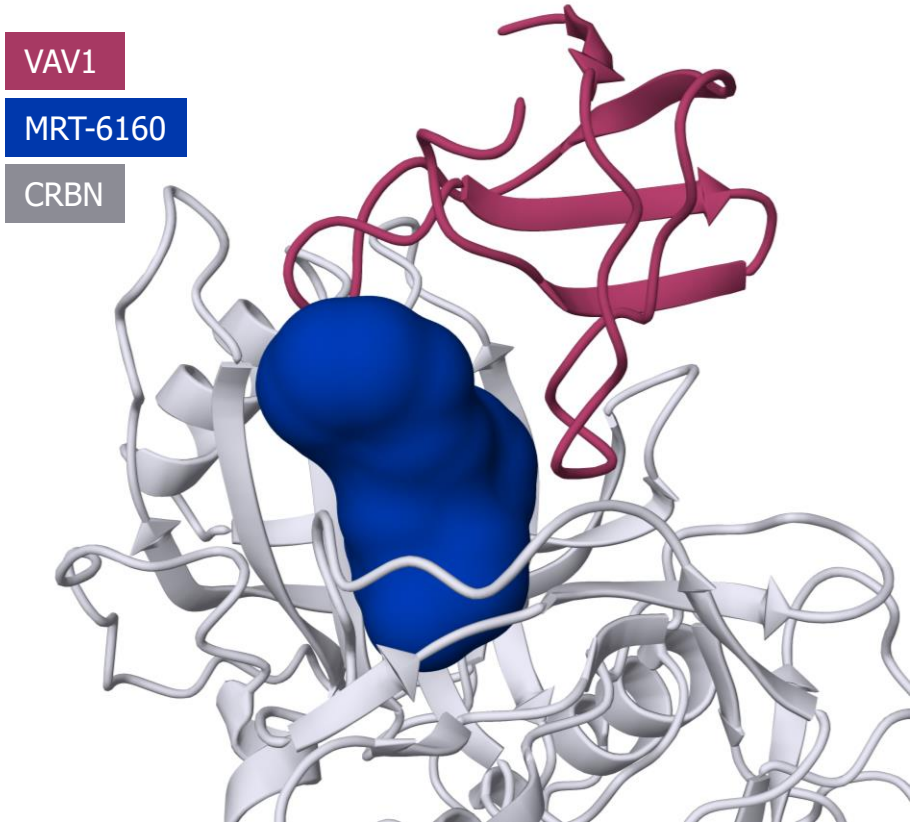


No degradation of other known cereblon neosubstrates

ADMET profile	
CYP DDIs	IC_{50} > 30 µM
hERG inhibition patch clamp	EC_{50} > 30 µM
Oral bioavailability all species	> 50%

MRT-6160 is a Potent, Highly Selective VAV1 MGD with a Favorable Drug-like Profile

VAV1 ternary complex (Cryo-EM)



Cryo-EM structure of MRT-6160 in ternary complex with CRBN and VAV1

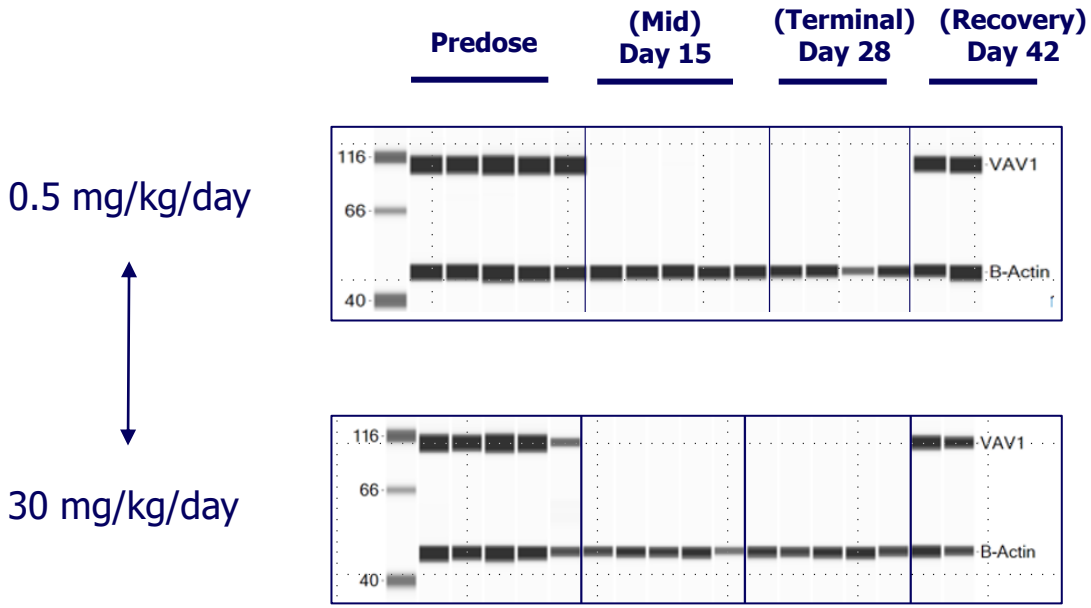
MGD Activity Profile	
CRBN Binding (HTRF, IC_{50})	0.67 µM
VAV1 Ternary Complex (HTRF, EC_{50})	11 nM
VAV1 Degradation (Jurkat, DC_{50} /Dmax)	7 nM / 97%
Selectivity (TMT proteomics)	Large VAV1 selectivity window
Physicochemical Properties	
LogD	1.5
MW	<400
Thermodynamic Solubility	7 µM
ADMET Profile	
Oral bioavailability (all species)	> 50 %
Metabolite Profile (*in vitro*)	No unique human metabolites or GSH adducts (mics)
CYP DDI (9 isoforms)	IC_{50} > 30 µM
Safety Pharmacology	
Mini-Ames	Negative
hERG inhibition (patch clamp)	No inhibition (EC_{50} > 30 µM)
Counterscreens (panel with 98 targets)	No inhibition

28-day GLP Toxicology Studies Establish Highly Favorable Safety Margins

28-day GLP Toxicology Summary

- 28-day GLP Rat and Cyno studies completed with NOAEL set at the highest doses in both species
  - Rats: NOAEL is ~1000-fold over the projected human efficacious exposure
  - Cyno: NOAEL is ~600-fold over the projected human efficacious exposure
- No adverse immunotoxicity or impact on peripheral immune compartments in healthy cynomolgus monkeys
- No impact on bone marrow, peripheral hematopoietic cells counts, GI tract
- No off-targets identified in *in-vitro* safety profiling, no genotoxicity, phototoxicity, or hERG activity

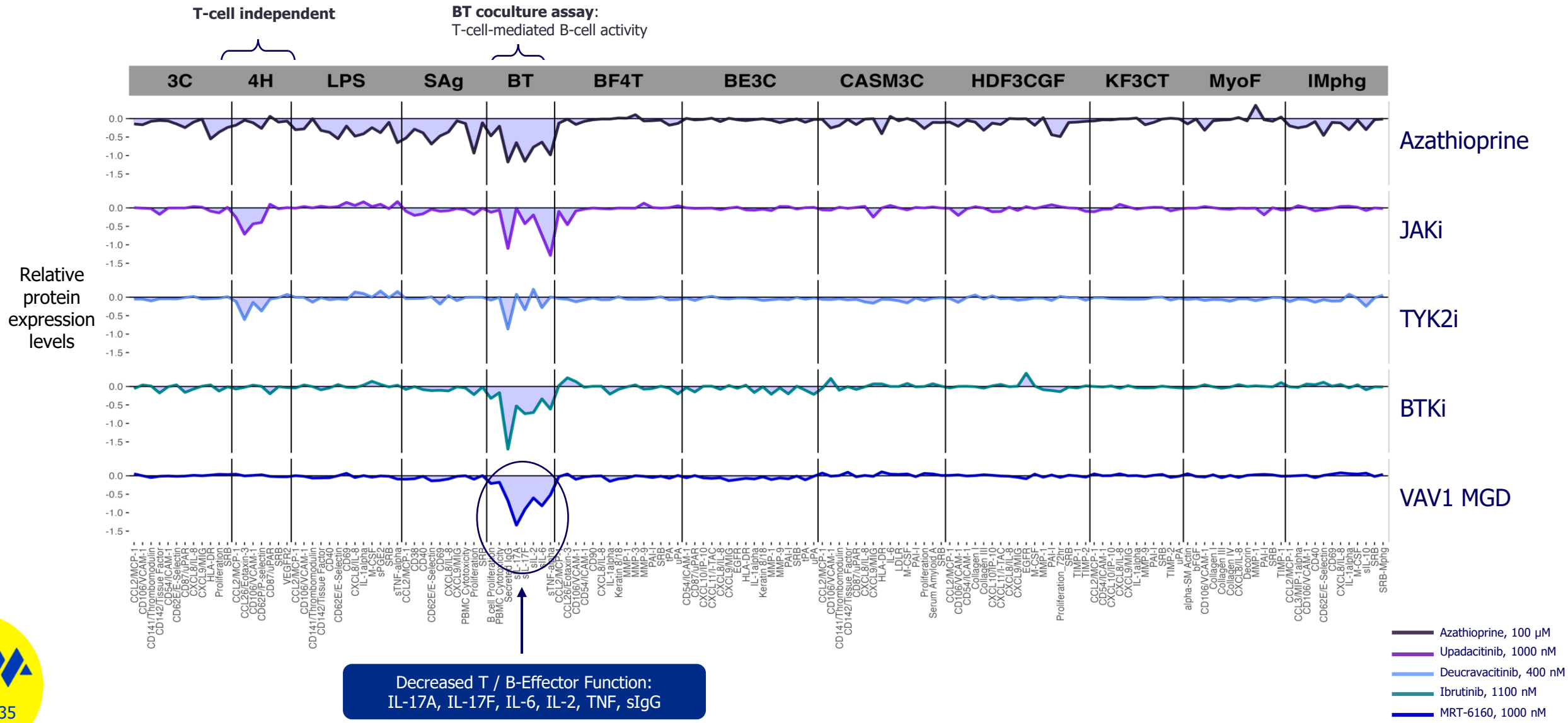
Robust VAV1 degradation and recovery observed in both low and high dose groups in cyno GLP tox study



**data shown from female cyno PBMCs, similar data obtained in males*

NOAEL = no observed adverse effect level

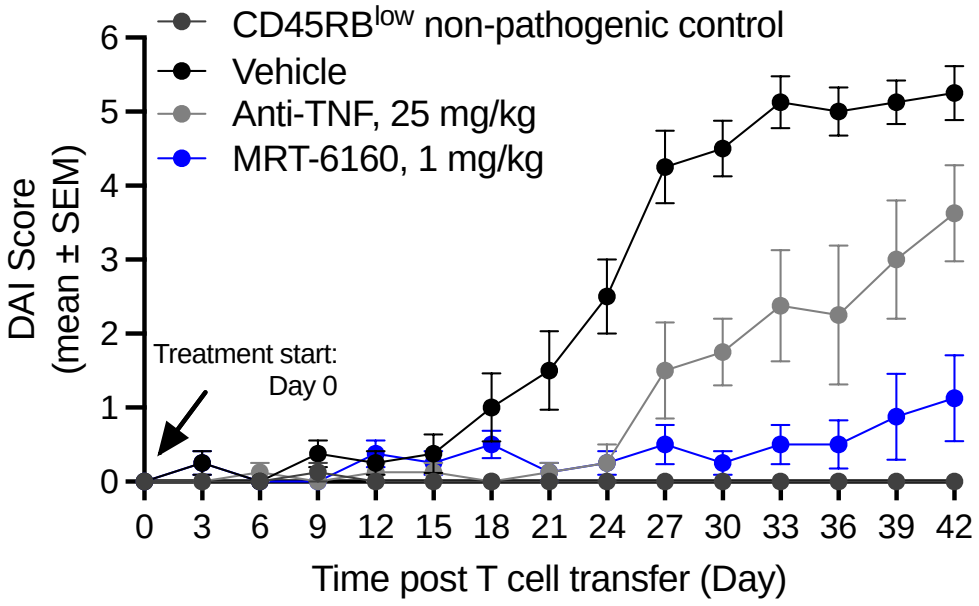
MRT-6160 Blocks T-cell-Mediated B-cell Activity in BioMAP® Profile



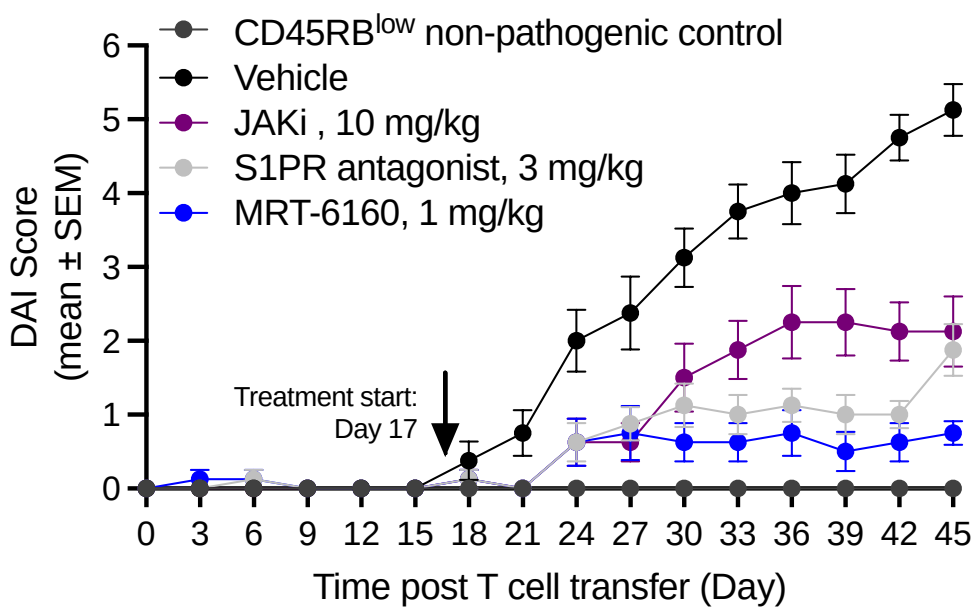
BioMAP® Diversity Plus Platform (Eurofins). Shark tooth plots show relative expression levels of indicated proteins in Drug treated vs. DMSO controls. 3C/4H, Venular endothelial cells; LPS/SAg, Venular endothelial cells + PBMC; BT, PBMC + B cells; BF4T, Bronchial epithelial cells + dermal fibroblasts; BE3C. Bronchial epithelial cells; CASM3C, Coronary artery smooth muscle cells; HDF5CGF, Dermal fibroblasts; KF3CT, keratinocytes + dermal fibroblasts; MyoF, lung fibroblasts; IMphg, macrophages + venular epithelial cells

MRT-6160 Ameliorates T Cell Transfer-Induced Colitis Better than Standard of Care

Treatment initiated at time of model induction on Day 0



Treatment initiated in therapeutic setting on Day 17 following disease induction

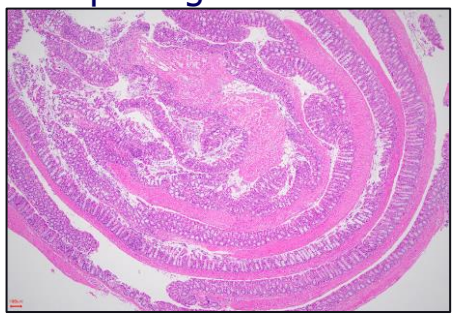


Non-pathogenic CD45RB^{low} or pathogenic CD45RB^{high} cells were transferred into SCID mice to induce colitis. Mice were treated with vehicle, MRT-6160 (PO QD), or anti-TNF (IP Q3D) from Day 0 to Day 42 and assessed for disease every 3 days (*left*) or with vehicle, MRT-6160, or S1PR antagonist (etrasimod; PO QD), or JAKi (upadacitinib; PO BID) from Day 17 to Day 45 and assessed for disease every 3 days (*right*)

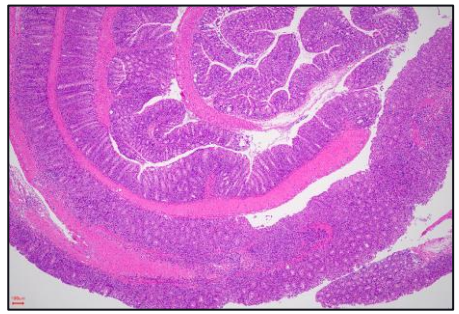
MRT-6160 Reduces Inflammation-Mediated Damage of the Colon and Cytokine Production in a T cell Transfer Model of Ulcerative Colitis

MRT-6160 reduces inflammation-mediated damage and swelling of the colon

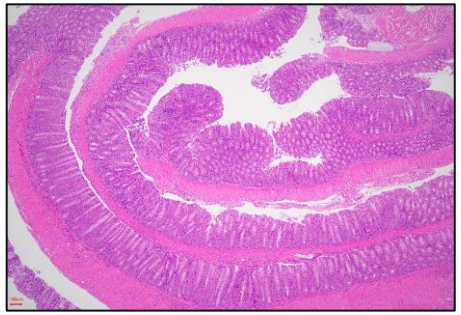
CD45RB^{low} non-pathogenic control



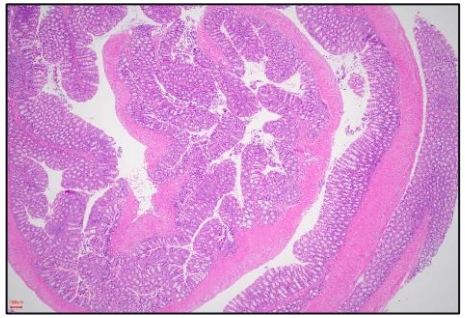
Vehicle



Anti-TNF, 25 mg/kg

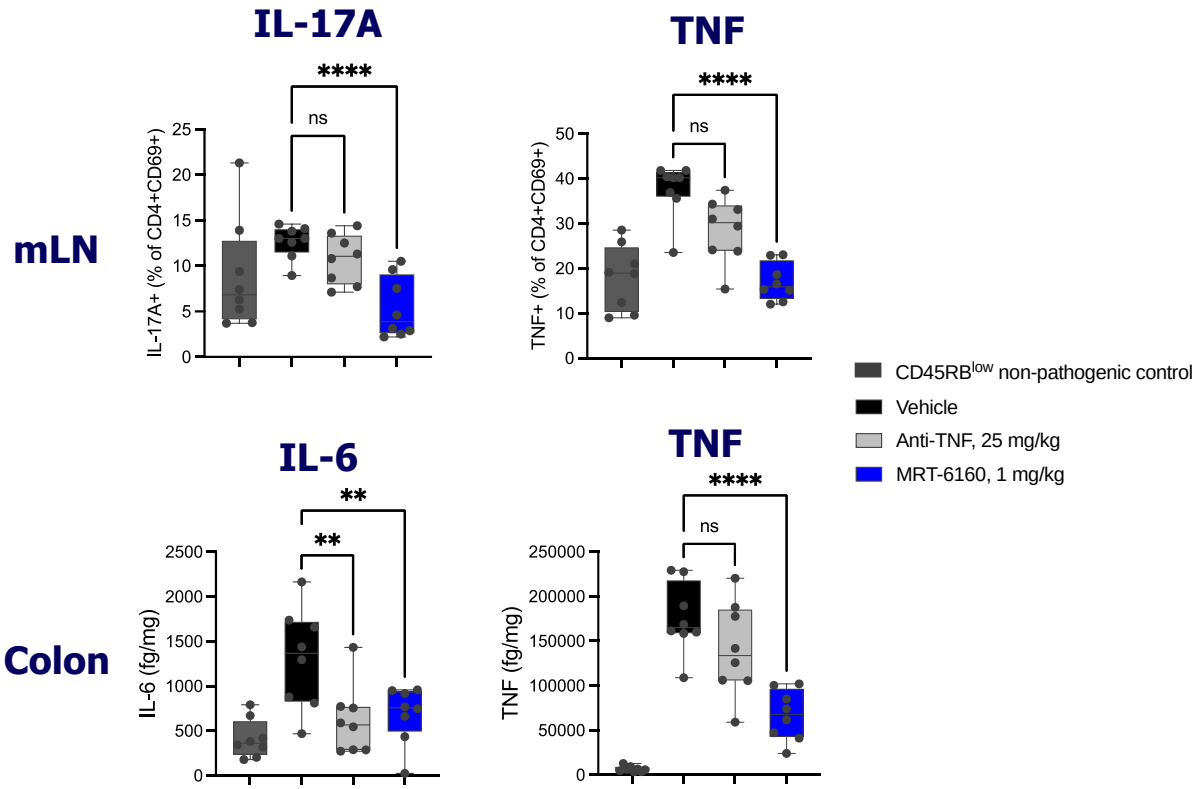


MRT-6160, 1 mg/kg



Histopathology sections from colon at end of study
Sections stained with hemolysin and eosin, then assessed for histopathological score (sum of immune cell infiltration, muscle thickening, and crypt structure metrics)

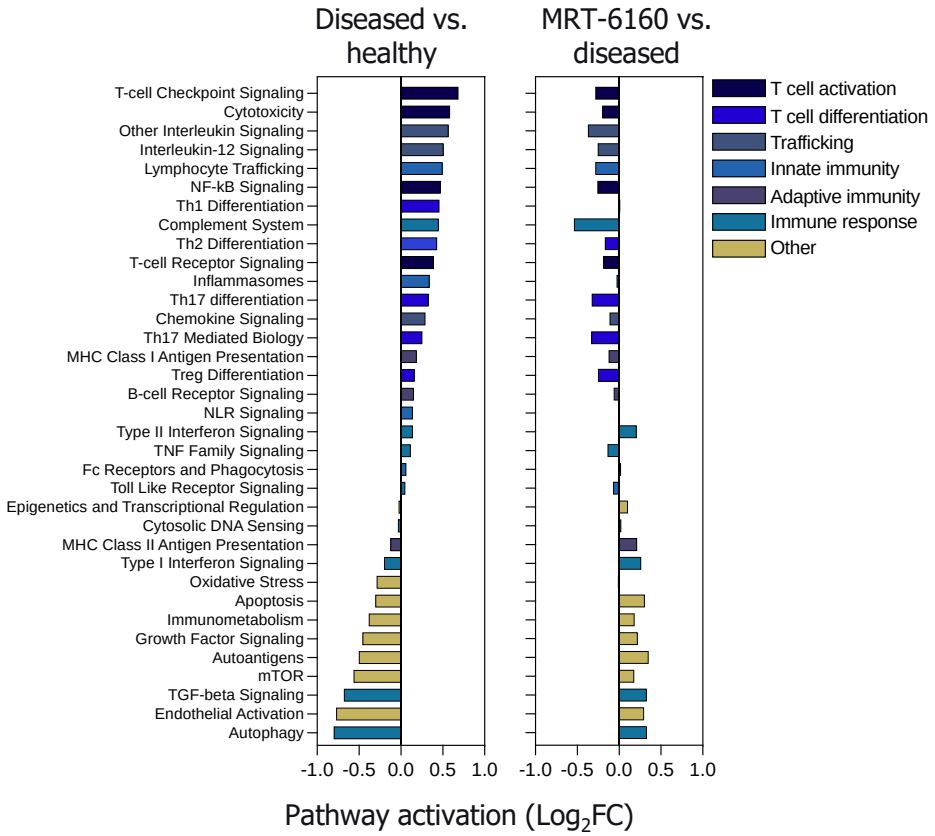
MRT-6160 reduces cytokine production in the mesenteric lymph node and colon



Mesenteric lymph node (mLN) isolated and single cell suspensions stimulated with PMA/ionomycin + protein transport inhibitors for 6 hrs. T cell cytokine expression assessed by flow cytometry. Colon homogenates assessed using cytokine bead array

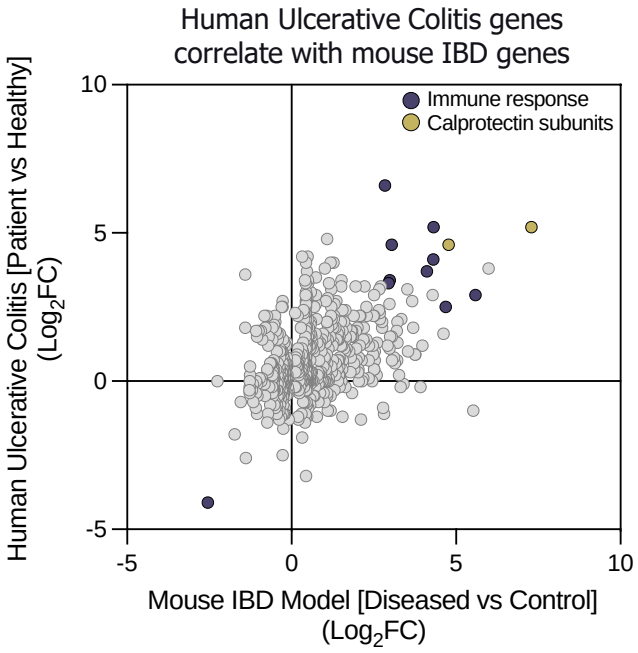
MRT-6160 Reduces Expression of Human Disease-Relevant Pro-Inflammatory and Disease-Associated Genes

MRT-6160 attenuates expression of a pro-inflammatory disease gene signature

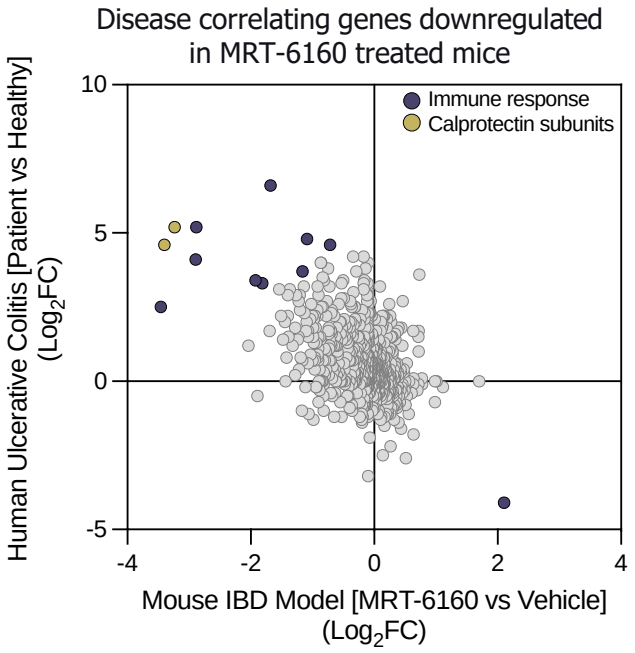


RNA from mouse colon at study termination was assessed using the NanoString nCounter Mouse Autoimmune Profiling Panel

MRT-6160 attenuates expression of human Ulcerative Colitis-relevant pro-inflammatory genes



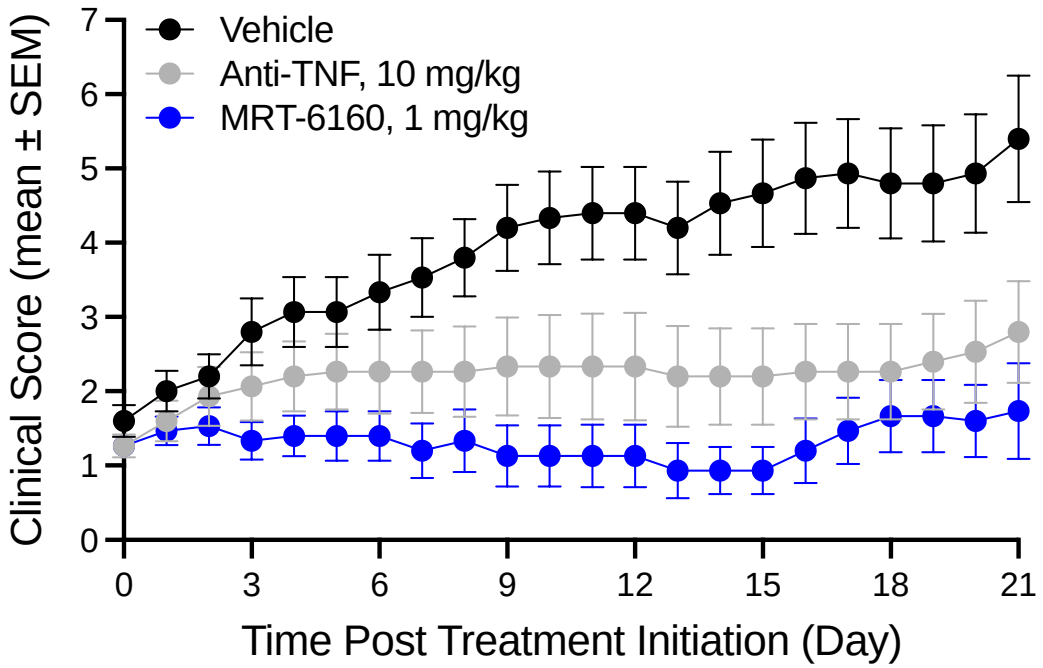
Vehicle vs. Control differential expression in the IBD mouse model was mapped to human ulcerative colitis vs healthy differential expression



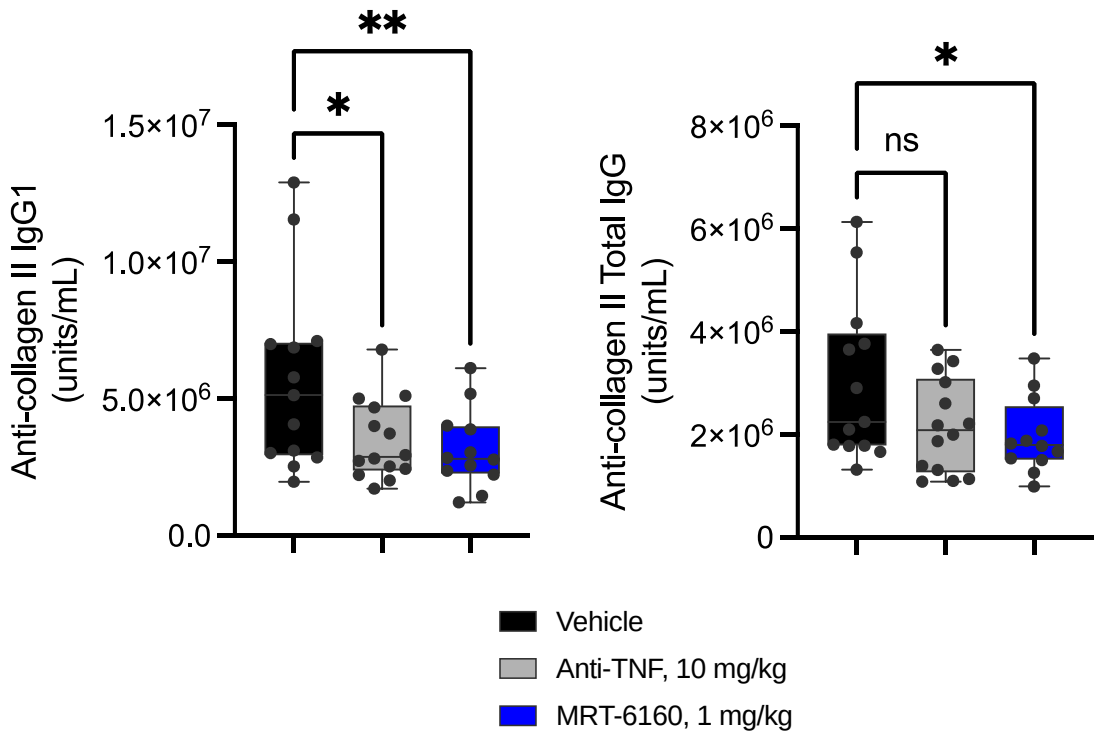
MRT-6160 vs Vehicle differential expression in the IBD mouse model was mapped to human ulcerative colitis vs healthy differential expression

MRT-6160 Inhibits Disease Progression, Joint Inflammation & Auto-Antibody Production in a Rheumatoid Arthritis Disease Model

MRT-6160 inhibits disease progression

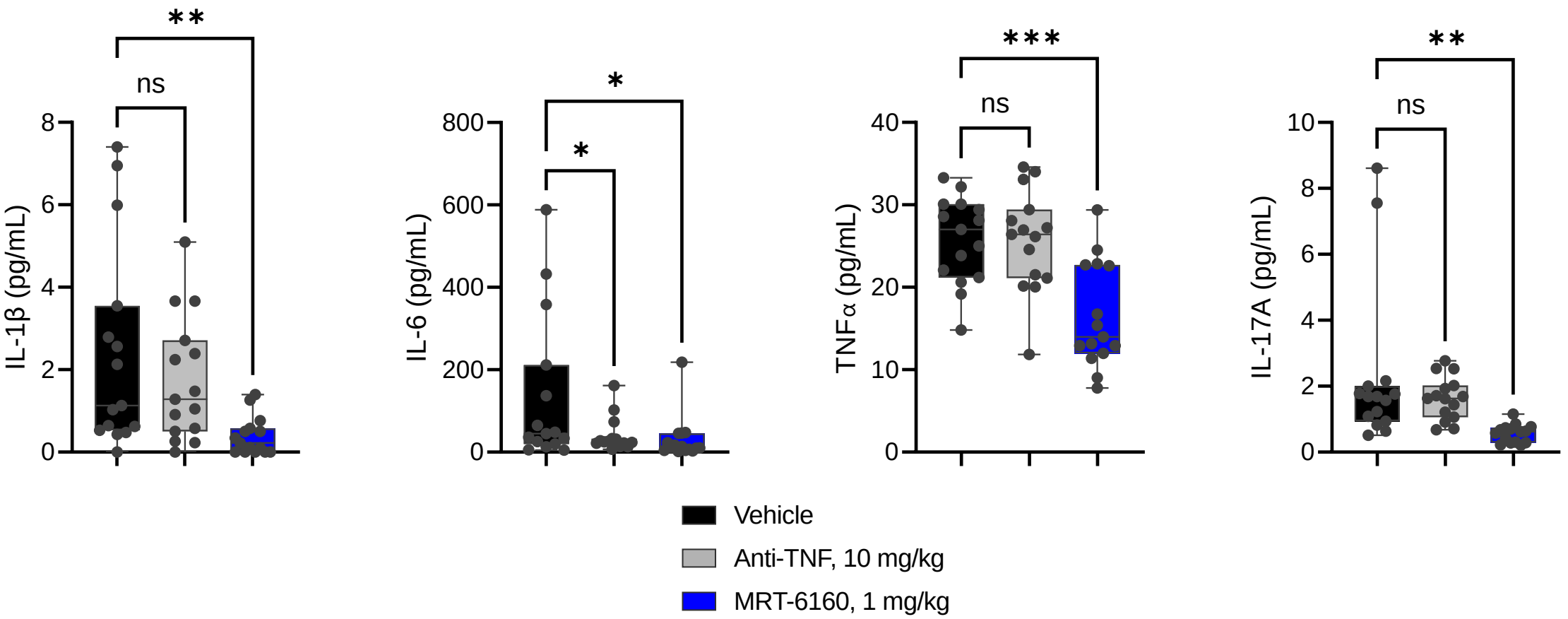


MRT-6160 inhibits anti-collagen II auto-antibodies



Collagen-induced arthritis T/B-cell (auto-antibody) driven model

MRT-6160 Reduces Pro-Inflammatory Cytokine Production in a Rheumatoid Arthritis Disease Model



Collagen-induced arthritis T/B-cell (auto-antibody) driven model

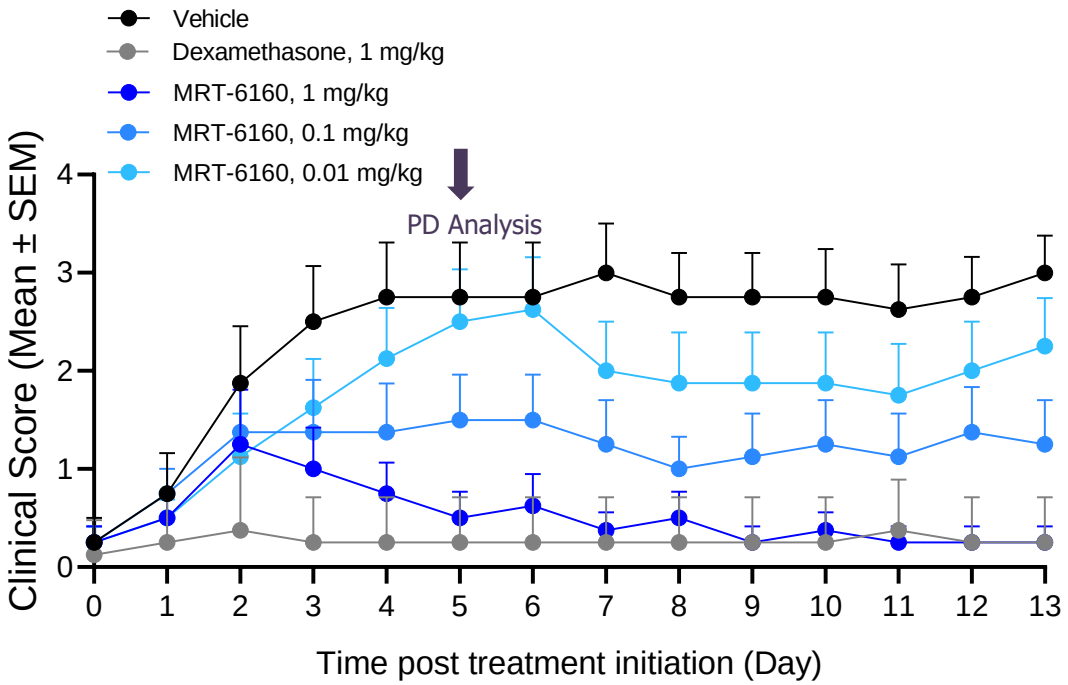
Dosing: Vehicle, MRT-6160; PO QD. Anti-TNF; IP BIW.

Mice were treated for 21 days from disease onset (Day 0)

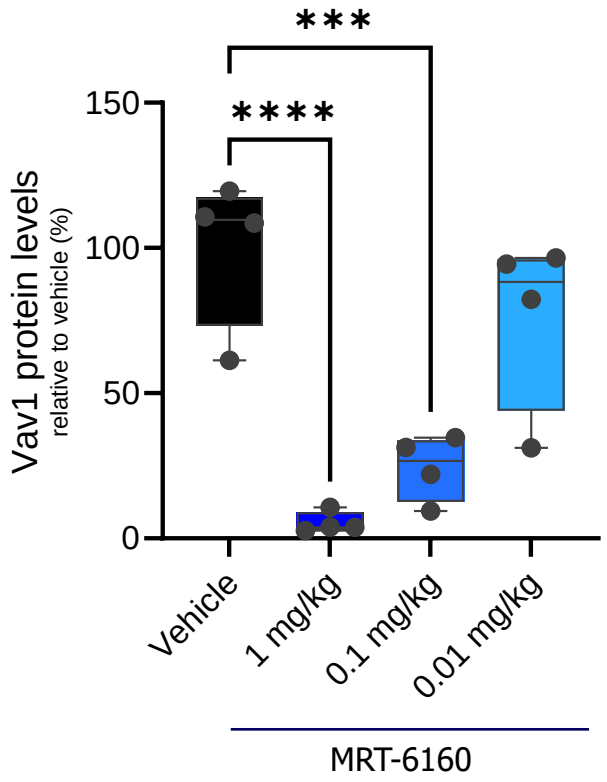
Serum cytokine analysis on Day 21

MRT-6160 Elicits Dose-Dependent Activity in T-cell-mediated Multiple Sclerosis Autoimmune Disease Model

MRT-6160 inhibits disease progression in a mouse model of multiple sclerosis



MRT-6160-mediated activity correlates with VAV1 levels



T-cell mediated experimental autoimmune encephalitis (EAE) model

C57BL/6 mice were immunized with MOG35-55 peptide on Day -12 then administered pertussis toxin (Days -12 and -10). Mice were assessed for disease daily. On Day 0, mice were treated with vehicle or MRT-6160 (PO QD) (left). On Day 5, the spinal cords of satellite mice were assessed for Vav1 levels by western blot (right).

Phase 1 Biomarker Strategy to Demonstrate MRT-6160 Pharmacodynamic Effects

Phase 1 SAD/MAD in Healthy Volunteers

Provide early insights into safety, PK/PD, and effects on key immunomodulatory signaling pathways

VAV1 protein degradation

- Flow cytometry on T and B cells: whole blood (WB)
- Targeted Mass Spec: PBMCs
- Potential: Mature B cell typing in MAD

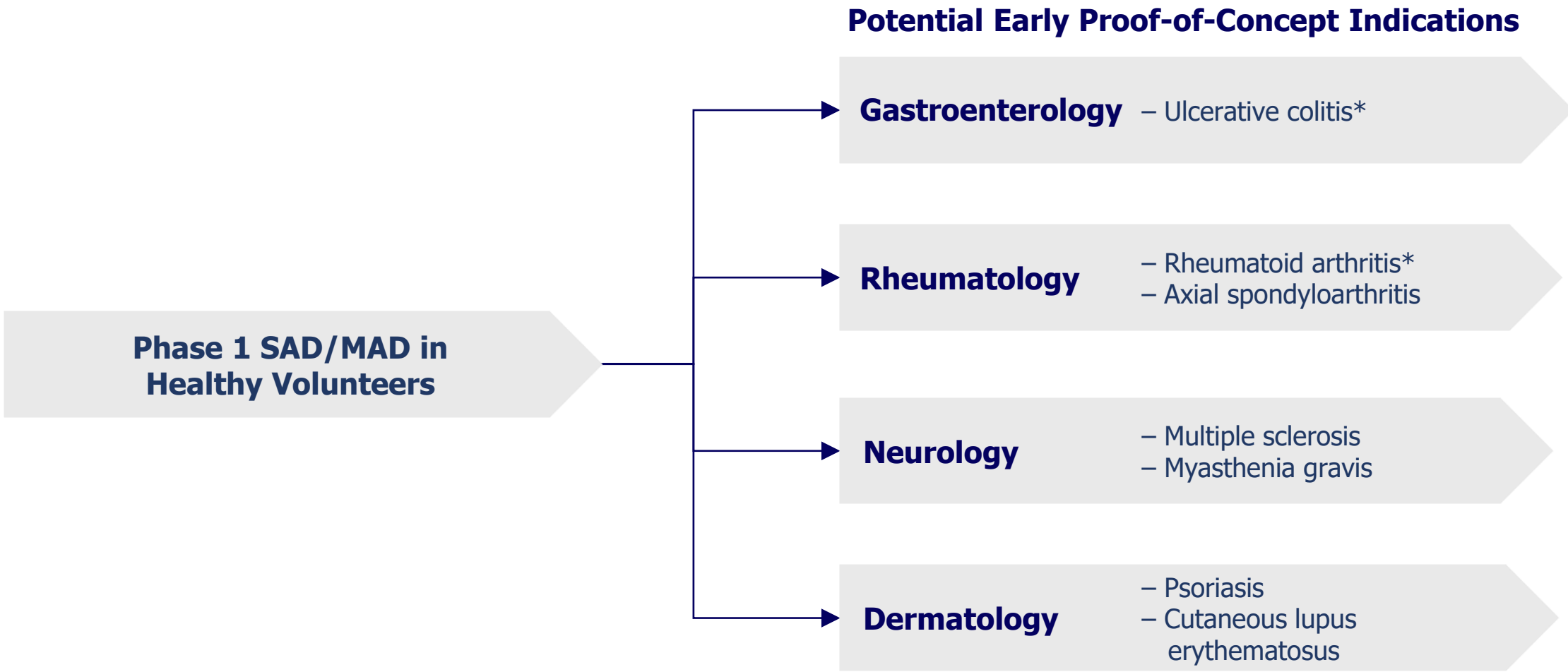
Key downstream PD

- Flow cytometry for CD69 protein on T & B cells: WB
- Immunoassay for IL-2, IL-6, IL-17, BAFF, CCL3/4
- hs C-reactive protein

Phase 1 SAD/MAD study ongoing, clinical data anticipated Q1 2025

Preliminary MRT-6160 Development Plan through Early POC

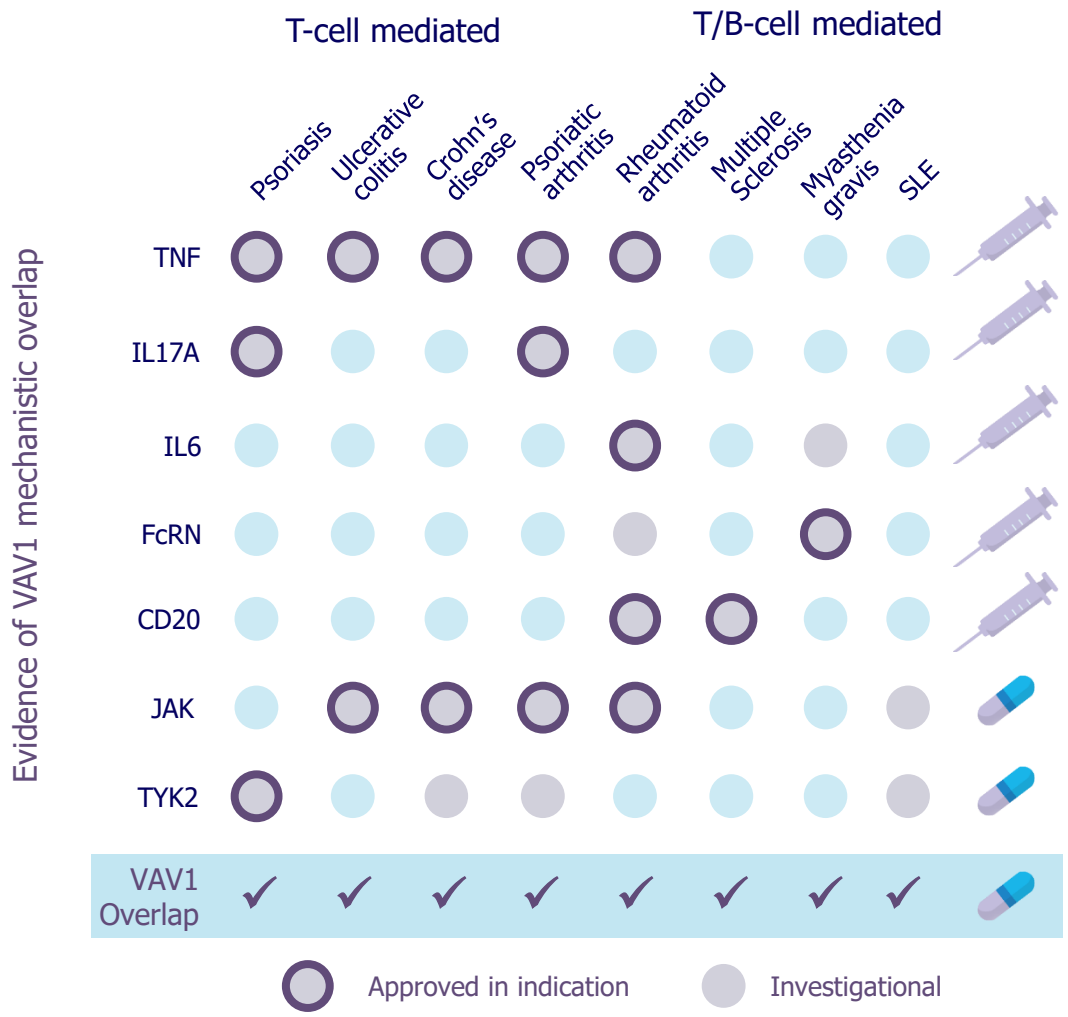
Potential in multiple I&I indications with T cell and T/B cell-mediated pathophysiology

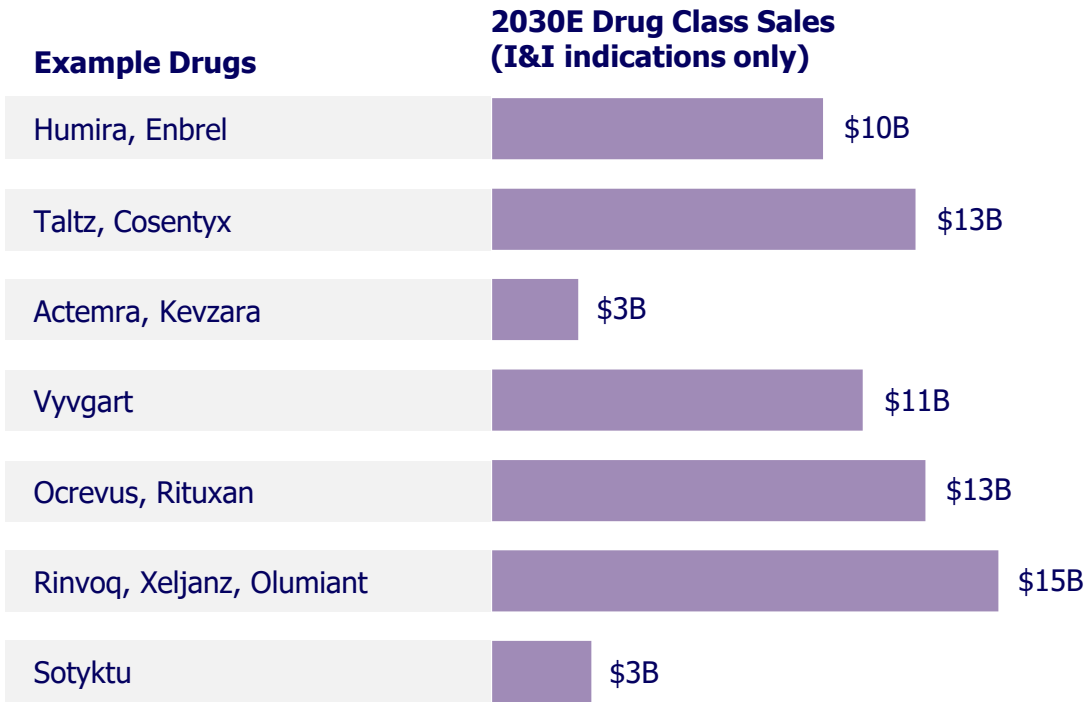


* Priority POC indications

VAV1: Unique Mechanism with Broad Potential Applications

Potential to address multiple autoimmune diseases with safe, oral therapy



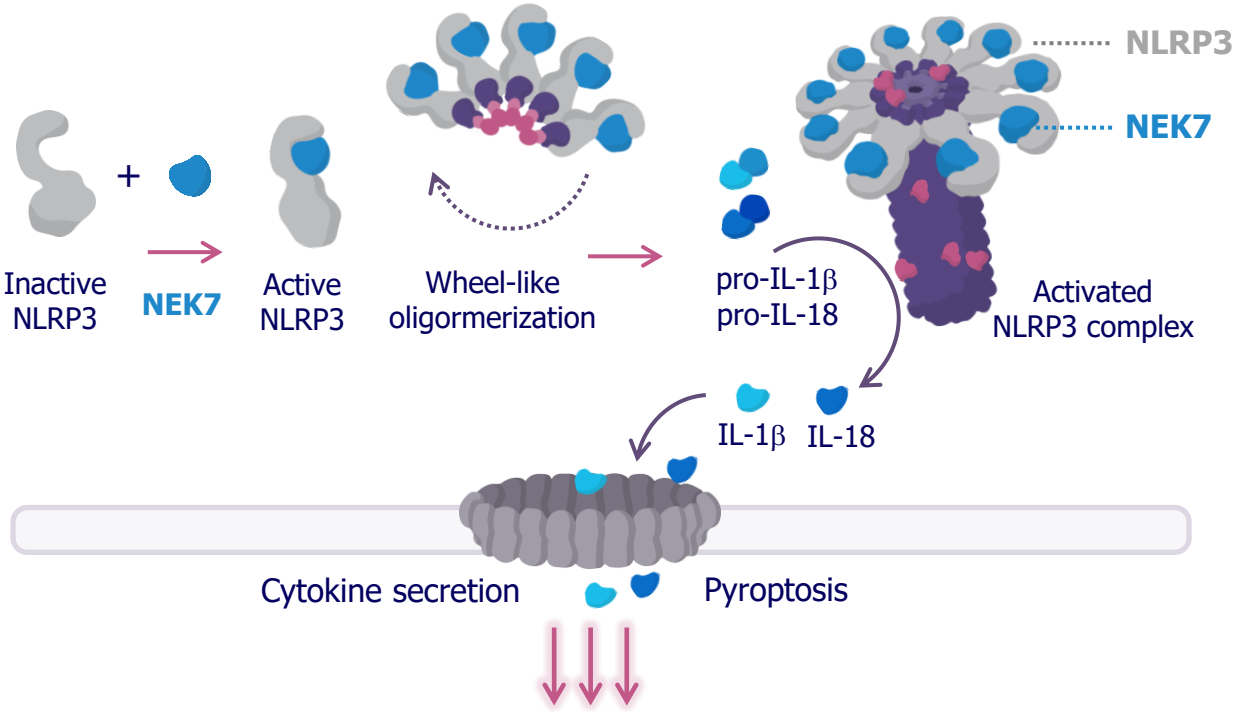


Note: Chart adapted from Hosack et al., Nat Rev Immunol 2023. Drug class sales from Evaluate Pharma. 2030E sales may include sales from anticipated future approvals.

Monte Rosa Therapeutics

NEK7 Program (MRT-8102)

NEK7 is a Key Regulator of NLRP3 Inflammasomes, IL-1 and IL-18



Inflammation-driven diseases (selected examples)

Heart
Pericarditis

Joints
Gout

Brain
Parkinson

Metabolic
Obesity

Atherosclerosis

Therapeutic hypothesis:

Activation of the NLRP3 inflammasome critically depends on NEK7

- NEK7 licenses NLRP3 assembly in a kinase-independent manner
- NEK7-deficient macrophages are severely impaired in IL-1β and IL-18 secretion

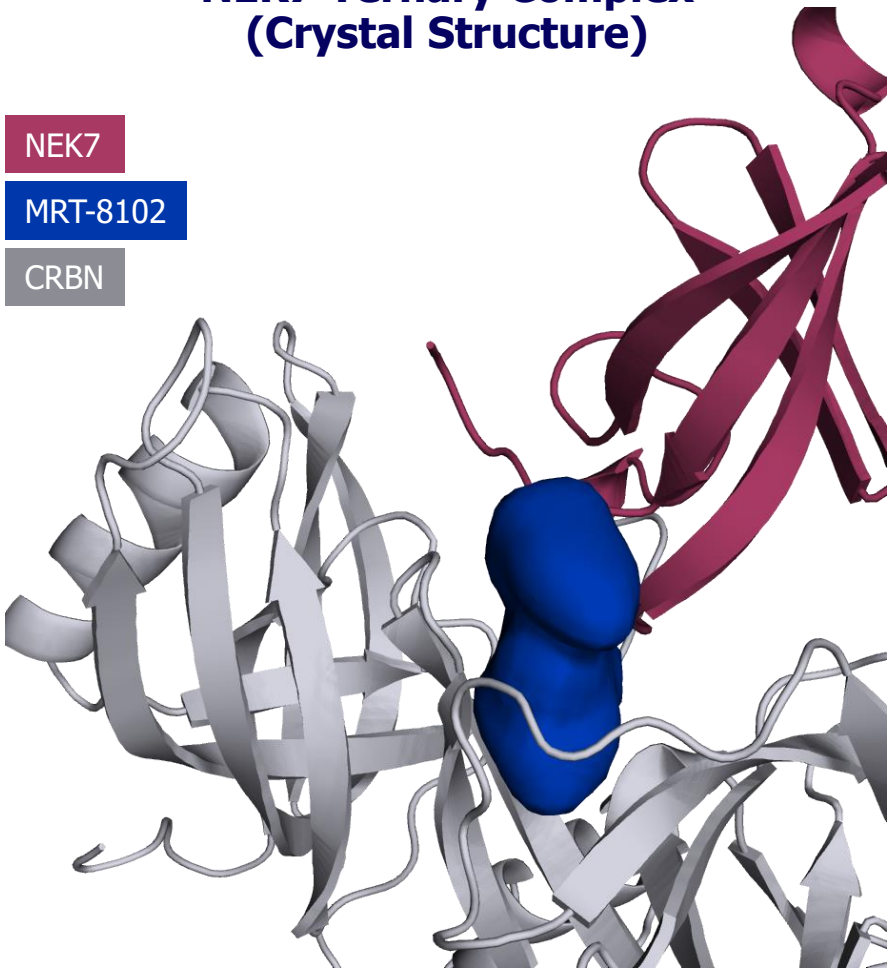
Consequently, NEK7 degradation has the potential to become an important treatment modality for a variety of inflammatory diseases

Clinical Opportunity:

Diseases driven by IL-1 and the NLRP3 inflammasome including gout, pericarditis and other cardiovascular diseases, neurologic disorders including Parkinson's disease and Alzheimer's disease, and obesity

MRT-8102 is a Potent, Selective NEK7-Directed MGD With a Favorable Drug-like Profile

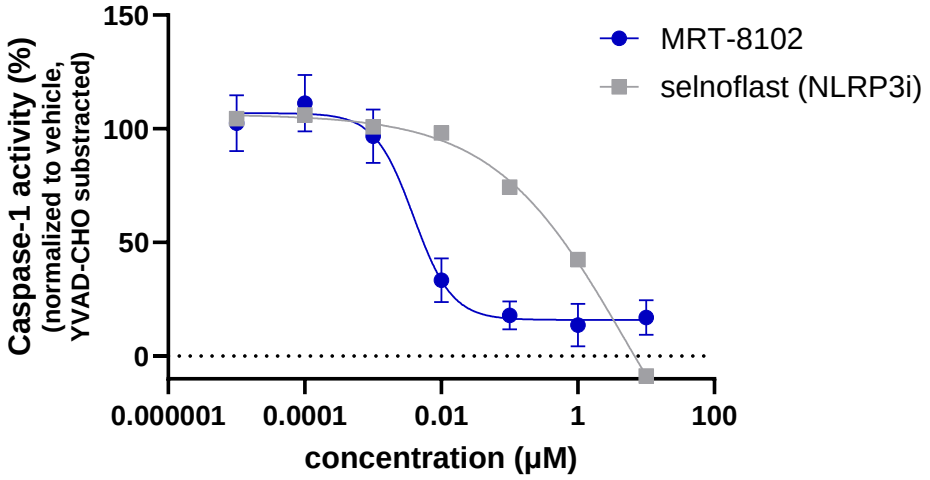
NEK7 Ternary Complex (Crystal Structure)



MGD Activity Profile	
CRBN Binding (HTRF, IC_{50})	0.2 µM
NEK7 Degradation (CAL51, DC_{50} /Dmax)	10 nM / 89%
Selectivity (TMT proteomics)	Excellent selectivity profile in different cell lines
Physicochemical Properties	
LogD	1.47
MW	<450
Thermodynamic Solubility	166 µM
ADMET Profile	
Oral Bioavailability	Yes
Metabolite Profile (*in vitro*)	No unique human metabolites or GSH adducts (mics)
Safety Pharmacology	
Mini-Ames	Negative
hERG (patch clamp)	No inhibition (EC50> 30 µM)
Counterscreens (panel with 44 proteins)	No inhibition

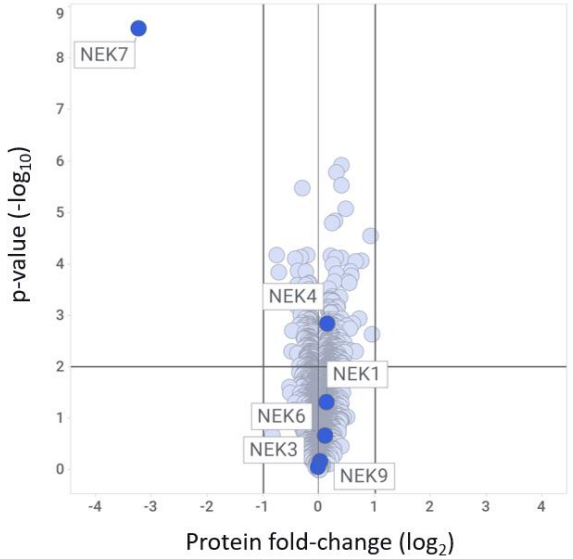
MRT-8102 is a Potent and Highly Selective NEK7-directed MGD

MRT-8102 potently suppresses inflammasome activation in primary human macrophages



in vitro data	
CRBN binding, IC_{50}	200 nM
Degradation, DC_{50} /D_{max} (CAL51)	10 nM / 89 %

MRT-8102 induces highly selective NEK7 degradation

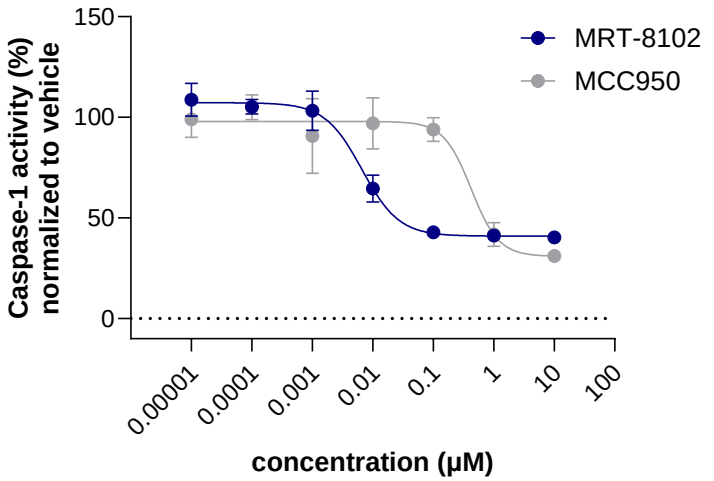


No degradation of other known cereblon neosubstrates

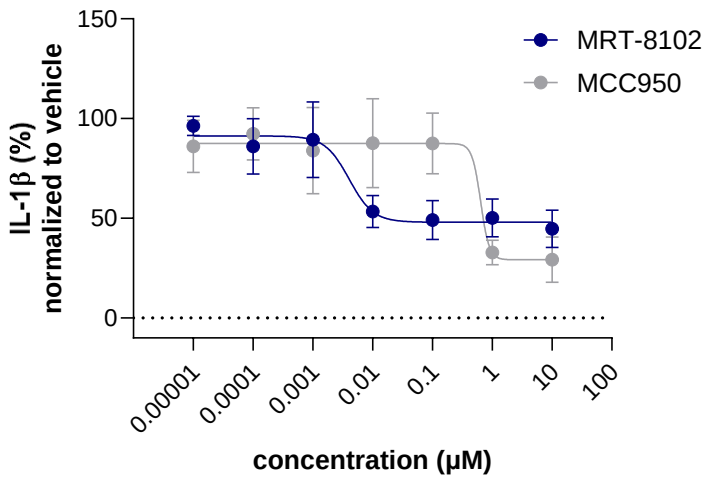
ADMET profile	
hERG	No inhibition
Oral bioavailability	Yes

MRT-8102 Potently Inhibits NLRP3 Inflammasome-mediated Activation in Human Monocyte-derived Macrophages

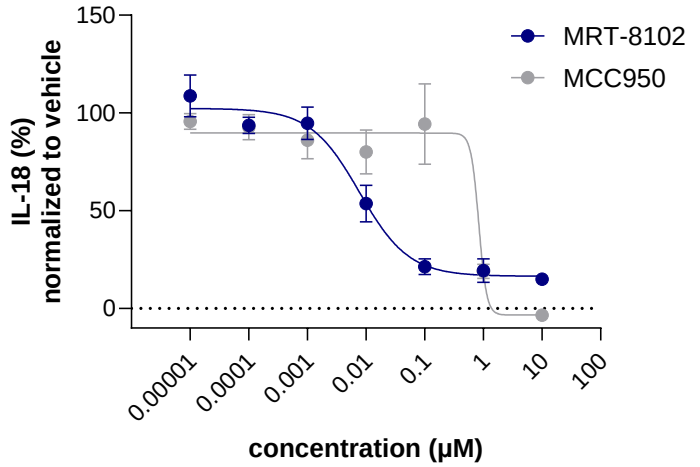
MRT-8102 inhibits caspase-1 activity in hMDMs after stimulation



MRT-8102 inhibits IL-1β secretion by hMDMs after stimulation

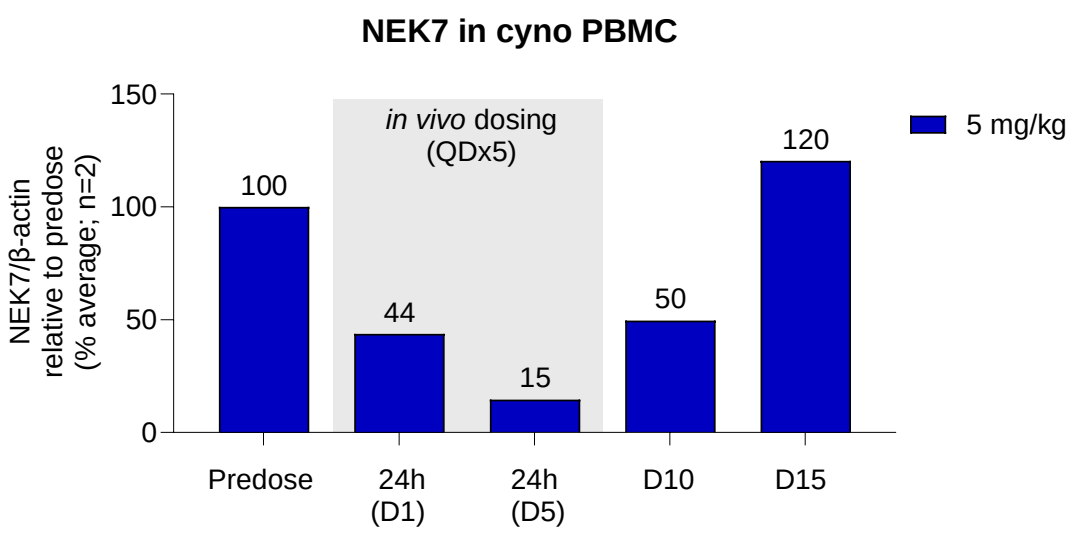


MRT-8102 inhibits IL-18 secretion by hMDMs after stimulation



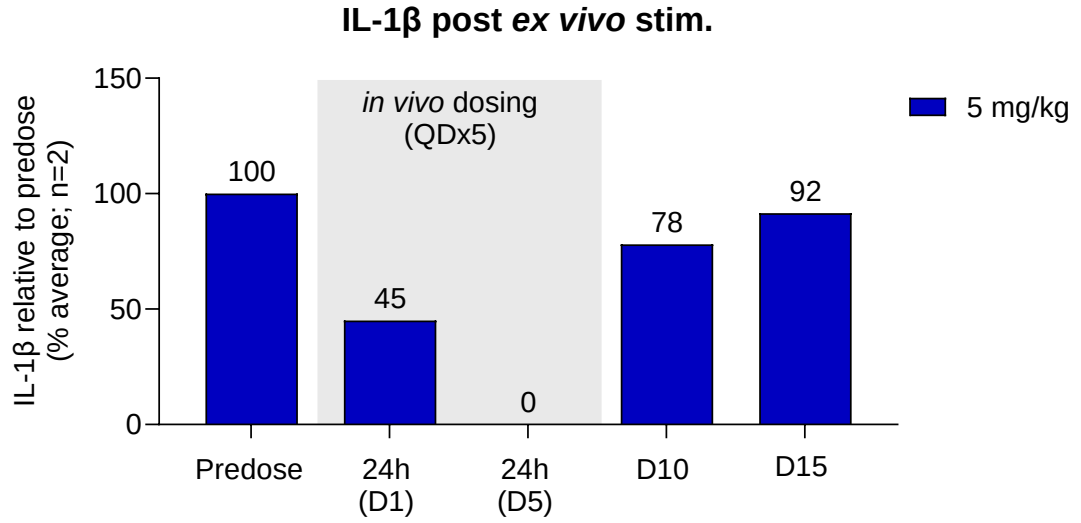
Suppression of *Ex Vivo* Inflammasome Activation Following Degradation of NEK7 After Single and Multi-dose Study in Non-human Primates

MRT-8102 induces degradation of NEK7 *in vivo* over several days



No clinical observations reported

In vivo NEK7 degradation leads to inhibition of NLRP3 inflammasome in _ex vivo_ stimulation assay

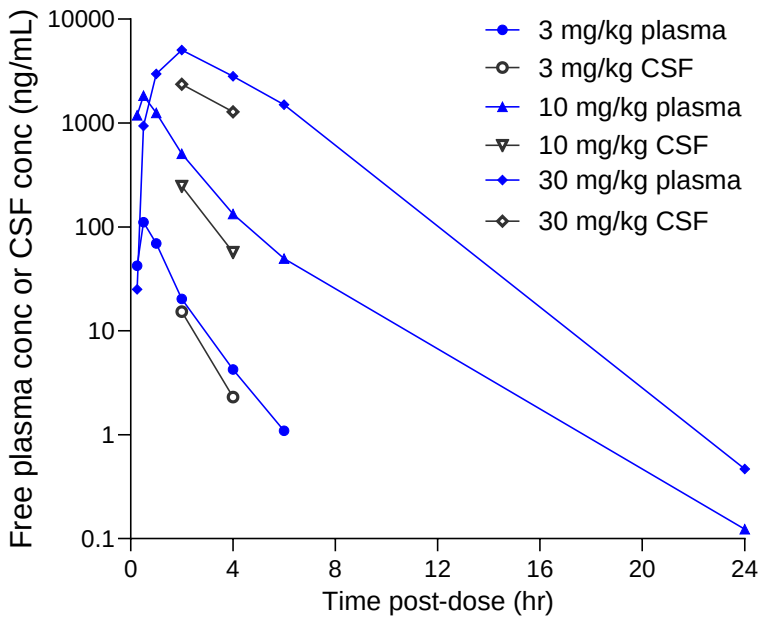


- IL-1β in plasma after *ex vivo* stimulation with LPS + nigericin
- Similar results for Caspase-1 activity from same study
- Follow-up study with 1 mg/kg MRT-8102, *i.v.* at 4 hr showed similar results

MRT-8102 Displays Significant Blood Brain Barrier Penetration

MRT-8102 displays CNS-penetrance

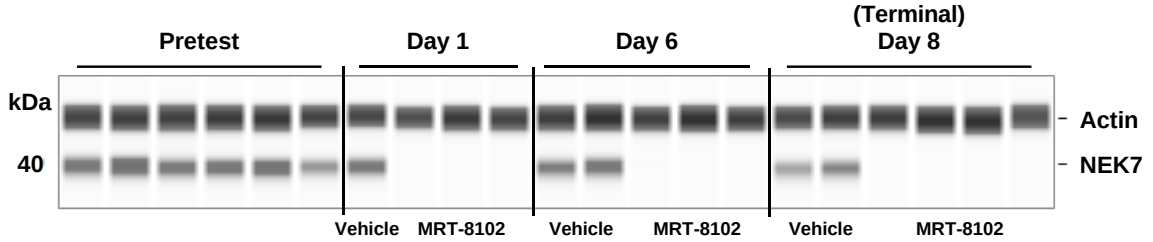
Single dose p.o.



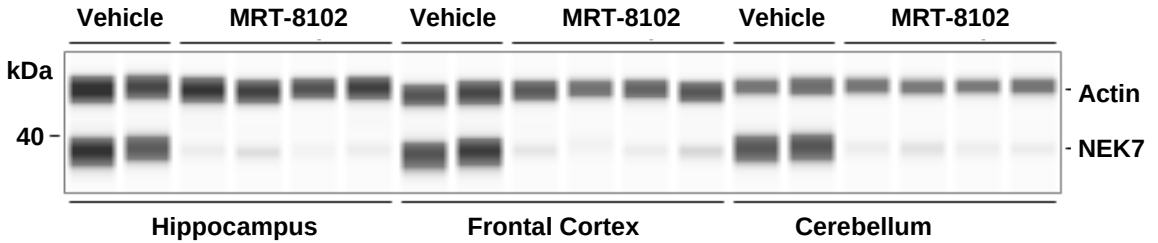
single-dose MRT-8102 p.o.
n=2 cynomolgus monkey (one male and one female)

Significant NEK7 degradation in various brain regions 24h post treatment

PBMCs



Brain



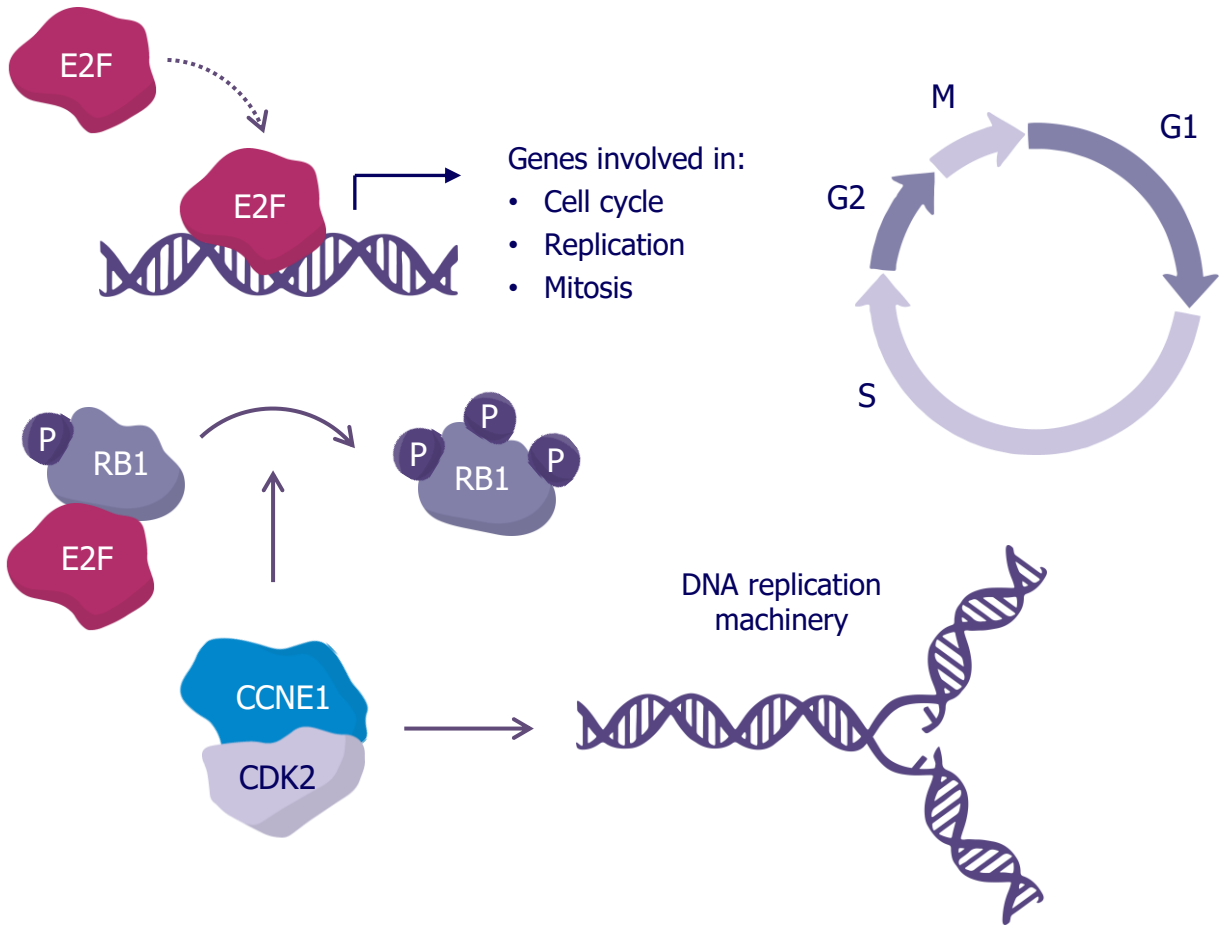
Daily dose of 30 mg/kg MRT-8102 for 7 days
Analysis on day 8 (24 hr post-final dose) by JESS Simple Western

Monte Rosa Therapeutics

CDK2 Program

CDK2 is a Key Driver of Cell Cycle Progression in Cancer

CDK2: a key cell cycle regulator



Therapeutic hypothesis:

- CDK2 is a key driver of cancers with cyclin dependent kinase pathway alterations
- MGDs will achieve greater selectivity against other CDKs and kinases in general, as well as more sustained pathway inhibition compared to inhibitors

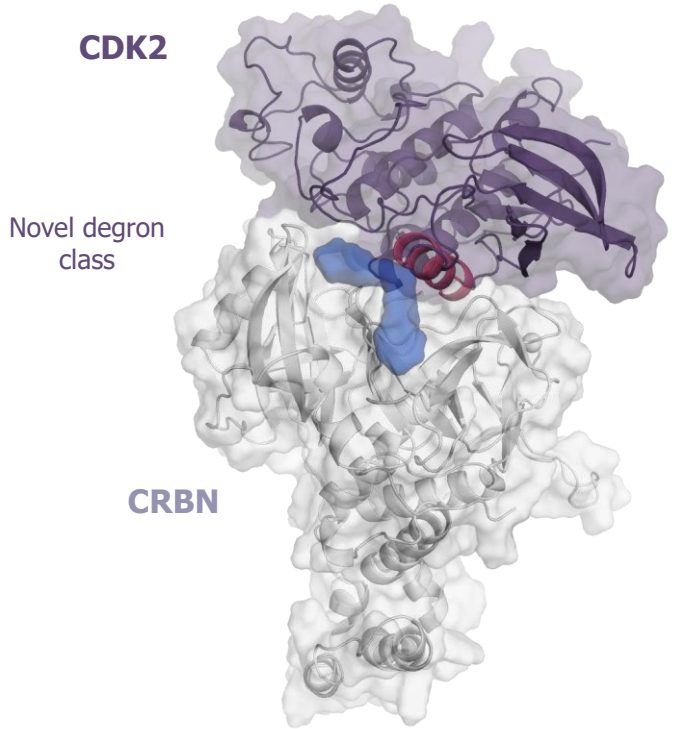
Clinical Opportunity:

- ER positive breast cancer pre and post treatment with CDK4/6 inhibitors (~474K patients)
- Ovarian cancer (~64K patients), endometrial cancer (~124K patients) and other tumors with CCNE1 amplification

Patient diagnosed incidence #s, major markets (US, EU and JP): Decision Resources Group (DRG)

MRT-9643 is a Potent, Highly Selective CDK2 MGD with a Favorable Drug-like Profile

CDK2 ternary complex (Cryo-EM)

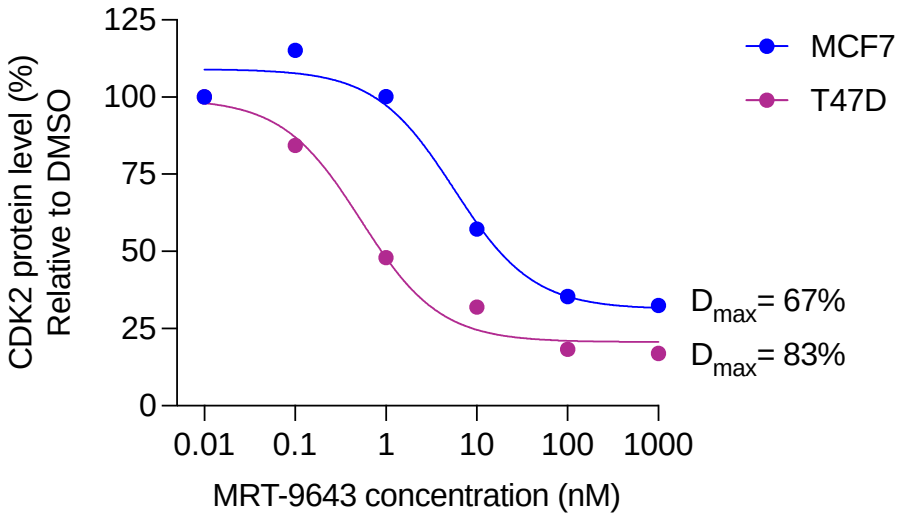


CDK2-MGD-CRBN-DDB1 cryo-EM structure
(DDB1 not shown)

MGD Activity Profile	
CRBN Binding (HTRF, IC_{50})	0.3 µM
CDK2 Ternary Complex (HTRF, EC_{50})	6 nM
CDK2 Degradation (HEK, DC_{50} /Dmax)	56 nM / 64%
Selectivity (TMT proteomics in MCF7)	Large CDK2 selectivity window
Physicochemical Properties	
LogD	3.2
MW	511.45
kinetic Solubility	79 µM
ADMET Profile	
Oral bioavailability (all species)	nd
Metabolite Profile (*in vitro*)	No unique human metabolites and 0.52% GSH adducts (mics)
CYP DDI (5 isoforms)	IC_{50} 15 - > 50 µM
Safety Pharmacology	
Mini-Ames	Negative
hERG inhibition (patch clamp)	4.4 µM
Counterscreens (panel with 98 targets)	Not done

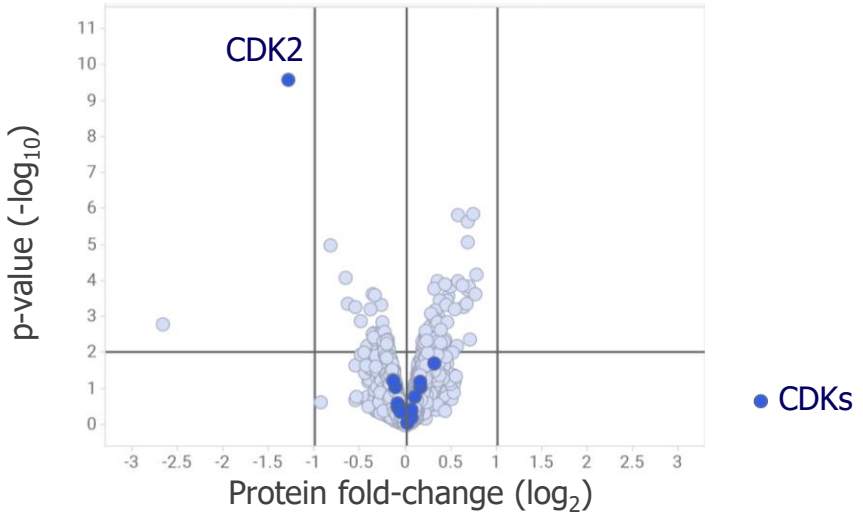
MRT-9643 is a Potent and Highly Selective CDK2-directed MGD

MRT-9643 is a potent CDK2-directed MGD



in vitro data	
CRBN binding, IC_{50}	289 nM
Ternary complex, EC_{50}	6 nM
Degradation, DC_{50} / D_{max} (HEK 293)	56 nM / 64 %

MRT-9643 induces highly selective CDK2 degradation and has a favorable ADME/DMPK profile



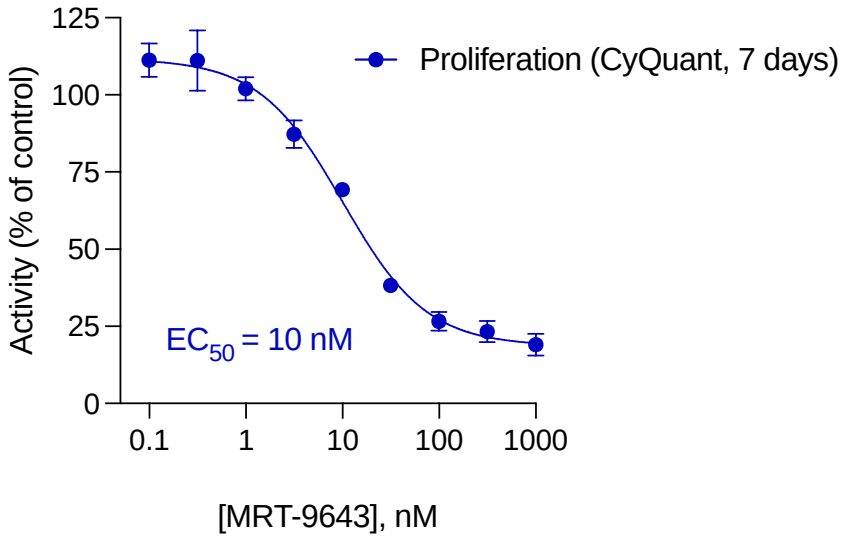
TMT Proteomics (24 hr/1 µM), MCF7 cells

No degradation of other known cereblon neosubstrates

ADMET profile	
CYP DDIs	IC_{50} 15 - >50 µM
hERG inhibition patch clamp	EC_{50} 4.4 µM
Oral bioavailability all species	nd

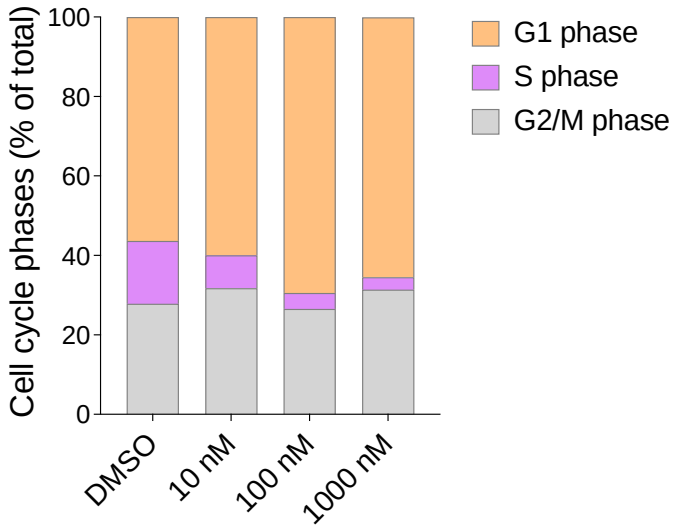
MRT-9643 Inhibits Proliferation of CDK2-dependent Cancer Cells

CDK2 degradation inhibits proliferation



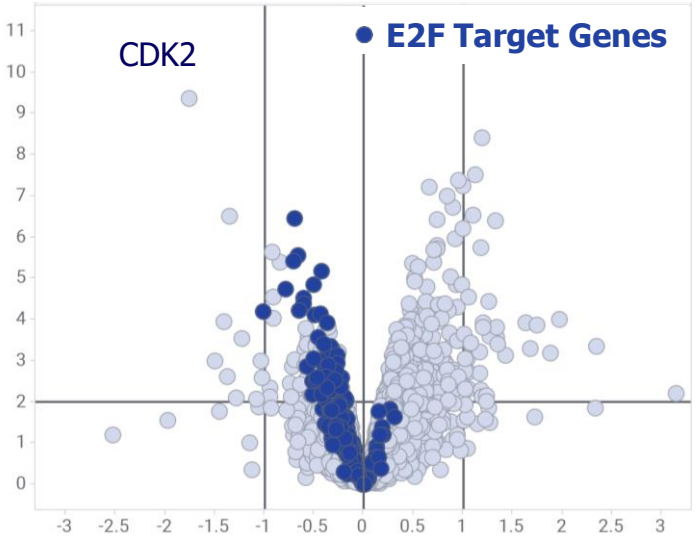
WB degradation (24 hr) MDA-MB-157
CyQuant proliferation assay (7 d) MDA-MB-157

CDK2 degradation arrests CDK2-dependent cells in G1 phase



Cell cycle analysis (DAPI and EdU)
MDA-MB-157 (24 hr)

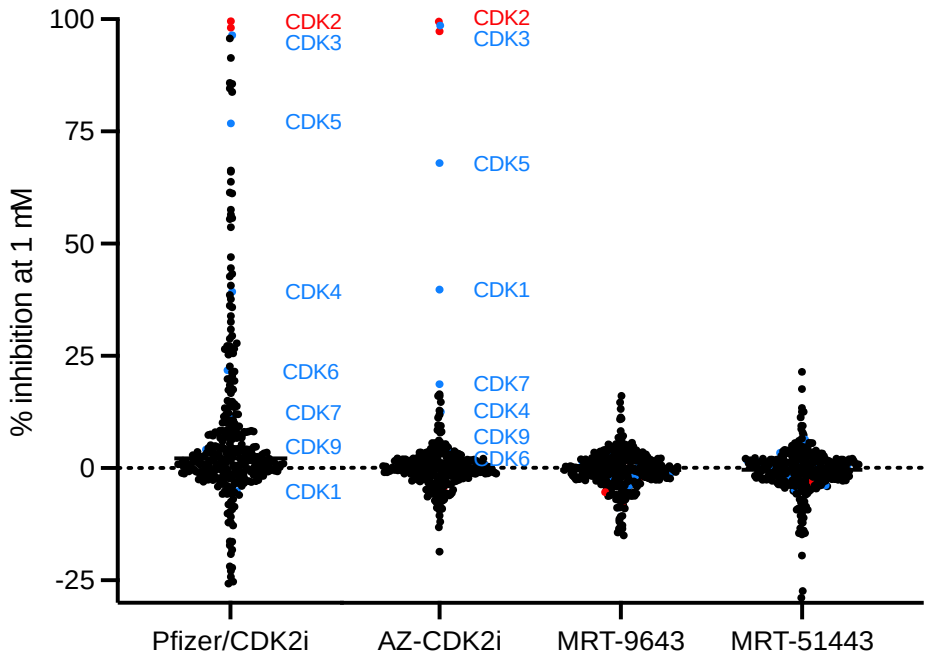
CDK2 degradation results in reduction of E2F pathway proteins



TMT Proteomics (24 hr/1μM)
MDA-MB-157

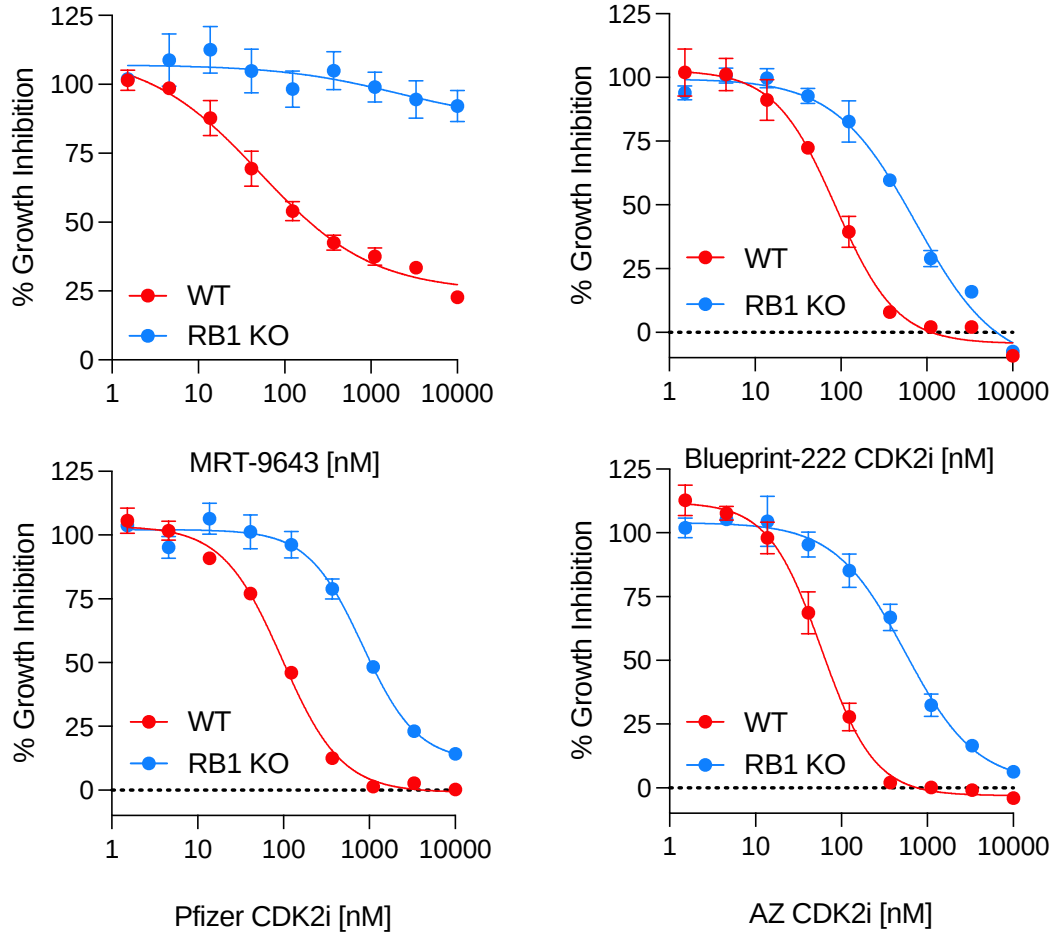
MRT-9643 Displays Superior Selectivity Compared to Clinical CDK2 Inhibitors

Clinical-stage CDK2 inhibitors demonstrate off target activity in biochemical kinome profiling



Carna Mobility Shift Assay; 1 µM CDK2i or CDK2 MGD, across 323 human kinases

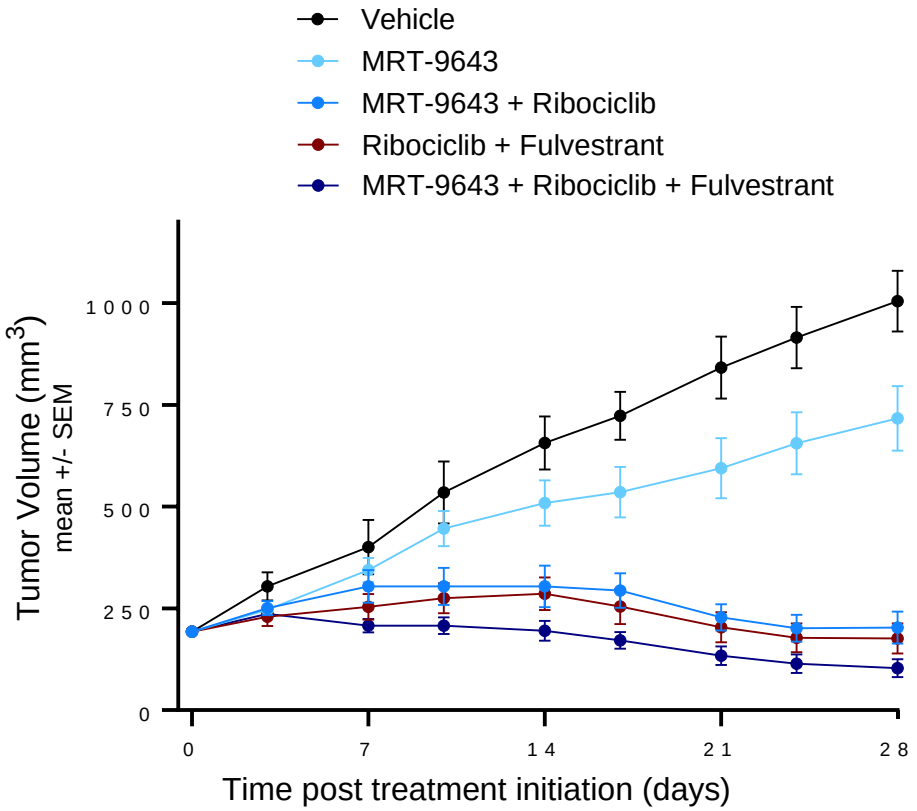
CDK2 inhibitors but not CDK2 MGDs display activity in CDK2-independent RB1 KO line



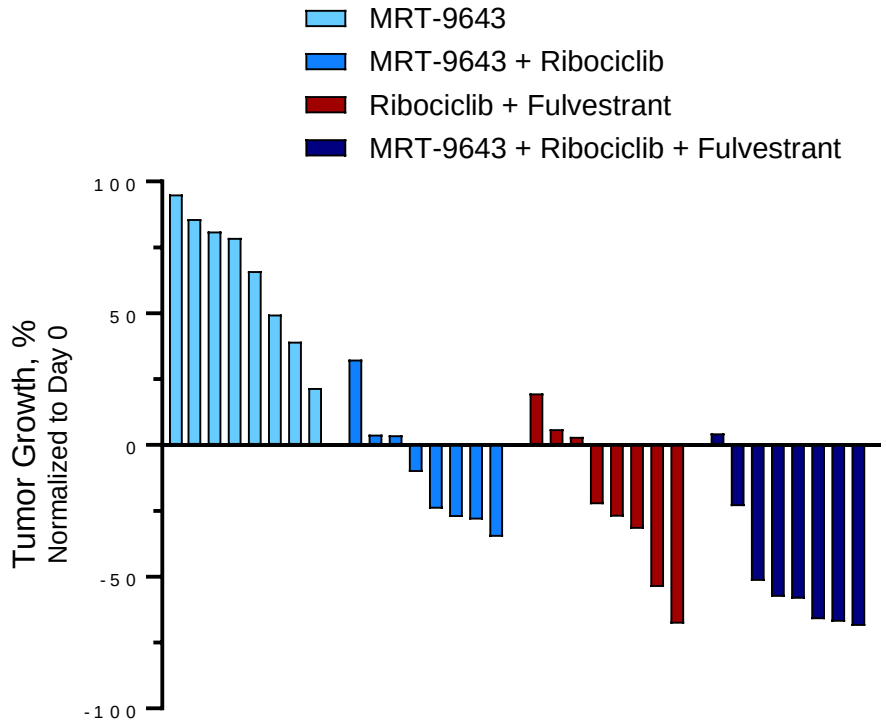
7-day CyQuant Assay; MDA-MB-157 cell line

MRT-9643 Demonstrates Activity as Single Agent and in Combination with CDK4/6 Inhibitor in ER+ Breast Cancer

MRT-9643 induces strong TGI in combination with CDK4/6 inhibitors *in vivo*



MRT-9643 induces robust tumor regression in combination with CDK4/6 inhibition and Fulvestrant



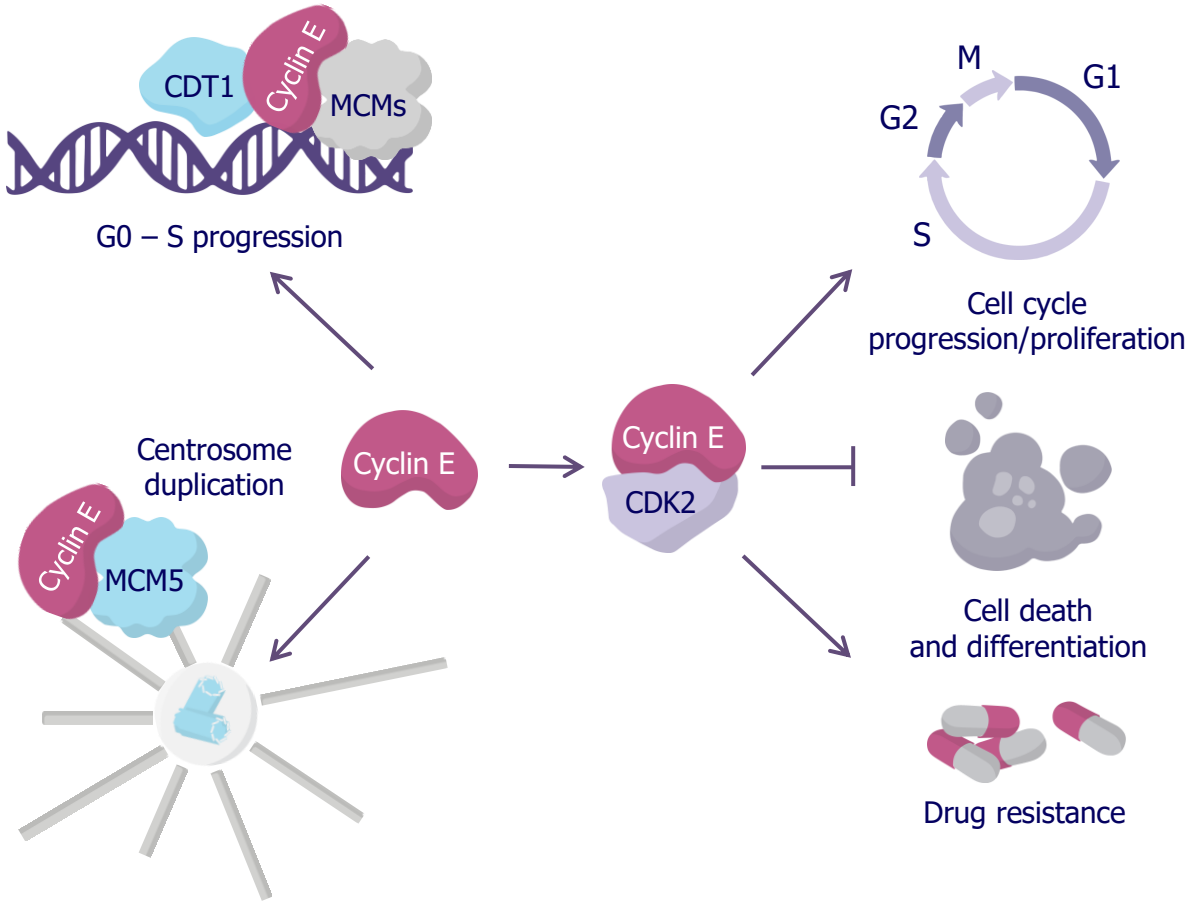
Efficacy evaluation in MCF7 CDX Model
(MRT-9643 dosed at 30 mpk BID)

Monte Rosa Therapeutics

CCNE1 Program

CCNE1 (Cyclin E1) is a Target for Solid Tumors with Deregulated Cyclin E1

Cyclin E drives multiple hallmark cancer mechanisms



Therapeutic hypothesis:

CCNE1 (Cyclin E1) is a well-recognized human oncogene that drives multiple hallmarks of cancer, and has been considered undruggable

Selective degradation of cyclin E1 can target tumors with deregulated cyclin E1 (amplification or overexpression)

Clinical opportunity:

First-in-class Cyclin E1 degraders for Cyclin E1 amplified cancers

- Ovarian (19%) and endometrial (6%)
- Breast cancer and others

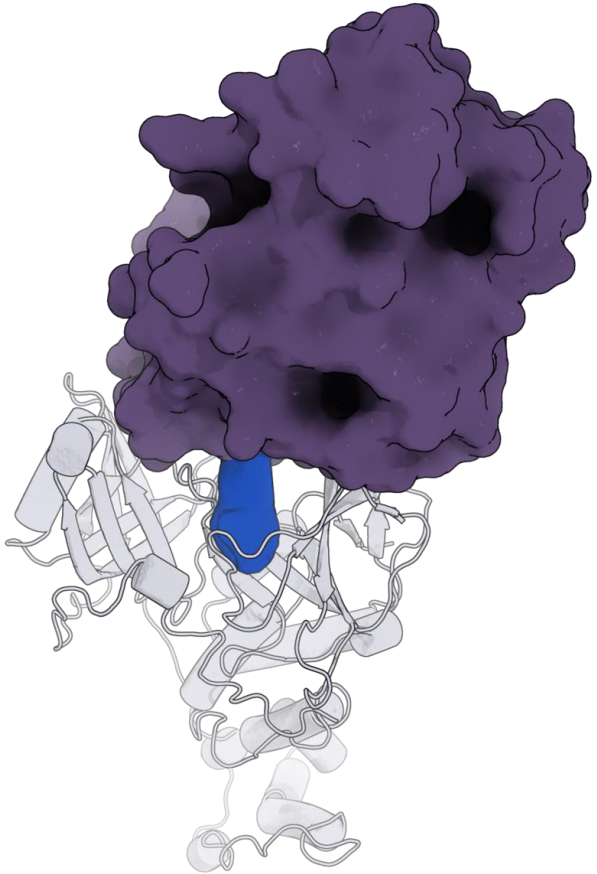
CCNE1-directed MGDs Engage a Cryptic Pocket at the Target Interface

CCNE1 binds CRBN through a novel binding mode

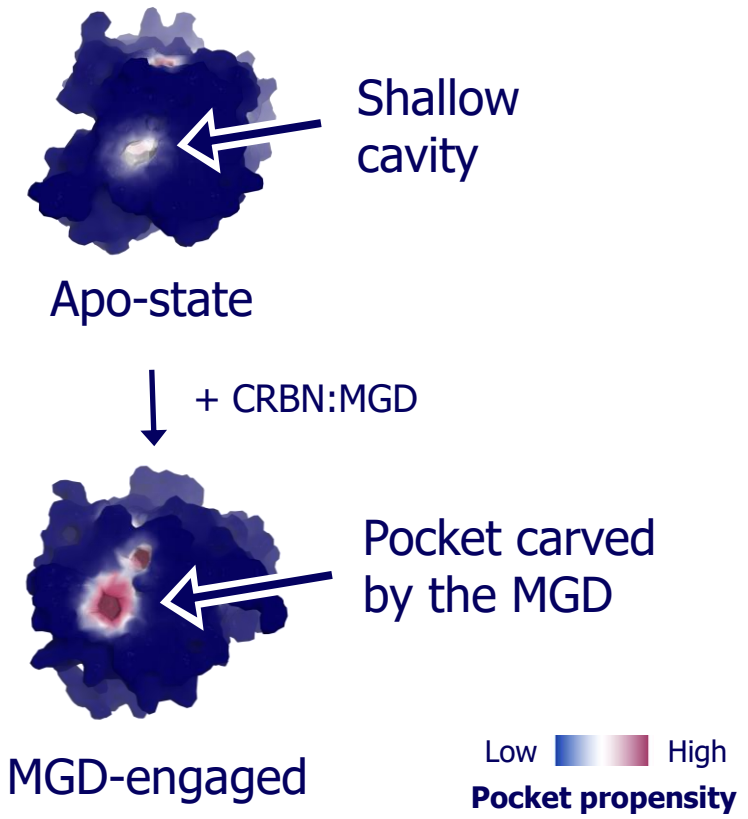
CCNE1

MRT-1932

CRBN

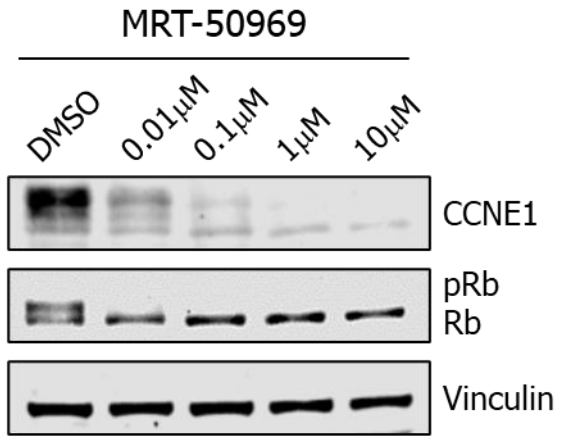


MGD induces a cryptic pocket on the CCNE1 surface



MRT-50969 is a Potent and Highly Selective CCNE1-directed MGD

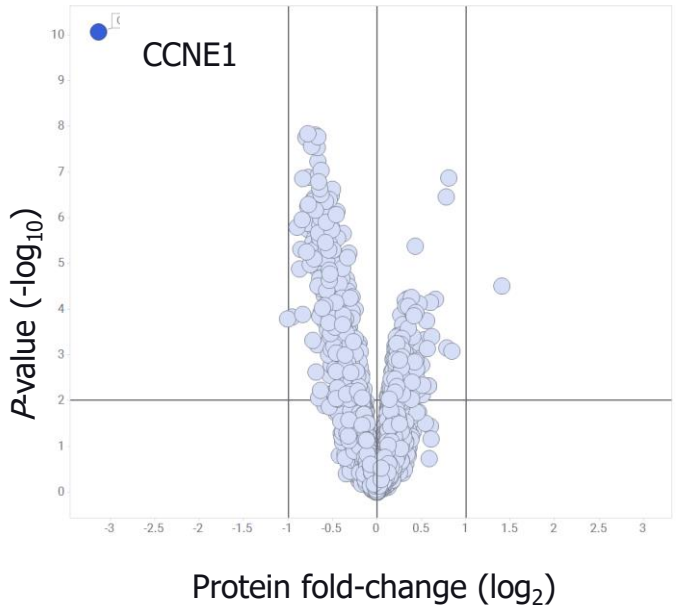
CCNE1 degradation leads to downstream pathway suppression



In vitro data	
CRBN binding, IC_{50}	0.15 μM
Ternary complex, EC_{50}	3 nM
Degradation, DC_{50}/D_{max}	3 nM / 94 %

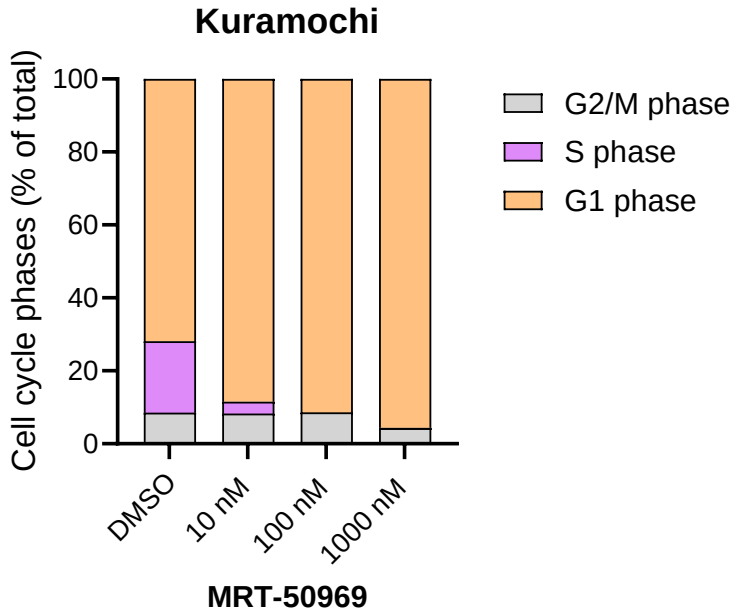
Western blot, OVISE, 24h

MRT-50969 is highly selective for CCNE1



TMT Proteomics, MDA-MB-157 Rb K/O
1μM, 24h

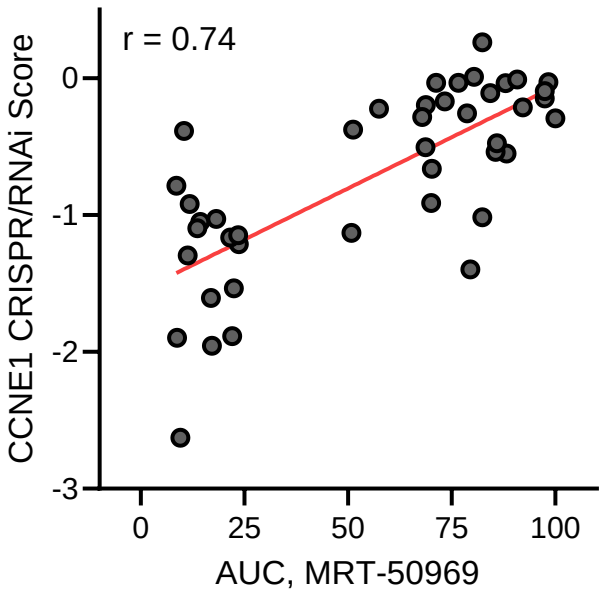
MRT-50969 induces robust G1/S cell cycle arrest



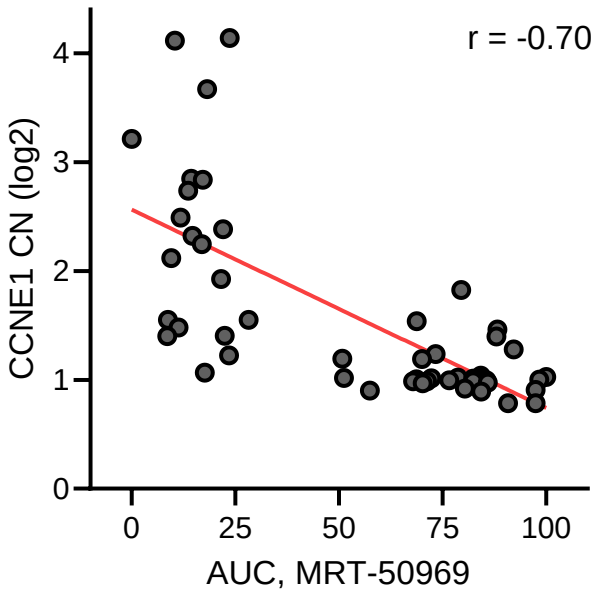
FACS, EdU incorporation, 48h

CCNE1 MGD Sensitivity is Highly Correlated with CCNE1 Gene Dependency, Copy Number and Expression

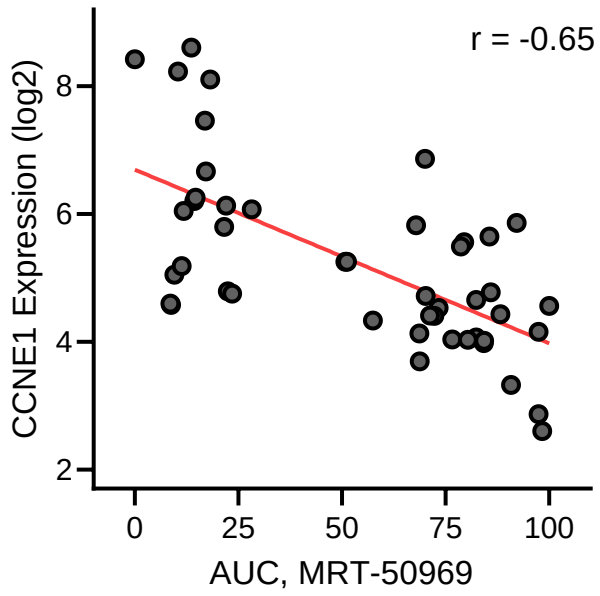
Gene Dependency



Copy Number

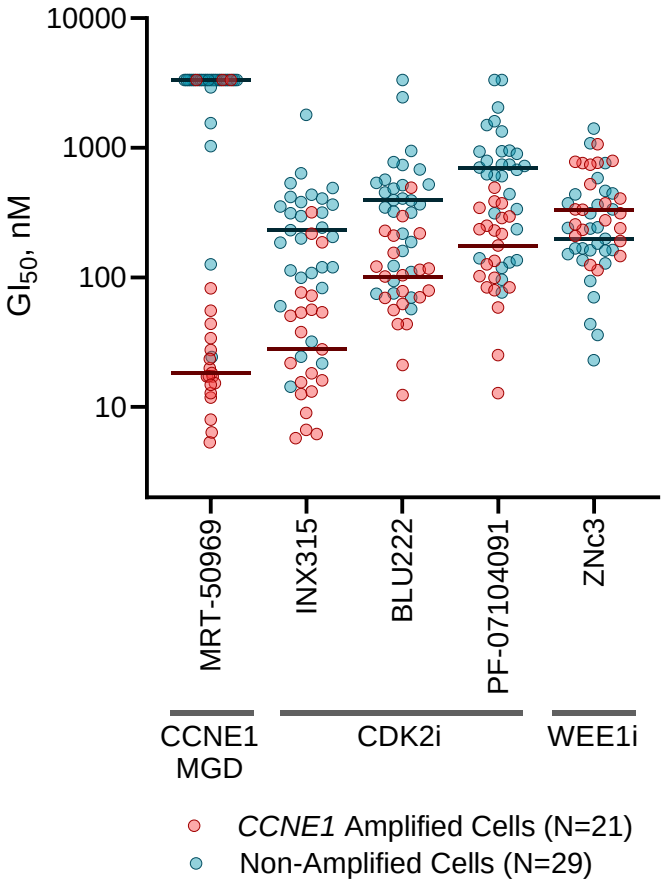


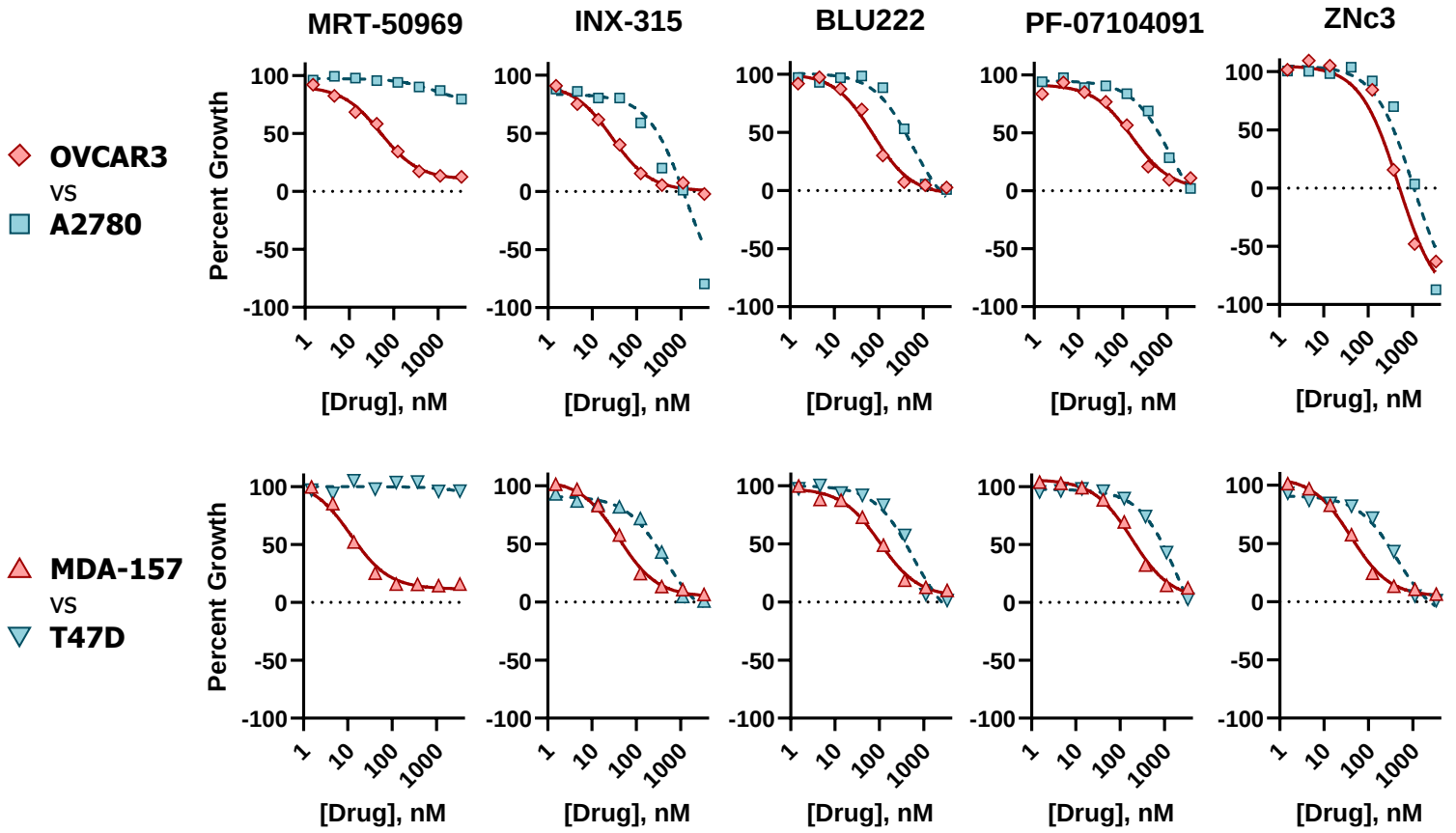
mRNA Expression



5 Day CyQuant assay, 50 cancer cell line panel;
Gene dependency and genomics data from DepMap/Broad Institute

MRT-50969 Shows Superior Differential Activity in CCNE1 Dependent Cell Lines Compared to Clinical-Stage CDK2 and WEE1 Inhibitors



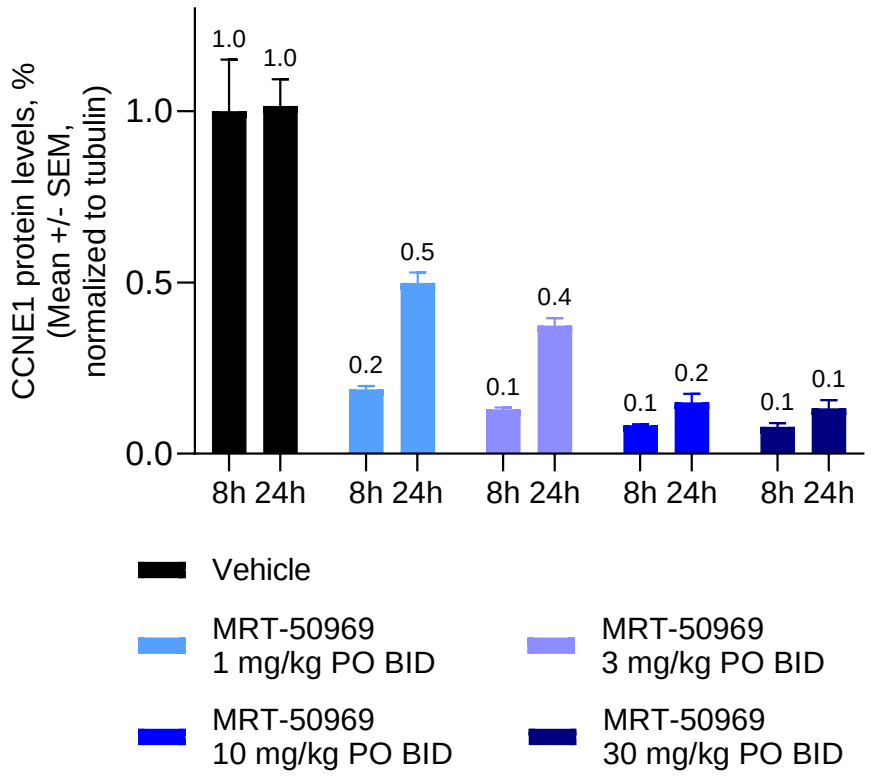


5 Day CyQuant Assay, Bars indicate median GI_{50}

GI_{50} = growth inhibition 50%, the concentration of drug required to inhibit the growth of cancer cells in vitro by 50%

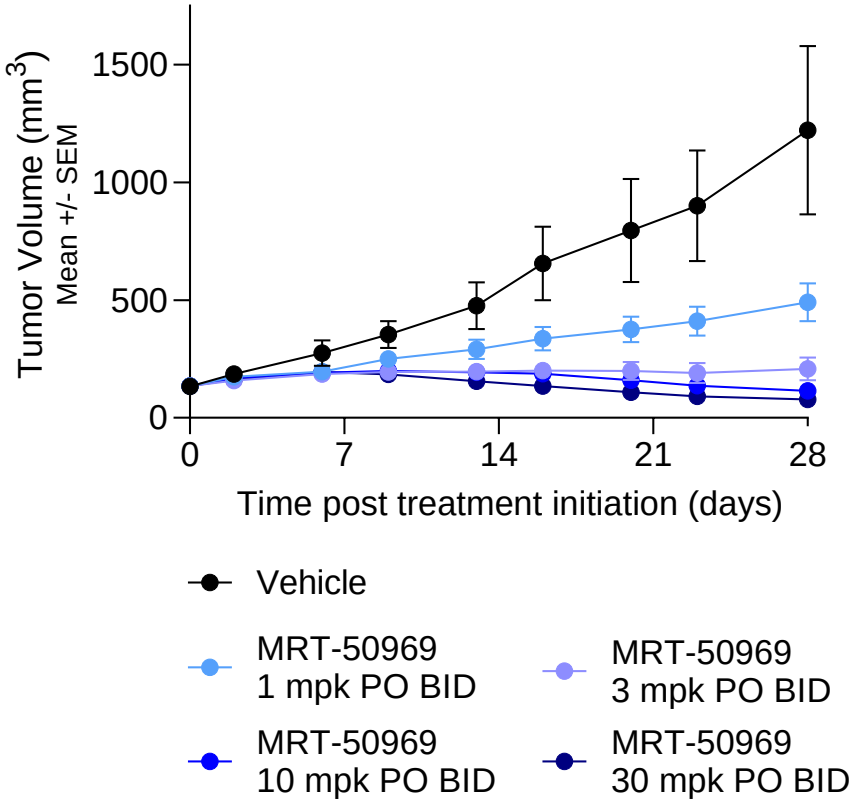
MRT-50969 Inhibits Tumor Growth in a CCNE1 Amplified Breast Cancer Model *in vivo*

MRT-50969 degrades CCNE1 *in vivo*



Day 28/8h and 24h PD, Western blot, HCC1569 CDX

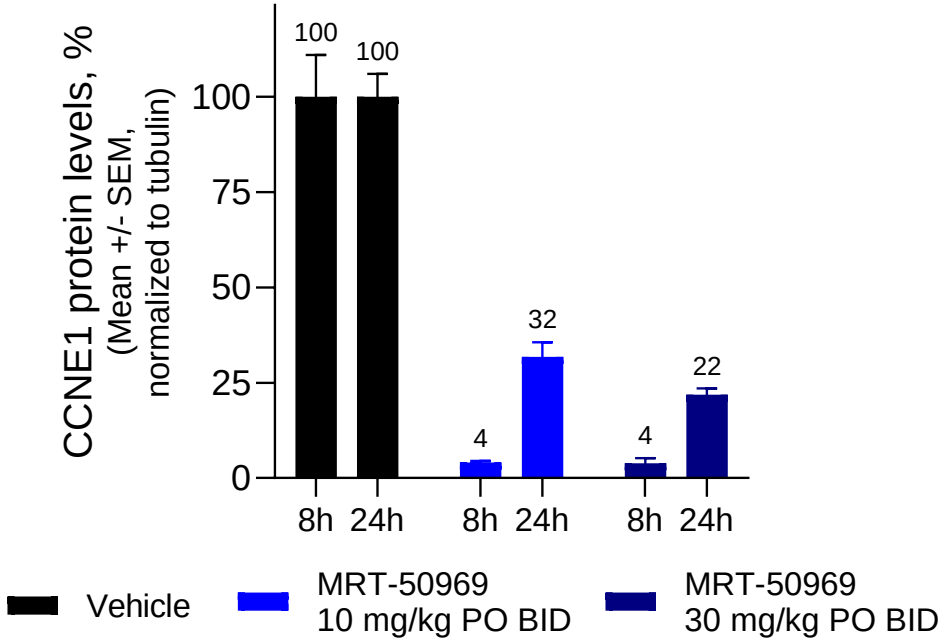
MRT-50969 inhibits tumor growth in CCNE1 amplified breast cancer model



HCC1569 CDX, 28-day efficacy study

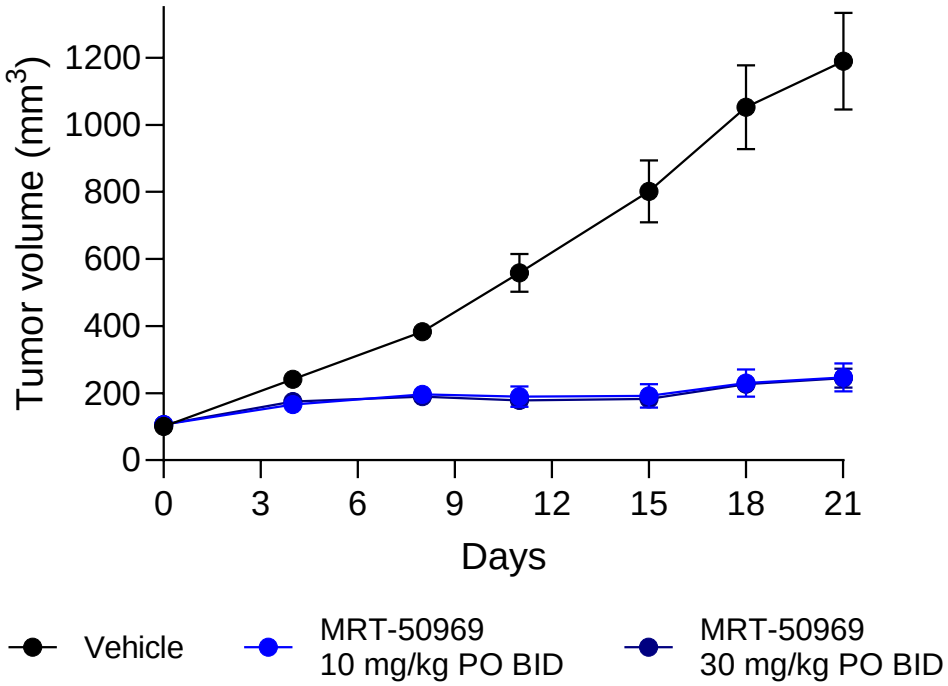
MRT-50969 Inhibits Tumor Growth in a CCNE1 Amplified Gastric Cancer Model *in vivo*

MRT-50969 degrades CCNE1 *in vivo*



Day 21/8h and 24h PD, Western blot, MKN1 CDX

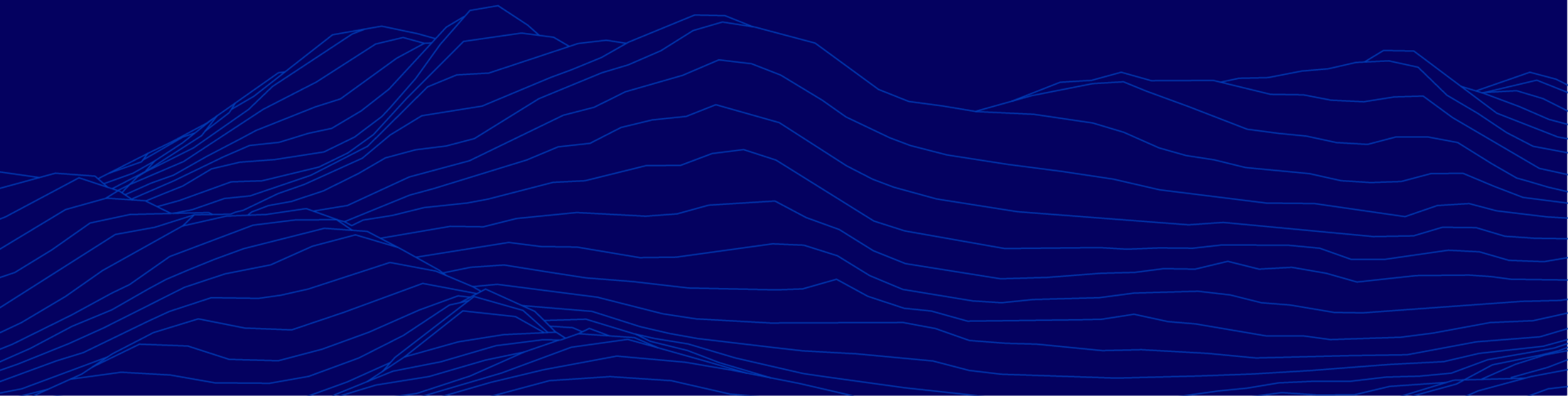
MRT-50969 inhibits tumor growth in CCNE1 amplified gastric cancer model



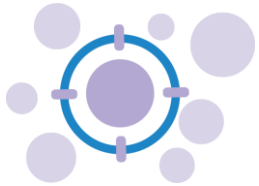
21-day efficacy study in MKN1 CDX model

Monte Rosa Therapeutics

QuEEN™ Discovery Engine



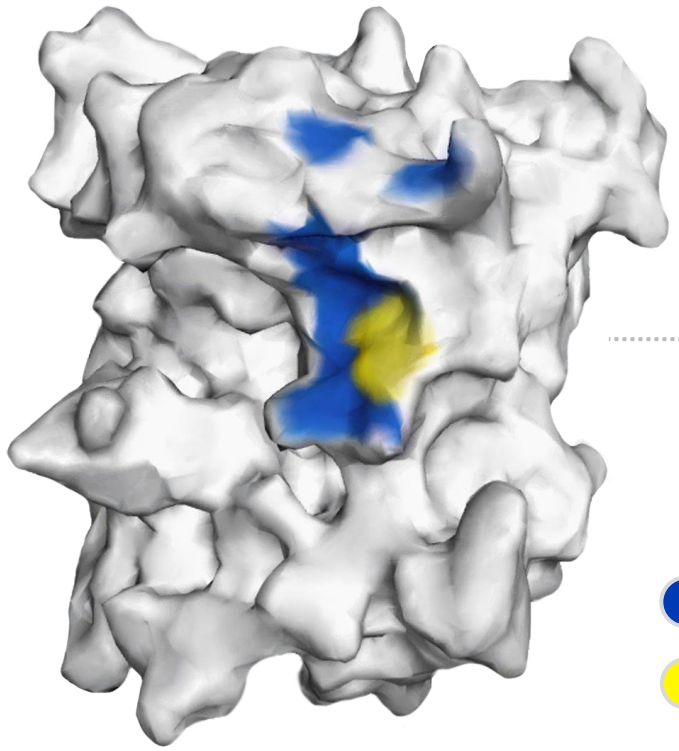
Overcoming Past Limitations of Molecular Glue Degraders

Traditional thinking		Monte Rosa Therapeutics approach
'Target space is limited'		QuEEN™ has vastly expanded the degradable target space across a broad range of undruggable protein classes
'MGDs are identified by serendipity'		QuEEN™ enables target centric and systematic discovery of MGDs
'MGDs are not selective'		High selectivity achievable even within the same protein class, family and isoforms, mitigating off-target safety concerns
'Med Chem rules don't apply to MGDs'		AI-driven and structure-based design enable rational med chem optimization of MGDs

Our Critical Insight: Surfaces are Critical for MGD Discovery

Surfaces, not structures, mediate PPIs and targeted protein degradation

E3 ligase



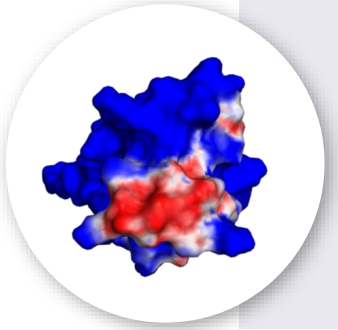
E3 ligase neosurface

- Neosubstrate footprint
- MGD footprint

- Rationally-designed MGDs create diverse E3 ligase neosurfaces, enabling recruitment of new targets
- Our geometric deep learning algorithms use surfaces to **predict** targets.
- Our surface-based algorithms **design** MGDs to recruit targets.
- Our platforms generate **actionable data-at-scale** to test & train (“data moat”)

QuEEN™ Unique Capabilities

Breakthroughs enabling rapid discovery of potent, selective, and oral MGDs



AI/ML

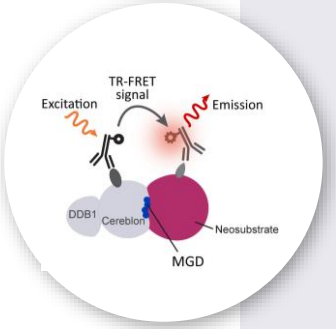
In silico discovery using proprietary AI-powered algorithms

Structure-based Design

Proprietary database of protein structures to enable rapid optimization of MGD chemistry

MGD Library

Growing 50K compound library for novel degron and target space exploration

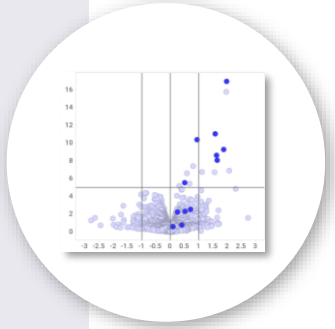


Proximity Screening

Specialized suite of biochemical, cellular and proteomics assays to assess proximity and degradation in high throughput

Proteomics

Integrated proteomics engine and database to identify novel targets and explore cellular complex formation and protein degradation

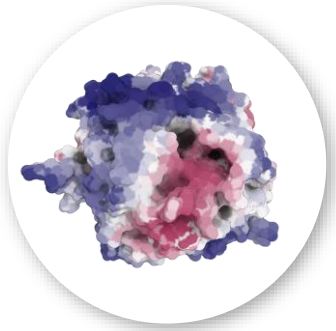


Proprietary AI/ML Engines Enable the Discovery of Reprogrammable Ligases, Neosubstrates, and Selective MGDs

Proprietary AI/ML engines

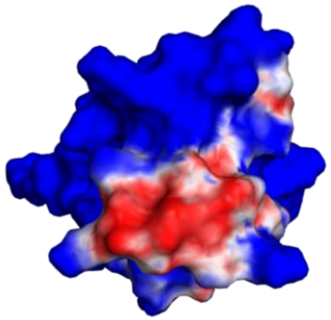
Target ID

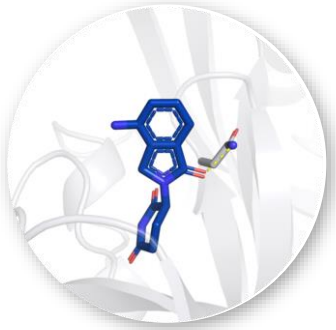
Guided by surface mimicry



Ligase matching

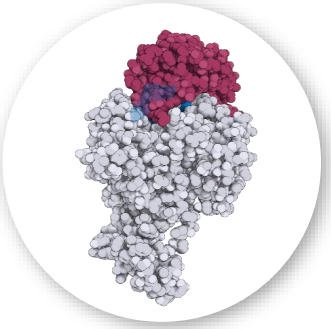
PPI propensity & surface complementarity





MGD discovery

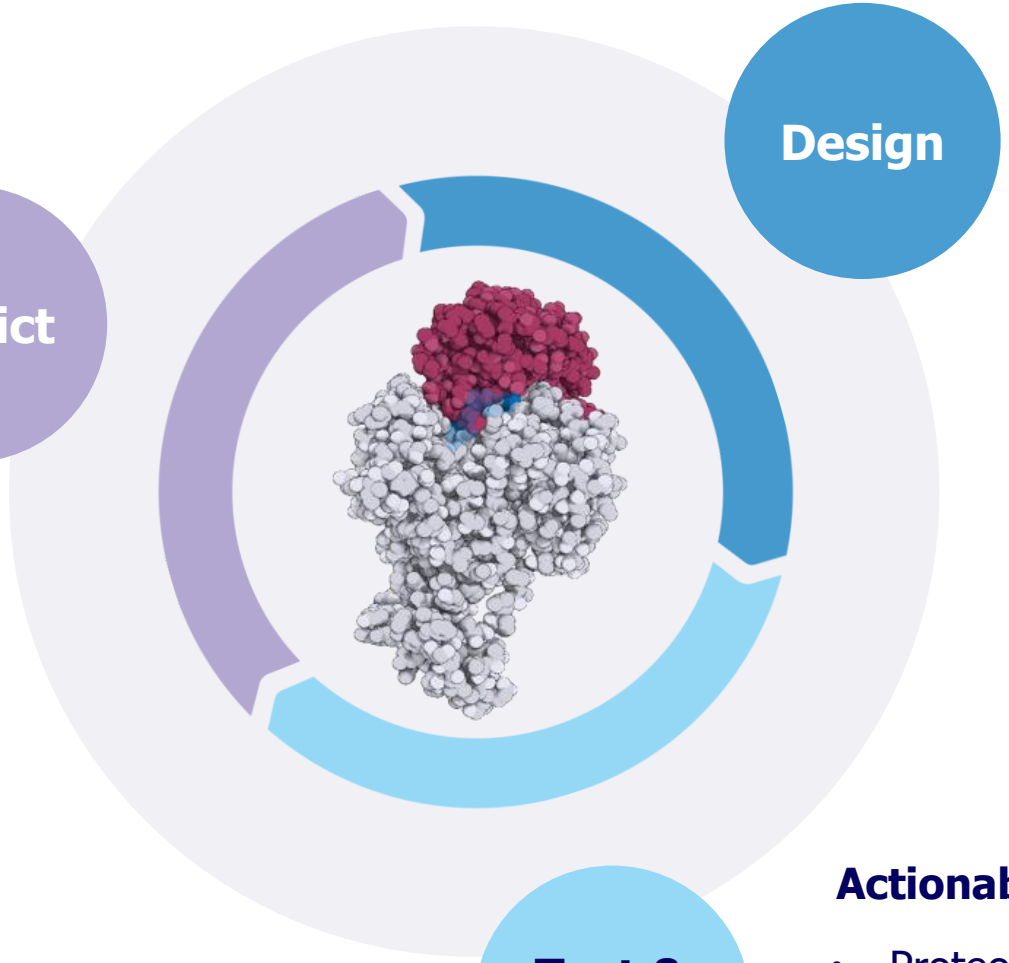
Generate MGDs with drug-like properties



***In silico* screening**

Screen for activity in ternary complexes

QuEEN™: How it Works



Target and ligase ID

- Surface-centric discovery process

AI-powered chemistry

- Surface-aware MGD generation & optimization

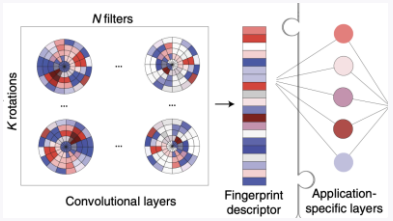
Actionable data-at-scale

- Proteomics
- Virtual screens
- Structural biology
- High throughput screens

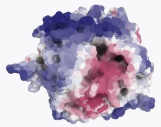
Queen™ Toolbox to Rapid Discovery of Oral MGDs

Predict
Target & ligase ID

fAIceit™ Ultra-fast fingerprint search for surface-based matchmaking



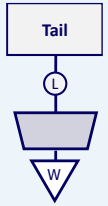
E3 ligase
reprogrammability



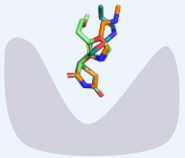
fAIceit mimicry
target ID

Design
AI-powered chemistry

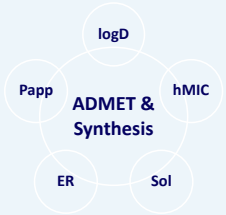
FLASH™
virtual library



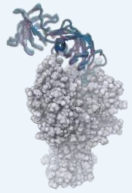
HitMan™
diverse library



GlueAID™
ADMET & synthesis

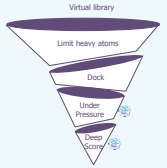


Rhapsody™
ternary complexes

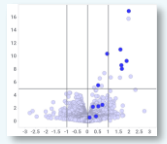


Test & Train
Actionable data-at-scale

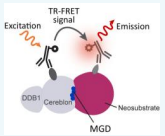
Headlong™
virtual screens



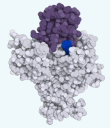
Proteomics
mass-spec farm



HT library screening



Structural biology
X-ray & cryo-EM



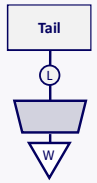
Algorithms Use MGD-focused, Moated Data to Identify Targets and Design MGDs

in silico experimentation

fAIceit mimicry
target ID

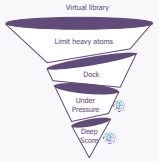
250
BILLION
Protein surface matchings

FLASH™
virtual library



37
BILLION
Virtual MGDs

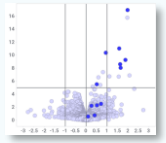
Headlong™
virtual screens



651
MILLION
Compounds screened

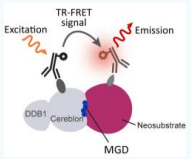
Lab experimentation

Proteomics
mass-spec farm



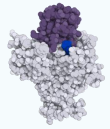
37
MILLION
protein measurements

HT library screening



6.5
MILLION
MGD activity measurements

Structural biology
X-ray & cryo-EM



>125
Structures

Cloud First and Cloud Native

Scalable Data Lake with purpose-built data services for seamless data movement and unified governance

Monte Rosa Therapeutics

Team

World-Class Leadership

Deep expertise in molecular glue discovery, drug development and precision medicine

Markus Warmuth, M.D.
Chief Executive Officer

H3 Biomedicine
Novartis

Sharon Townson, Ph.D.
Chief Scientific Officer

Kymera Therapeutics
Warp Drive Bio

John Castle, Ph.D.
Chief Data and Information Officer

agenus
BioNTech

Magnus Walter, DPhil
SVP, Drug Discovery

AbbVie
Lilly

Filip Janku, M.D., Ph.D.
Chief Medical Officer

The University of Texas MD Anderson Cancer Center

Phil Nickson, Ph.D., J.D.
Chief Business and Legal Officer

Momenta
FISH & RICHARDSON

Jennifer Champoux
Chief Operating Officer

H3 Biomedicine
Novartis

Andrew Funderburk
SVP, Investor Relations and Strategic Finance

Kendall Investor Relations
Health Advances


Thank You
Monte Rosa
Therapeutics