



JANUARY 11, 2022

On Target to Outsmart Cancer™

Legal Disclaimer



This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act. All statements other than statements of historical facts contained in this presentation, including statements regarding our future results of operations and financial position, business strategy, prospective products, availability of funding, ability to maintain existing collaborations, including with Sanofi, and establish new strategic collaborations, licensing or other arrangements, the scope, progress, results and costs of developing our product candidates or any other future product candidates, the potential market size and size of the potential patient populations for our product candidates, the timing and likelihood of success of obtaining product approvals, plans and objectives of management for future operations, the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates, future results of anticipated products, and the impact of the COVID-19 pandemic on our business are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. The information included in these materials is provided as part of an oral presentation on January 11, 2022 and is qualified as such. Except as required by applicable law, we undertake no obligation to update any forward-looking statements or other information contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

For a further description of the risks and uncertainties that could cause actual results to differ from those anticipated in these forward-looking statements, as well as risks relating to the business of Revolution Medicines in general, see Revolution Medicines' Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 2021, and its future periodic reports to be filed with the Securities and Exchange Commission.

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



On Target to Outsmart Cancer

HIGH UNMET NEED IN RAS-ADDICTED CANCERS

RAS proteins drive 30% of human cancers⁽¹⁾, and are largely unserved by targeted therapeutics

STRONG CLINICAL VALIDATION OF RAS AS CANCER DRIVER

Proof-of-principle from first-gen KRAS^{G12C} inhibitors⁽²⁾ predicts favorable impact of targeted inhibitors across numerous RAS cancer drivers

DEEP SCIENCE-DRIVEN PIPELINE

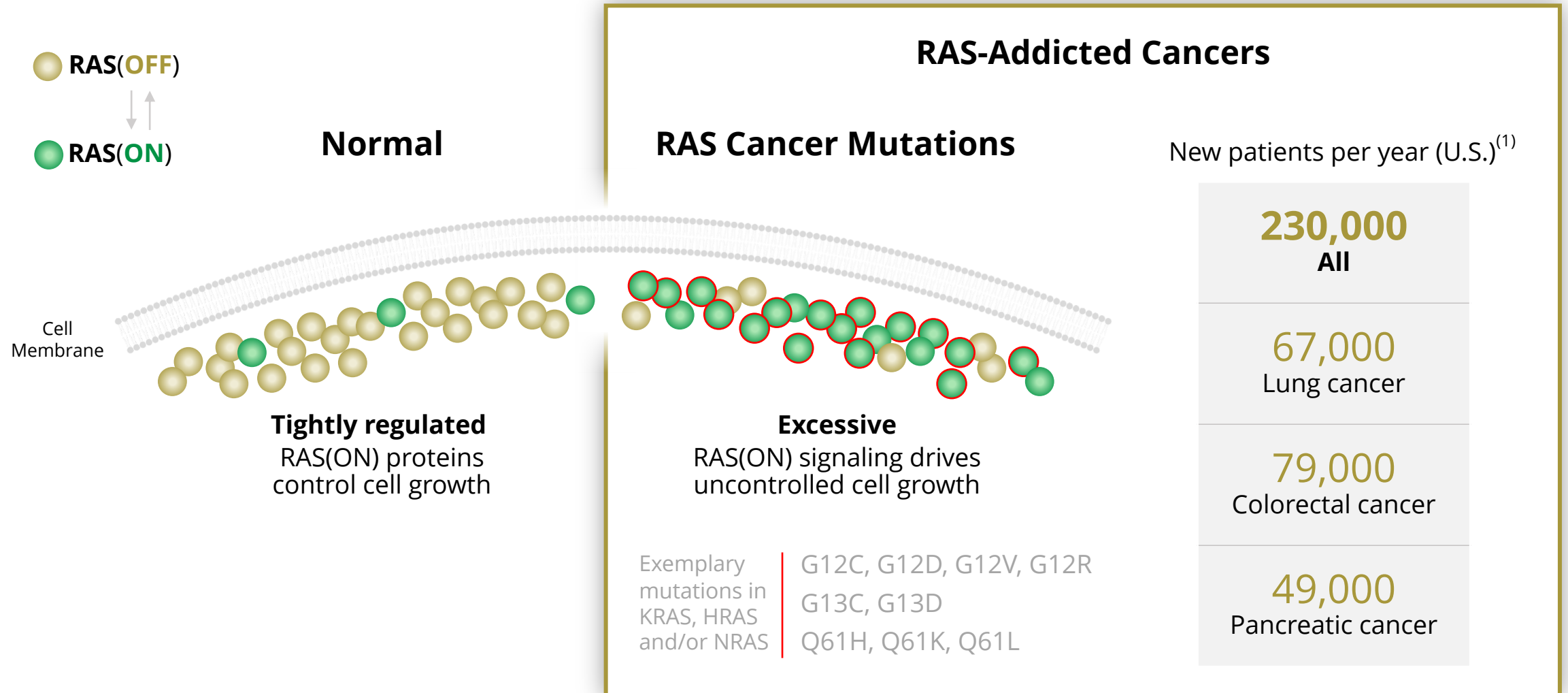
Comprehensive collection of groundbreaking *RAS(ON) Inhibitors* with best-in-class preclinical profiles and/or first-in-class potential covering RAS space broadly; first candidates planned to enter clinic in 2022

Leading *RAS Companion Inhibitors* in clinic designed for combination treatment strategies to counter resistance to RAS targeted therapies

(1) Prior et al., *Cancer Research* 2020

(2) Lumakras approved by the FDA in May 2021

Excessive RAS(ON) Signaling Drives 30% of Human Cancers



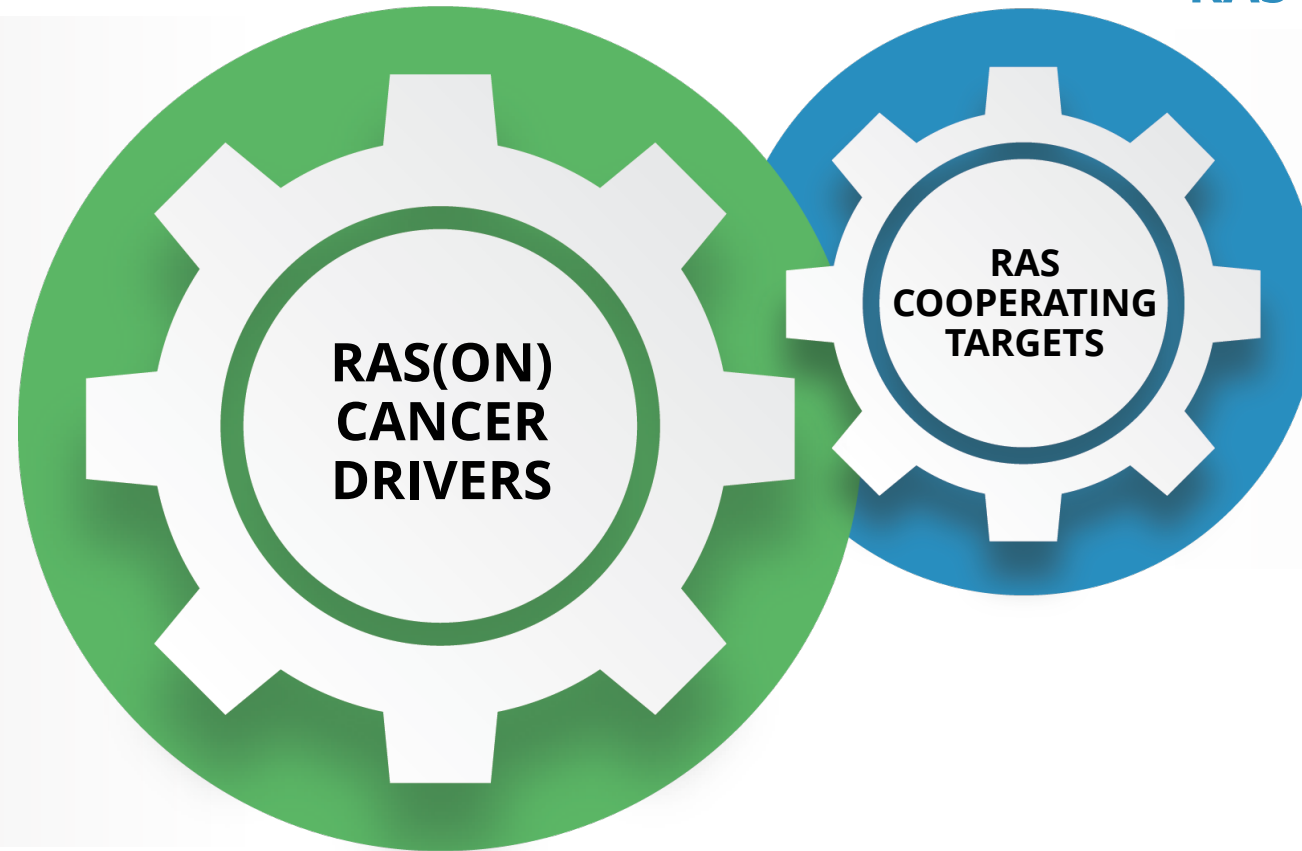
Deep Science-Driven Pipeline of Targeted Therapies for RAS-Addicted Cancers



RAS(ON) Inhibitors

RAS Companion Inhibitors

- 2 Drug Candidates expected to enter clinic in 2022
- 2 Drug Candidates expected to file INDs in 2023
- 4+ Pipeline expansion programs



- 2 Clinical-stage Drug Candidates
- 1 IND-ready Drug Candidate



RAS(ON) Inhibitors

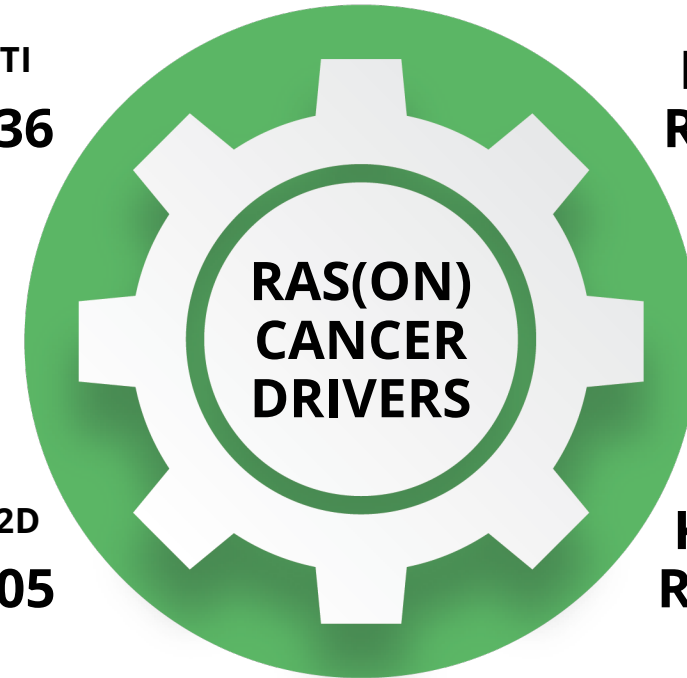
Induce Rapid, Deep
and Sustained
Suppression of
RAS(ON) Cancer
Drivers

RAS^{MULTI}
RMC-6236

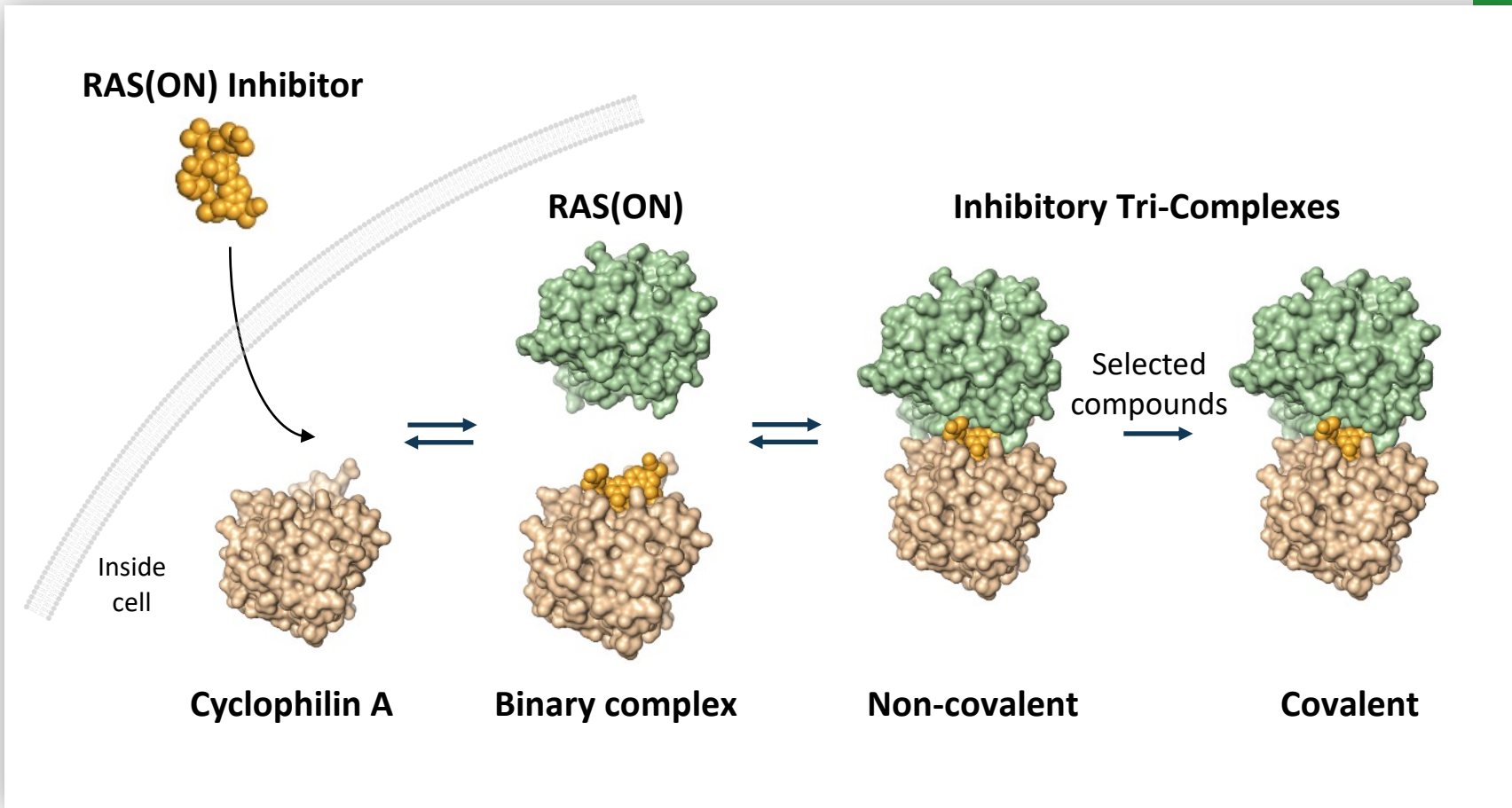
KRAS^{G12C}
RMC-6291

KRAS^{G12D}
RMC-9805

KRAS^{G13C}
RMC-8839



Distinctive RAS Drug Discovery: Innovation Engine Targets Oncogenic RAS(ON) Proteins

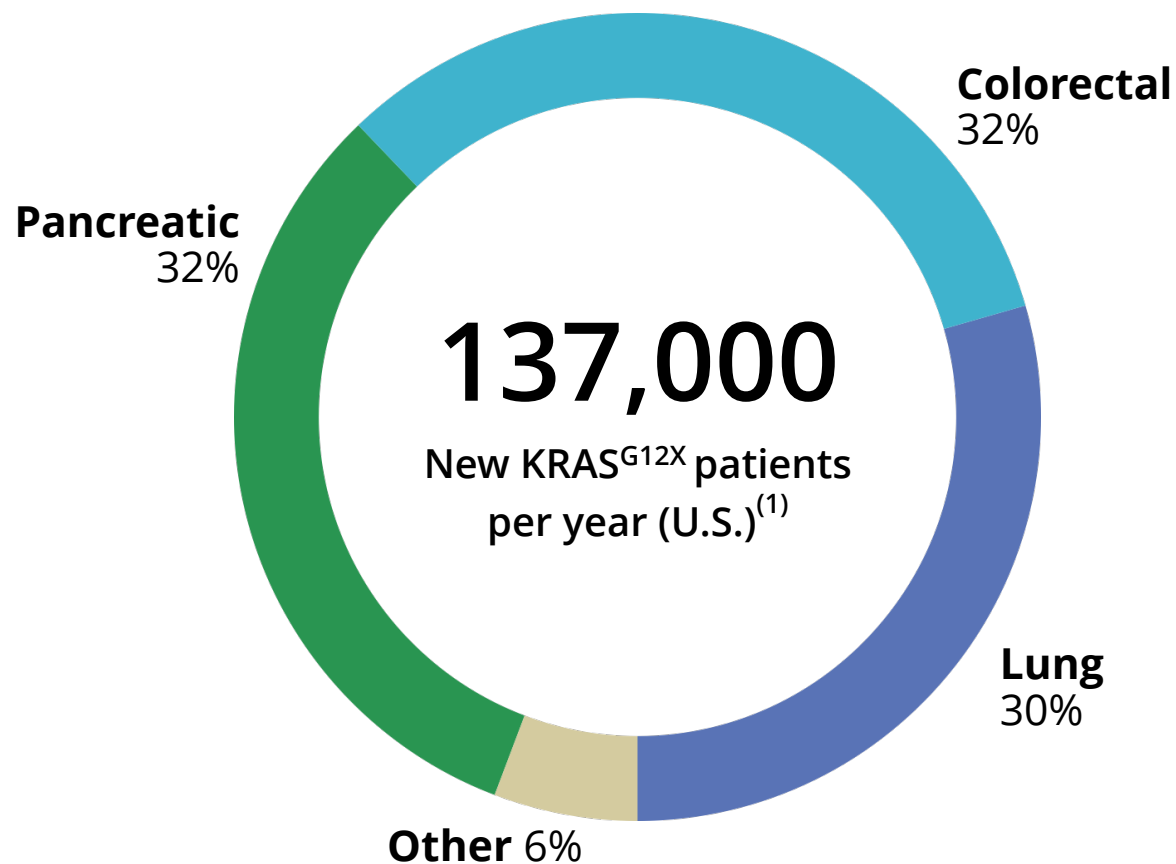


RAS(ON) Inhibitors

Deep and Diverse Collection

- Highly potent and selective
- Oral and drug-like
- Rapid, deep and sustained suppression of RAS(ON) signaling

RMC-6236: First-in-Class RAS^{MULTI}(ON) Inhibitor with Broad Potential Against RAS-Addicted Cancers



KRAS^{G12X} includes KRAS^{G12D}, KRAS^{G12V}, KRAS^{G12R} and KRAS^{G12C}

Highly Potent and Selective RAS(ON) Inhibitor

- Inhibits canonical RAS family members, suppressing the mutant cancer driver and cooperating wild-type RAS proteins

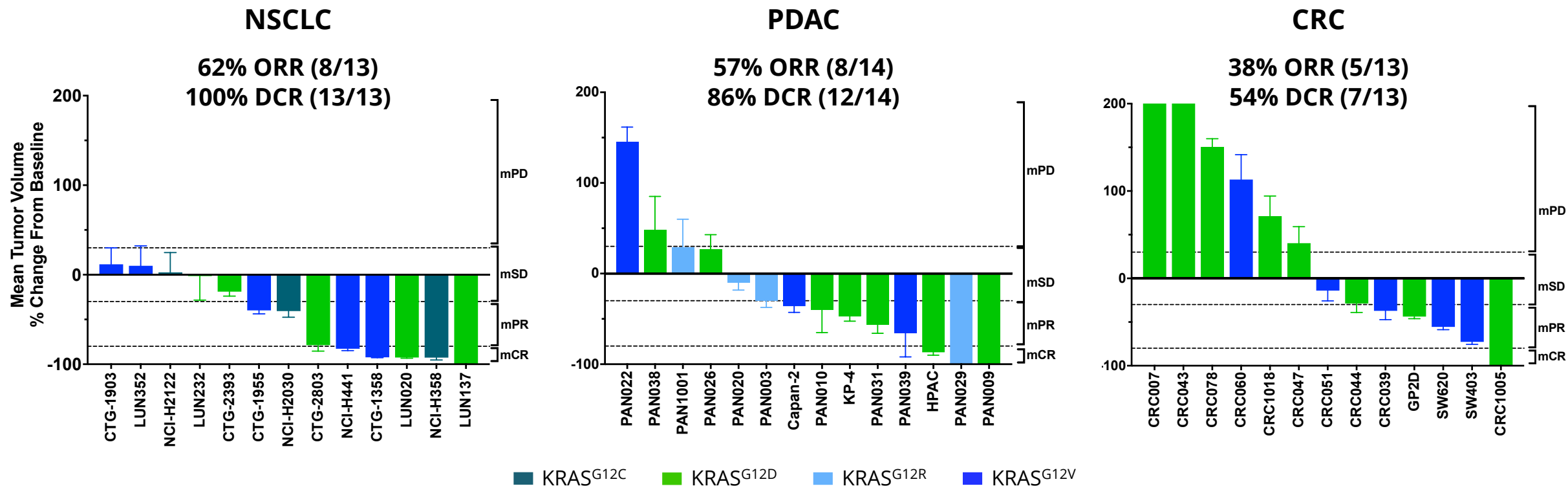
Robust Anti-tumor Activity in Cancer Models

- Deep and sustained inhibition drives durable anti-tumor activity in tumors with common RAS variants including KRAS^{G12D}, KRAS^{G12V}, KRAS^{G12R} and KRAS^{G12C}

Attractive PK/ADME Profile

- Favorable *in vivo* oral bioavailability, clearance and concentration in tumors for effective target coverage in RAS-addicted cancer cells

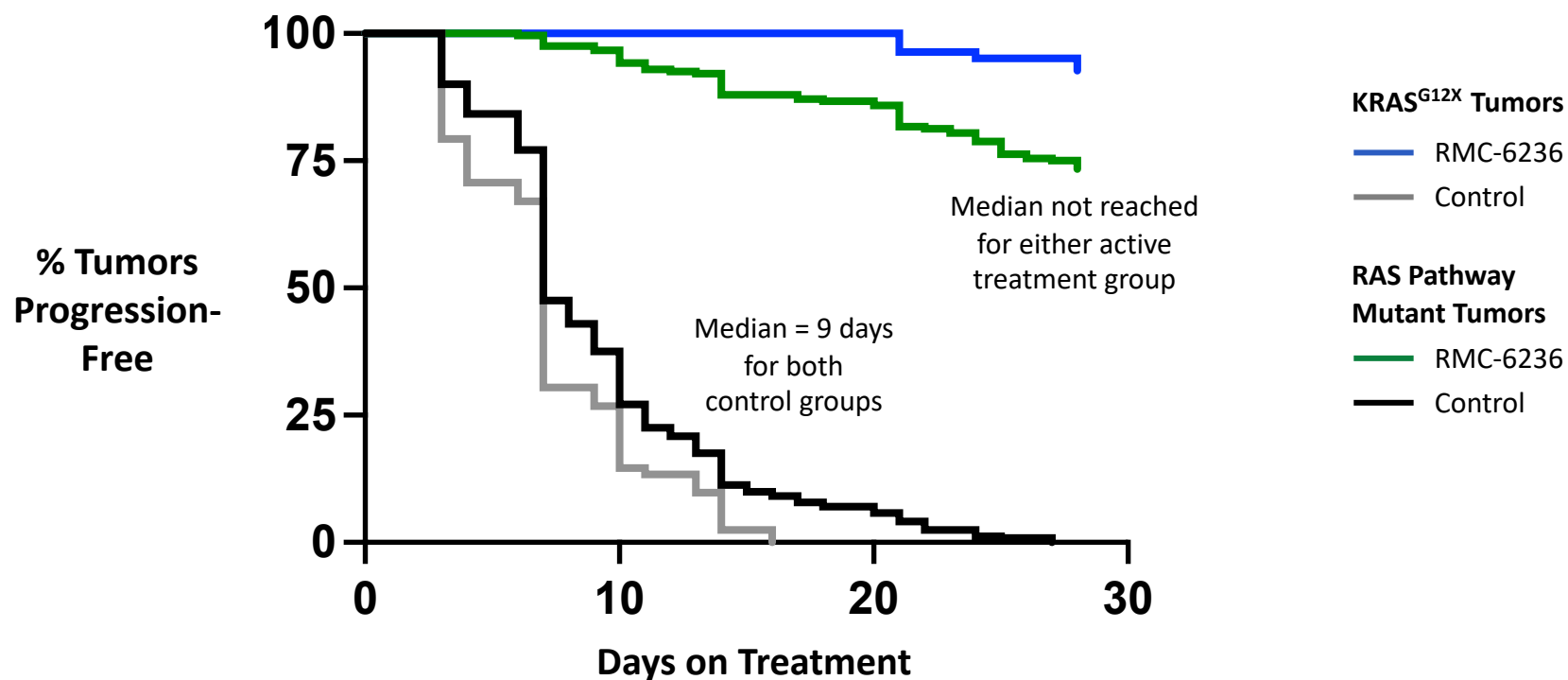
RMC-6236: Highly Active *in Vivo* Across Cancer Models with KRAS^{G12X} Drivers



Deep Tumor Regressions and Complete Responses Observed Across Cancer Models

RVM preclinical research, as of 10/12/21
 RMC-6236 dosed at 25 mg/kg po qd; n = 3-10/group
 NSCLC = non-small cell lung cancer; PDAC = pancreatic ductal adenocarcinoma; CRC = colorectal cancer
 Responses assigned according to mRECIST (see appendix)
 ORR = objective response rate; DCR = disease control rate

RMC-6236: Highly Active *in Vivo* Across Cancer Models with Diverse RAS Drivers



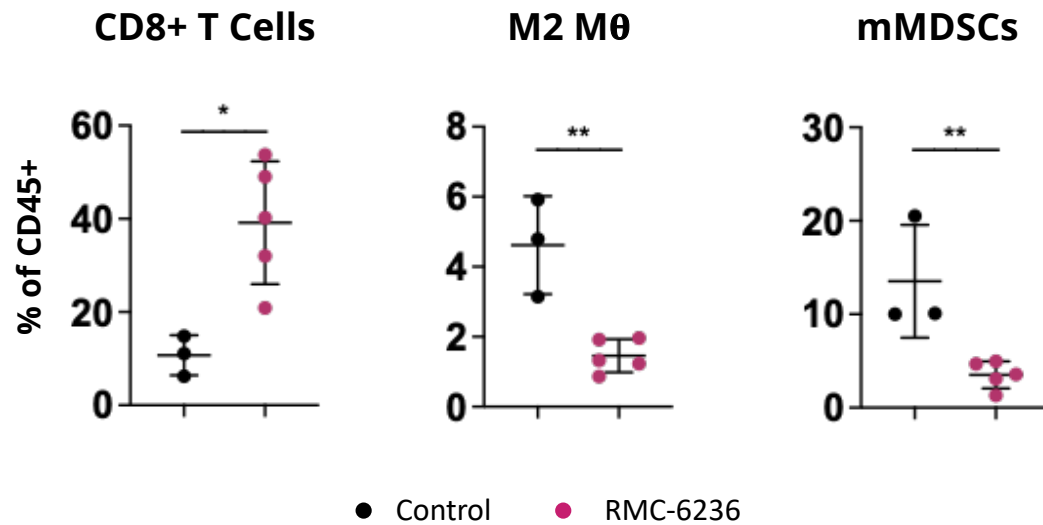
Durable Anti-Tumor Benefit Observed in KRAS^{G12X} Cancer Models and Beyond

RVMD preclinical research, as of 10/12/21
RMC-6236 dosed at 25 mg/kg po qd
Progression defined as tumor doubling from baseline over 28 days
p<0.0001 by Log-rank test (control vs RMC-6236 treatment)
See appendix for composition of KRAS^{G12X} Tumors and RAS Pathway Mutant Tumors

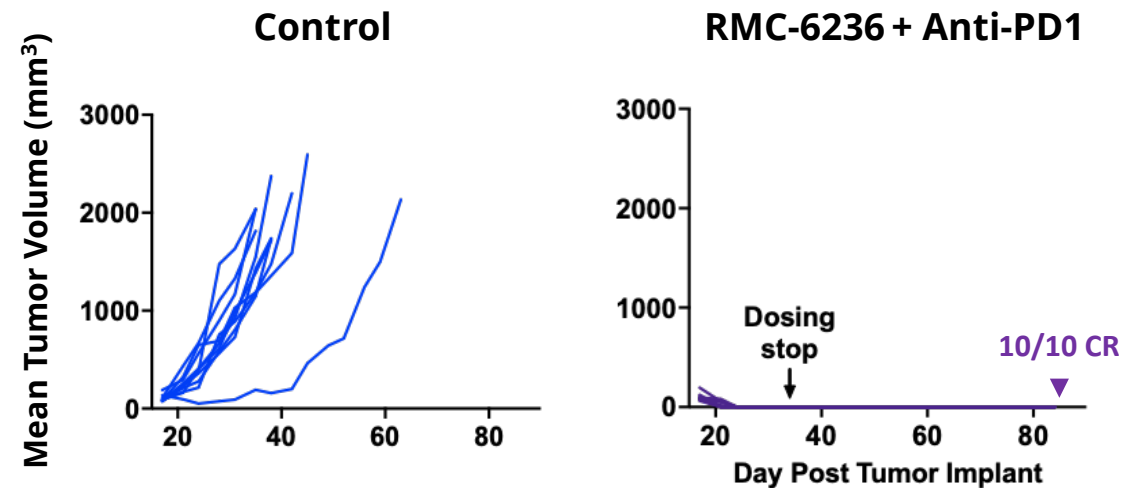
RMC-6236: Anti-Tumor Immunity *in Vivo* and Strong Additivity with Checkpoint Inhibitor



Favorable Transformation of Tumor Immune Microenvironment



Durable Complete Responses with Checkpoint Inhibitor Combination



Modulation of the Tumor Microenvironment Primes for Anti-Tumor Immunity in Cancer Models

RMC-6236: Clinical Priorities to Pursue First-in-Class Activity Against KRAS^{G12X} Tumors



Activities

2022

- Submit IND[^]
- Initiate single agent dose escalation in patients with cancers with KRAS^{G12X} mutations (focused on NSCLC, pancreatic cancer and CRC)
- Include 'below MTD' expansion cohorts in select populations during dose escalation

Further development

- Define RP2DS
- Single agent expansion cohorts in KRAS^{G12X} tumors (NSCLC, pancreatic cancer and CRC)
- Combinations in KRAS^{G12X} tumors (NSCLC, pancreatic cancer and CRC)



Aims

Evidence of first-in-class single agent activity against KRAS^{G12X} tumors[^]

[^]See Milestones table

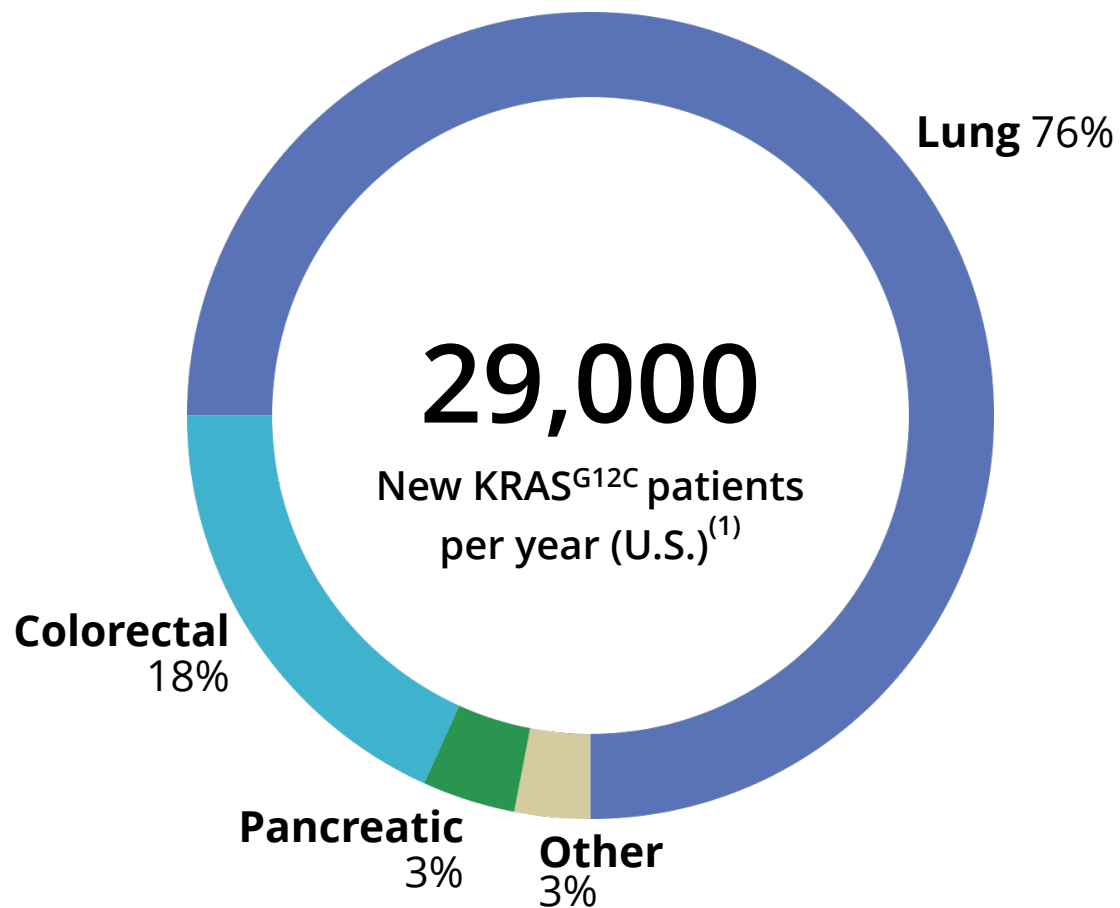
KRAS^{G12X} may include KRAS^{G12D}, KRAS^{G12V}, KRAS^{G12R} and/or KRAS^{G12C}

RP2DS = Recommended Phase 2 dose and schedule

MTD = maximum tolerated dose

NSCLC = non-small cell lung cancer; CRC = colorectal cancer

RMC-6291: Mutant-Selective RAS(ON) Inhibitor with Best-in-Class Potential for KRAS^{G12C} Cancers



Highly Potent and Selective RAS(ON) Inhibitor

- Highly active against KRAS^{G12C}
- Covalent for irreversible inhibition
- Low off-target risk and acceptable safety profile

Robust Anti-tumor Activity in Cancer Models

- Rapid, deep and sustained inhibition drives durable anti-tumor effects across multiple KRAS^{G12C} tumor types, with complete responses in some models

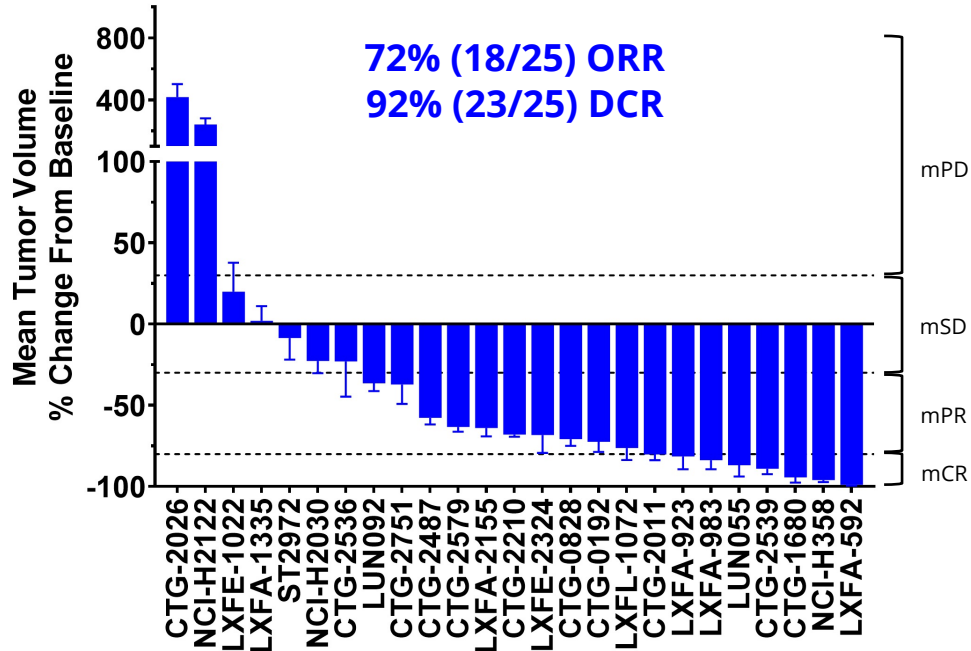
Attractive PK/ADME Profile

- Favorable *in vivo* oral bioavailability and clearance for effective target coverage in KRAS^{G12C}-addicted cancer cells

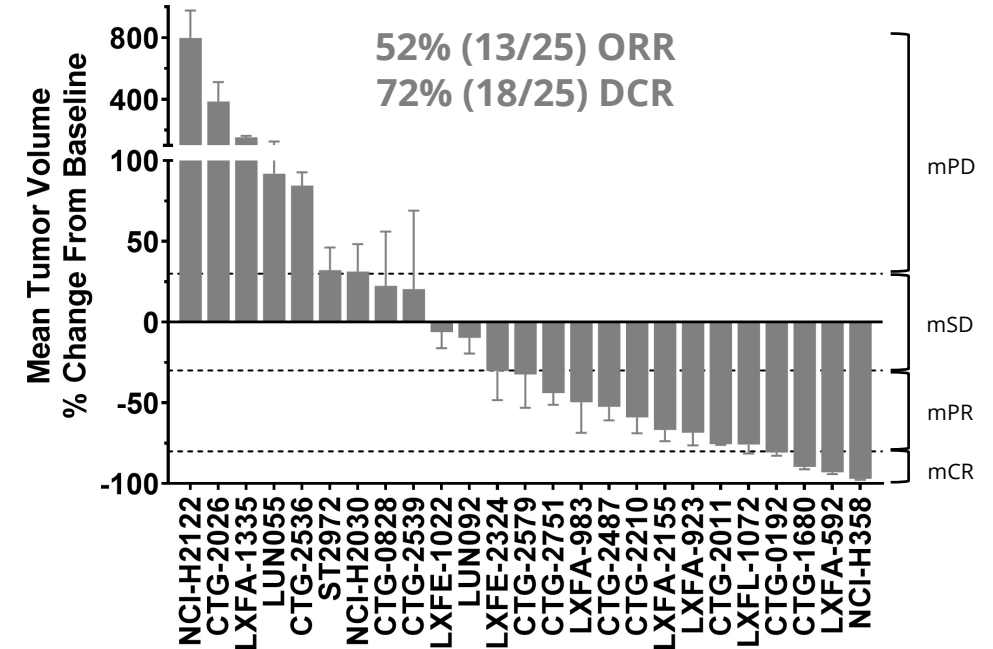
RMC-6291: Superior Outcomes in Mouse Clinical Trial with KRAS^{G12C} NSCLC Models



RMC-6291



Adagrasib



Best-in-Class Potential in KRAS^{G12C} NSCLC

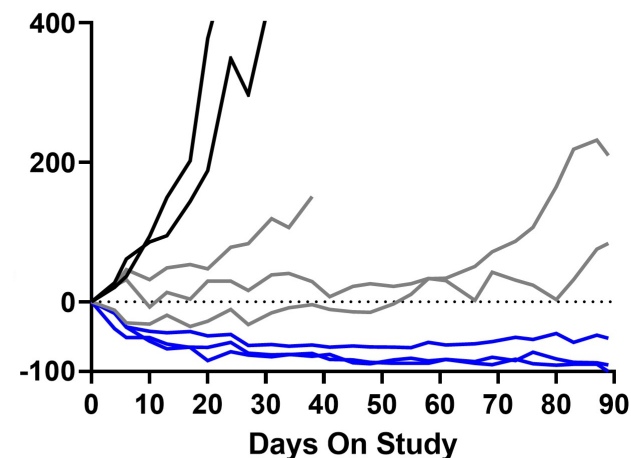
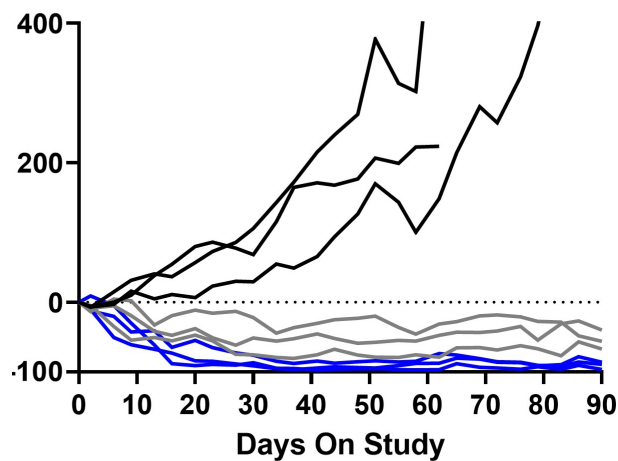
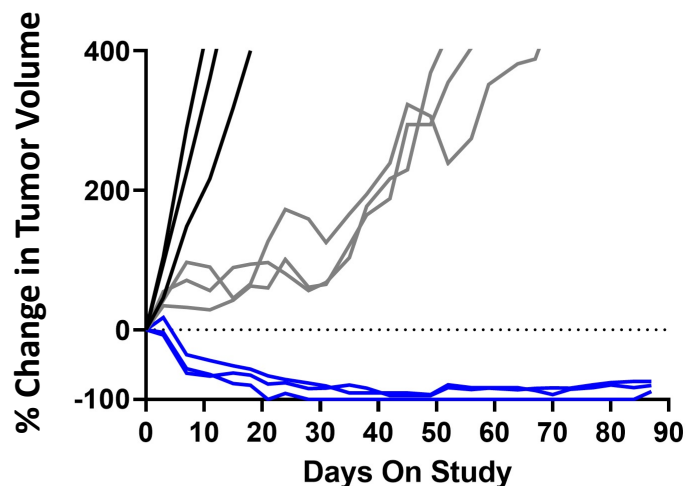
RMC-6291 May Improve on KRAS^{G12C} (OFF) Inhibitor Class Across Three Outcome Measures in NSCLC



Increased Rate Of Response^(a)

Increased Depth Of Response^(b)

Increased Duration Of Response^(c)



— Control — RMC-6291 — Adagrasib

Best-in-Class Potential in KRAS^{G12C} NSCLC

RMC-6291: Clinical Priorities to Pursue Best-in-Class Activity Against KRAS^{G12C} Tumors



Activities

2022

- Submit IND[^]
- Initiate single agent dose escalation in KRAS^{G12C} tumors
- Include 'below MTD' expansion cohorts in select populations (e.g., NSCLC) during dose escalation

Further development

- Define RP2DS
- Single agent expansion cohorts in KRAS^{G12C} NSCLC and pancreatic cancer (RAS inhibitor naïve +/- failure)
- Combinations in KRAS^{G12C} NSCLC & CRC



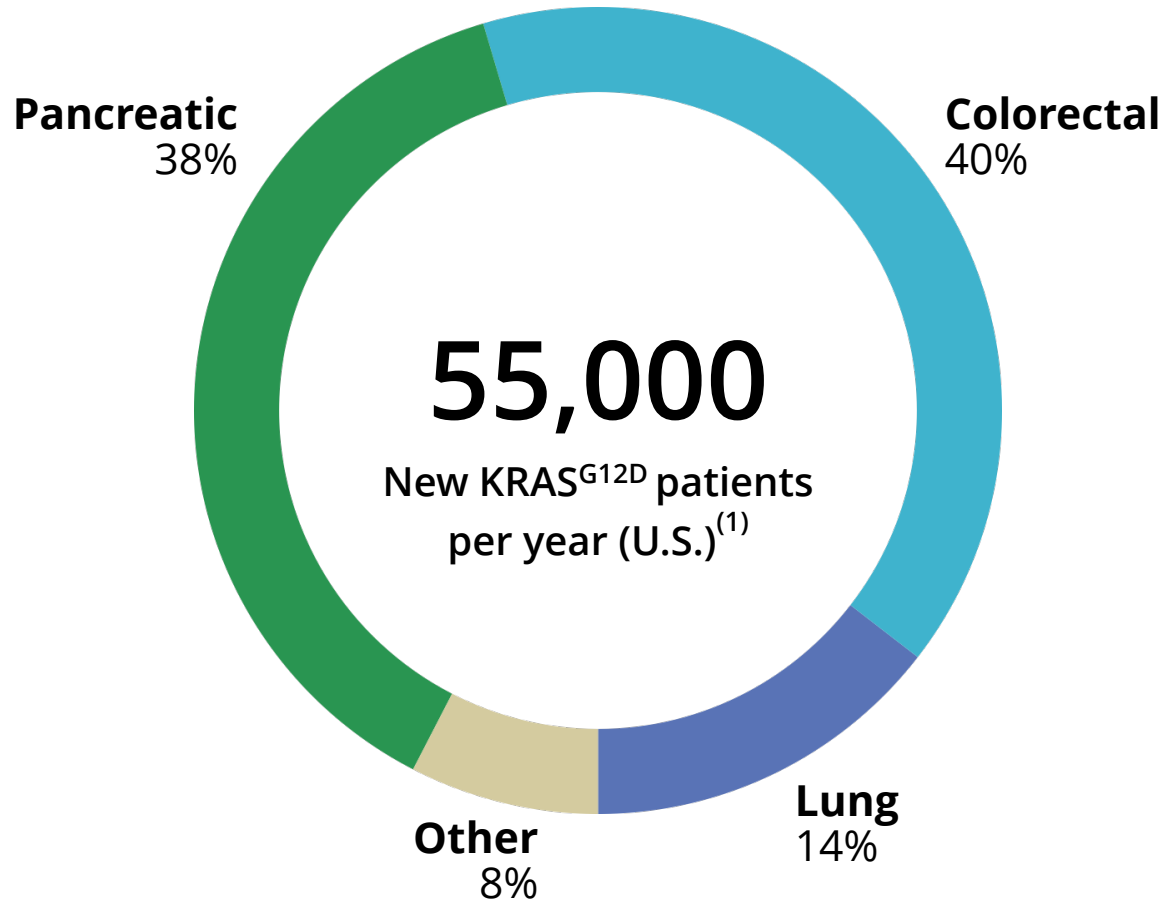
Aims

Preliminary evidence of superior activity against KRAS^{G12C} tumors[^]

[^]See Milestones table

RP2DS = Recommended Phase 2 dose and schedule
MTD = maximum tolerated dose
NSCLC = non-small cell lung cancer; CRC = colorectal cancer

RMC-9805: Mutant-Selective RAS(ON) Inhibitor with Best-in-Class Potential for KRAS^{G12D} Cancers



Highly Potent and Selective RAS(ON) Inhibitor

- Highly active against KRAS^{G12D}
- Covalent for irreversible inhibition
- Low off-target risk and acceptable safety profile

Robust Anti-tumor Activity in Cancer Models

- Rapid, deep and sustained inhibition drives durable regressions in KRAS^{G12D} lung, pancreatic and colorectal cancers

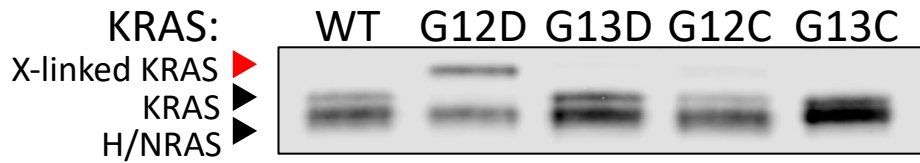
Attractive PK/ADME Profile

- Favorable *in vivo* oral bioavailability and clearance for effective target coverage in KRAS^{G12D}-addicted cancer cells

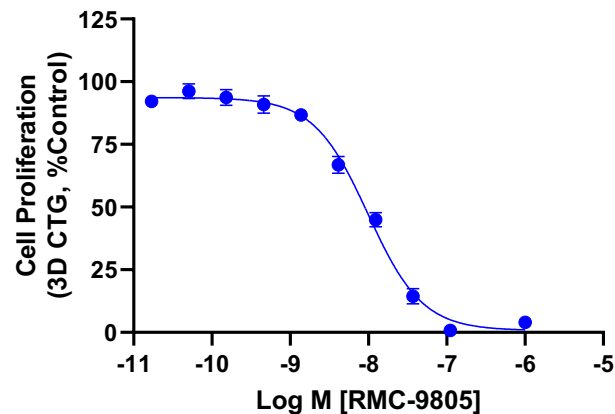
RMC-9805: Selective, Covalent and Orally Active with Sustained Inhibition of KRAS^{G12D} *in Vivo*



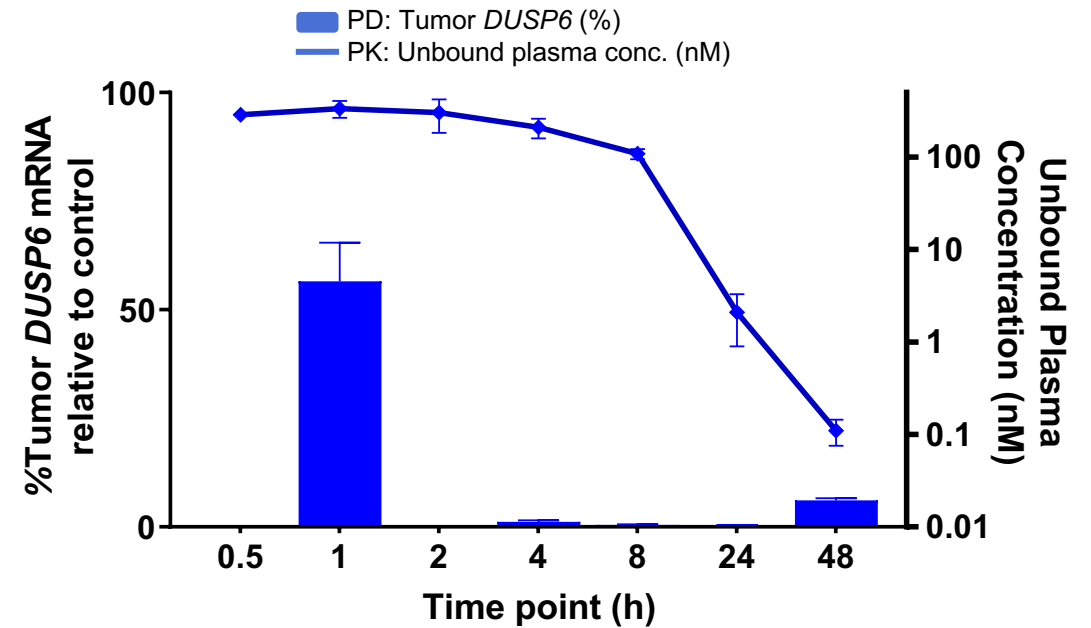
Selective Covalent Modification of KRAS^{G12D}



Potent Inhibition of KRAS^{G12D} Cancer Cell Growth



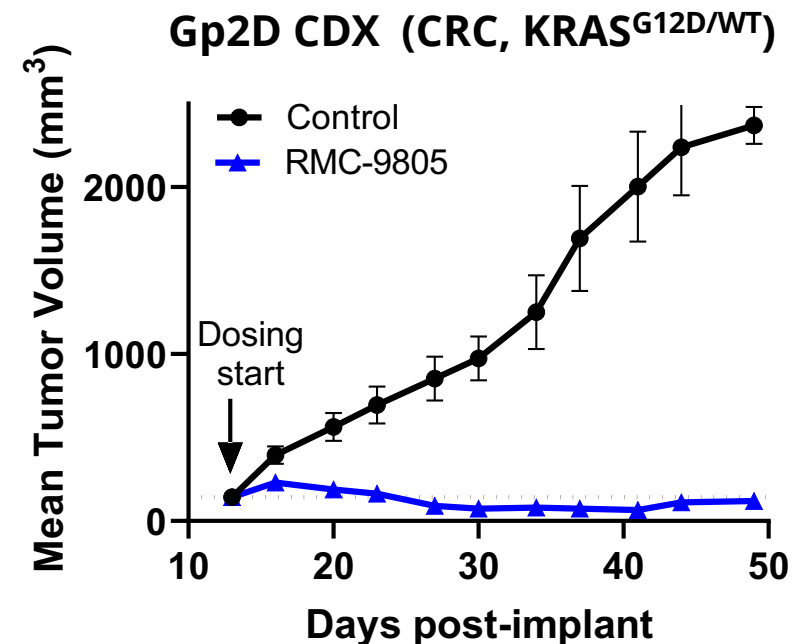
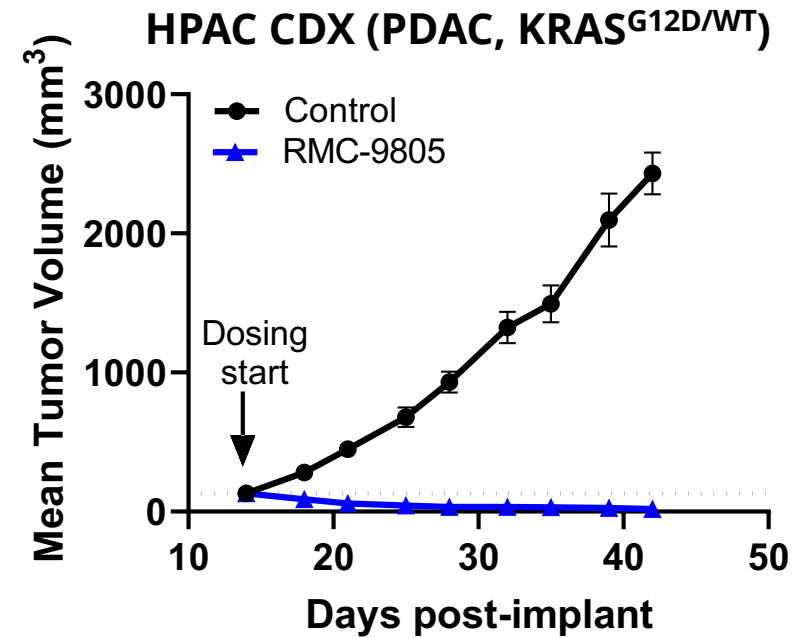
Single Dose PK/PD HPAC CDX (PDAC, KRAS^{G12D/WT})



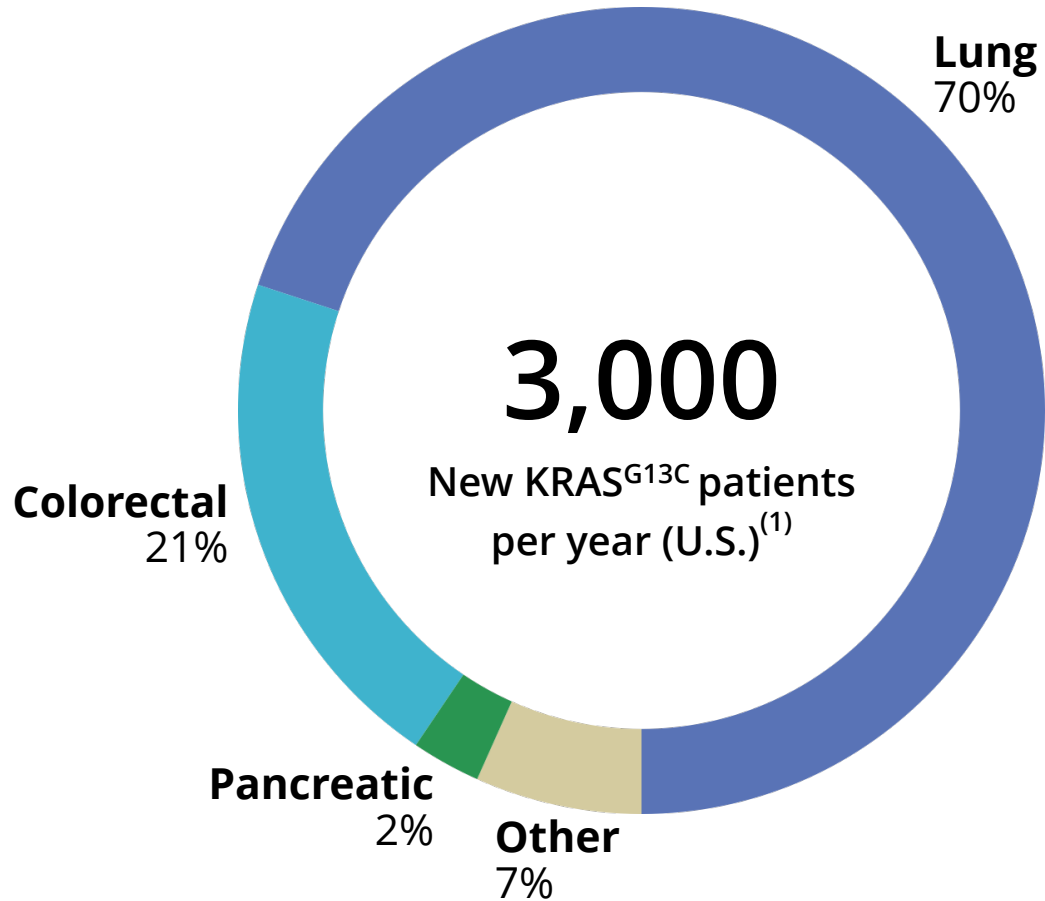


RMC-9805: Tumor Regressions in Models of KRAS^{G12D} Cancers

- First-in-class mutant-selective covalent inhibitor of KRAS^{G12D}
- Deep and durable anti-tumor responses *in vivo* in pancreatic and colorectal cancer models
- Oral dosing, well tolerated



RMC-8839: First-in-Class Mutant-Selective RAS(ON) Inhibitor for KRAS^{G13C} Cancers



Highly Potent and Selective RAS(ON) Inhibitor

- Highly active against KRAS^{G13C}
- Covalent for irreversible inhibition
- Low off-target risk and acceptable safety profile

Robust Anti-tumor Activity in Cancer Models

- Rapid, deep and sustained inhibition drives durable regressions in KRAS^{G13C} lung cancers

Attractive PK/ADME Profile

- Favorable *in vivo* oral bioavailability and clearance for effective target coverage in KRAS^{G13C}-addicted cancer cells

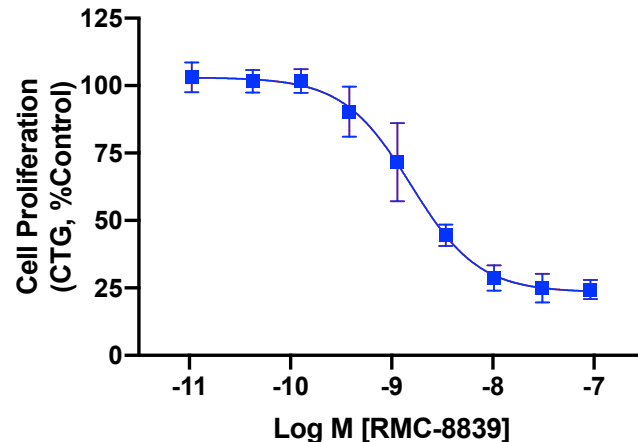
RMC-8839: Selective, Covalent and Orally Active with Sustained Inhibition of KRAS^{G13C} *in Vivo*



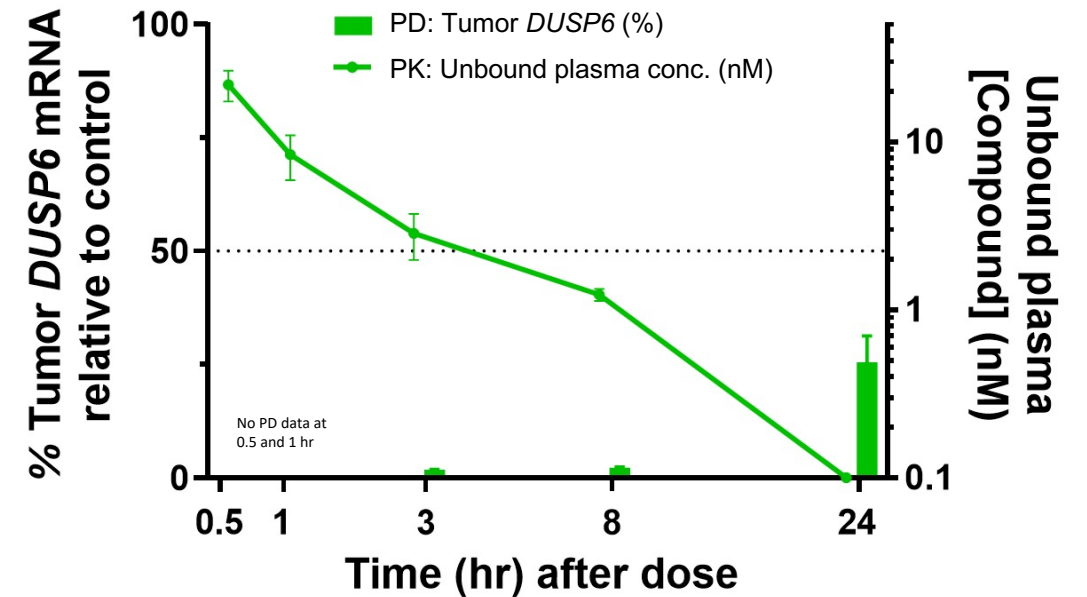
Selective Covalent Modification of KRAS^{G13C}



Potent Inhibition of KRAS^{G13C} Cancer Cell Growth



Single Dose PK/PD NCI-H1734 (NSCLC CDX, KRAS^{G13C})

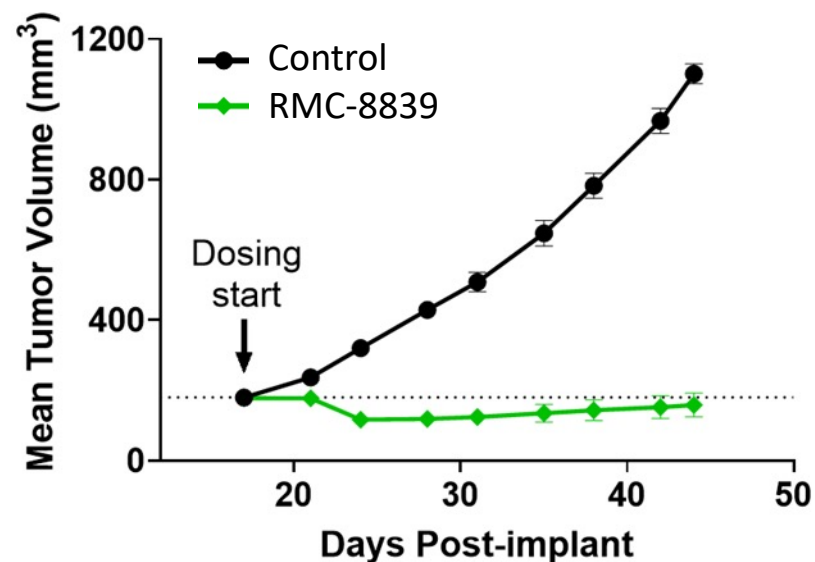


RMC-8839: Tumor Regressions in Models of KRAS^{G13C} Cancers

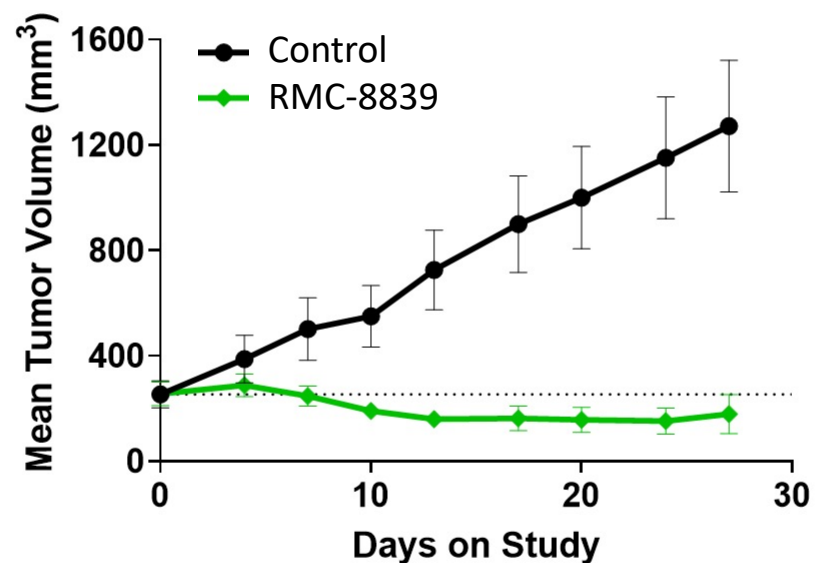
- First-in-class mutant-selective covalent inhibitor of KRAS^{G13C}
- Deep anti-tumor responses *in vivo* in non-small cell lung cancer models
- Oral dosing, well tolerated



NCI-H1734 CDX (NSCLC, KRAS^{G13C}/WT)



ST2822B PDX (NSCLC, KRAS^{G13C}/WT)





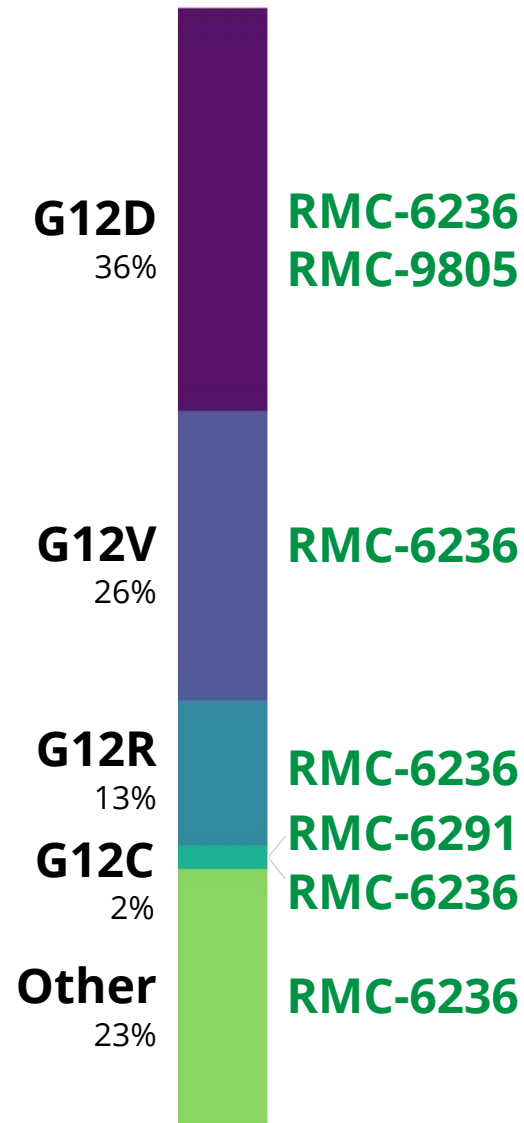
On Target to Outsmart Pancreatic Cancer

Devastating disease
>90% driven by KRAS mutations

49,000

New KRAS^{MUTANT} pancreatic cancer
patients per year (US)⁽¹⁾

Dismal survival rates
No approved targeted therapies



Our development-stage
RAS(ON) Inhibitors

- Inhibit >90% of pancreatic cancer drivers in cancer models⁽¹⁾
- Exhibit strong anti-tumor activity in preclinical models of pancreatic cancer



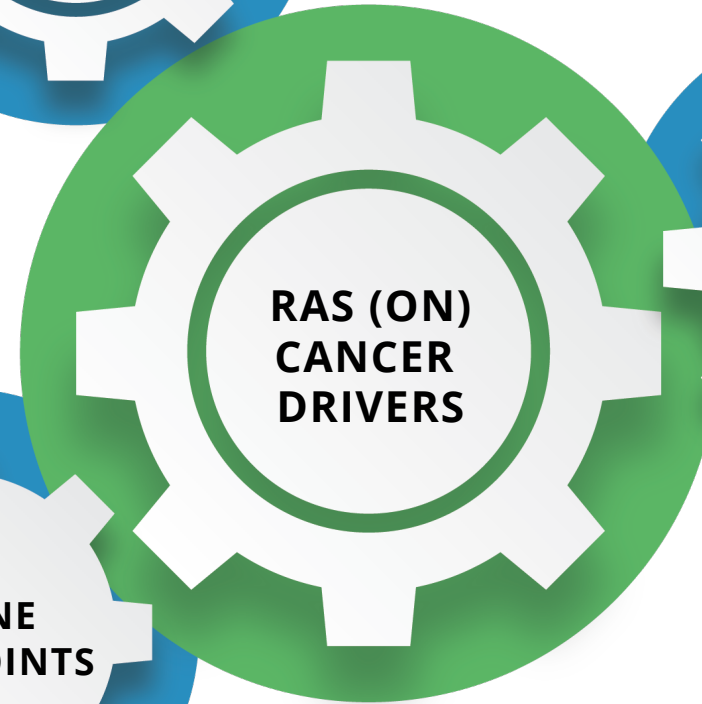
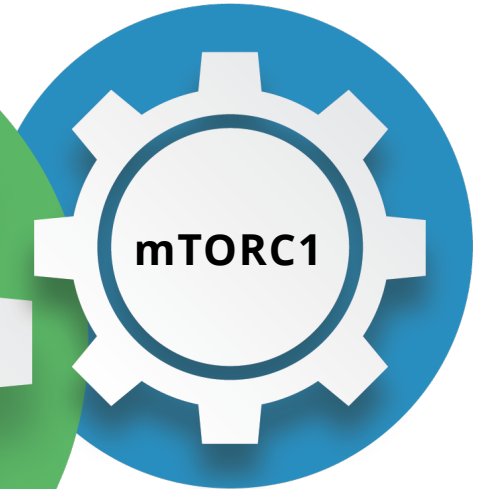
RAS Companion Inhibitors

Suppress Cooperating Targets and Pathways that Sustain RAS-Addicted Cancers

RMC-4630



RMC-5552



RMC-4630: Ongoing and Planned Clinical Combination Studies



STUDY	SPONSOR	COMBINED WITH	INDICATION(S)	STATUS
CodeBreak 101c (U.S.)	Amgen	sotorasib	2L+ KRAS ^{G12C} solid tumors	Ongoing (Phase 1b/2)
RMC-4630-03 (Global)	RevMed	sotorasib	2L+ KRAS ^{G12C} NSCLC	Ongoing (Phase 2)
TCD16210 (Global)	Sanofi	adagrasib	2L+ KRAS ^{G12C} NSCLC	In preparation (Phase 1/2)
TBD	RevMed	RMC-6291	KRAS ^{G12C} TBD	Planning
TCD16210 (Global)	Sanofi	pembrolizumab	1L PDL1 ⁺ NSCLC	Ongoing (Phase 1/2)

RMC-4630: Clinical Priorities to Pursue Best-in-Class Combination Activity in KRAS^{G12C} Tumors



Activities

2022

- Complete enrollment in RMC-4630-03 and preliminary evaluation[^]

Further development

- Registration study in combination with KRAS^{G12C}(OFF) inhibitor in KRAS^{G12C} NSCLC
- Combination study(ies) with KRAS^{G12C}(OFF) inhibitor in KRAS^{G12C} CRC and/or pancreatic cancer
- Combination study(ies) with RMC-6291



Aims

Evidence of clinical benefit as RAS Companion Inhibitor against KRAS^{G12C} NSCLC[^]
Evidence of clinical benefit as a RAS Companion Inhibitor against additional KRAS^{G12C} tumors

[^]See Milestones table

RMC-5552 Clinical Opportunity

- Potent, selective inhibitor of hyperactivated mTORC1 to reactivate the tumor suppressor 4EBP1
- Designed for combination with RAS(ON) inhibitors in patients with cancers harboring RAS/mTOR pathway co-mutations⁽¹⁾
 - >30,000 new patients per year across lung, colorectal and pancreatic cancers (U.S.)⁽²⁾
- Single agent Phase 1b dose escalation underway, focused on tumor genotypes linked to hyperactivated mTORC1 signaling

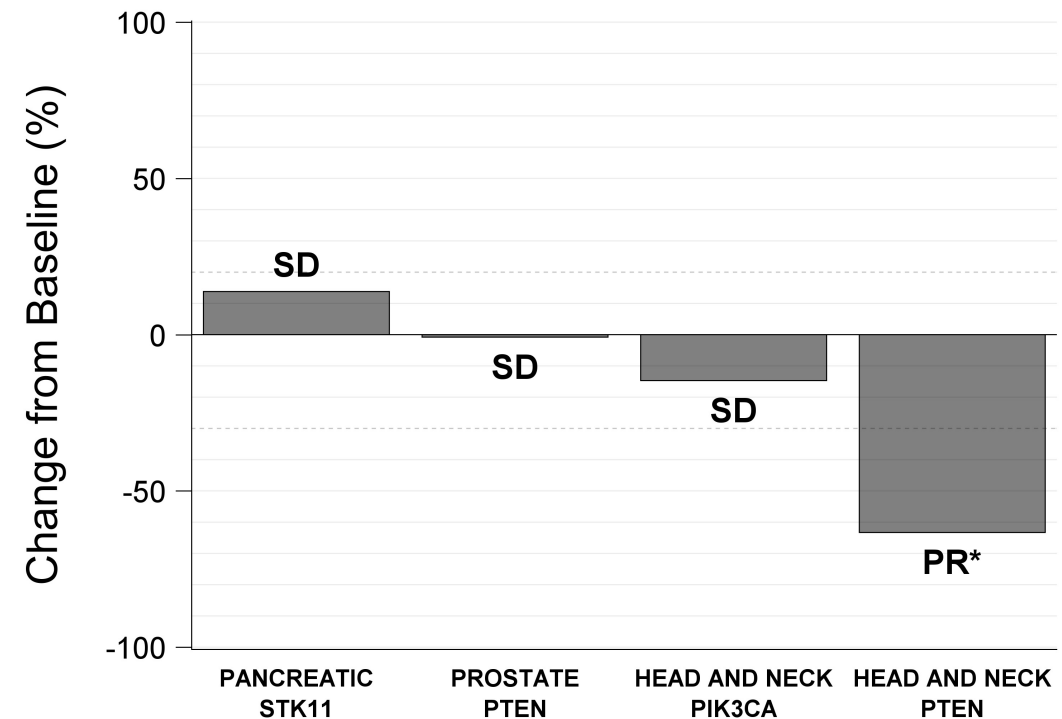
(1) mTOR pathway co-mutations include genetic changes with likely oncogenic activity in one or more of PIK3CA, PTEN, TSC1, TSC2, STK11, and/or mTOR

(2) Calculated using tumor mutation frequencies from Foundation Medicine Insights August 2020 and scaled to estimated patient numbers using cancer incidence from ACS *Cancer Facts and Figures 2020*; see appendix for additional detail



Preliminary Evidence of Clinical Activity

Best Tumor Change in Efficacy Evaluable Patients Treated with 6 mg IV Weekly[#]



[#] Preliminary assessments suggest mucositis as the major dose-limiting toxicity. 6 mg weekly was well tolerated. Further enrollment at doses above 6 mg is ongoing to define the RP2DS; *Patient received one dose of 12 mg, followed by weekly doses of 6 mg. Data as of 01/07/2022.

RMC-5552: Clinical Priorities to Pursue Best-in-Class Combination Activity in RAS^{MUTANT}/mTORC1-Activated Tumors



Activities

2022

- Complete single agent dose-escalation
- Initiate single agent expansion cohorts in select tumors with mTOR pathway mutations

Further development

- Define single agent RP2DS
- Complete single agent expansion cohorts
- Combinations with RAS(ON) inhibitors from our portfolio in RAS^{MUTANT} tumors with mTOR pathway co-mutations



Aims

Additional evidence of single agent activity against tumors with mTOR pathway mutations[^]

[^]See Milestones table

Deep Pipeline of Targeted Therapies for Majority of RAS-Addicted Cancers



		PRECLINICAL	IND-ENABLING	CLINICAL PHASE 1	CLINICAL PHASE 2	CLINICAL PHASE 3
RAS(ON) INHIBITORS						
RMC-6236	RAS ^{MULTI}	[Green bar spanning Preclinical to Ind-Enabling]				
RMC-6291	KRAS ^{G12C}	[Green bar spanning Preclinical to Ind-Enabling]				
RMC-9805	KRAS ^{G12D}	[Green bar spanning Preclinical to Ind-Enabling]				
RMC-8839	KRAS ^{G13C}	[Green bar spanning Preclinical to Ind-Enabling]				
Additional	G12R, G12V, G13D, Q61X, other	[Green bar spanning Preclinical to Ind-Enabling]				
RAS COMPANION INHIBITORS						
RMC-4630	SHP2	[Blue bar spanning Preclinical to Ind-Enabling]			[Blue bar spanning Clinical Phase 1 to Clinical Phase 2]	
RMC-5552	mTORC1/4EBP1	[Blue bar spanning Preclinical to Ind-Enabling]				
RMC-5845 ⁽¹⁾	SOS1	[Blue bar spanning Preclinical to Ind-Enabling]				



(1) IND-ready

Anticipated Milestones



PROGRAM	MILESTONE (EXPECTED TIMING)
RAS(ON) INHIBITORS	
RMC-6236 (RAS ^{MULTI})	Submit IND (1H22); Provide evidence of first-in-class single agent activity (2023)
RMC-6291 (KRAS ^{G12C})	Submit IND (1H22); Provide preliminary evidence of superior activity (2023)
RMC-9805 (KRAS ^{G12D})	Submit IND (1H23)
RMC-8839 (KRAS ^{G13C})	Submit IND (2H23)
Additional RAS ^{MUTANT} -Selective Inhibitor	Nominate development candidate (2H22)
RAS COMPANION INHIBITORS	
RMC-4630 (SHP2)	Complete enrollment in RMC-4630-03 (2H22); Provide preliminary (2H22) and additional (2023) evidence of clinical benefit as a RAS Companion Inhibitor from RMC-4630-03
RMC-5552 (mTORC1/4EBP1)	Provide additional evidence of single agent activity (2023)

Financial Information



Financial Position

Cash, cash equivalents and
marketable securities @ 9/30/2021

\$608.7 million⁽¹⁾

2021 Financial Guidance

2021 GAAP net loss of \$170 million to \$190 million⁽²⁾



REVOLUTION MEDICINES

Focused on serving high unmet needs across numerous cancers driven by diverse RAS mutations

Targeted *RAS(ON) Inhibitors* with compelling preclinical profiles expected to begin entering clinic in 2022

Targeted *RAS Companion Inhibitors* designed to counter drug resistance have shown initial clinical activity and evaluation continues

Development-stage portfolio covers RAS drivers of all major RAS-addicted cancers

Appendix



- RAS cancer epidemiology statistics are estimated using tumor mutation frequencies from Foundation Medicine Insights August 2020 and scaled to estimated patient numbers using cancer incidence from ACS *Cancer Facts and Figures 2020*:
 - RAS mutations include: KRAS G12(A,C,D,R,S,V), KRAS G13(C,D), KRAS Q61(H, K, L), KRAS A146T, KRAS wild-type amplification, NRAS G12C, NRAS Q61(K,L,R,P), HRAS mutations of known/likely function, BRAF class 3 mutations, NF1 loss of function mutations, PTPN11 mutations of known/likely function. NF1 LOF mutations = 50% of all NF1 mutations of known/likely function. BRAF class 3 mutations = D287H, D594(A,E,G,H,N,V,Y), F595L, G466(A,E,R,V,E,D,R), N581(I,S), S467L,T599I, V459L.
 - Includes 12 major types: non-small cell lung cancer, colorectal, pancreatic adenocarcinoma, renal, gastroesophageal, head and neck squamous cell, ovarian and biliary cancers, acute myeloid leukemia, and advanced melanoma, bladder and uterine/endometrial cancers causing mortality.
 - Est. worldwide annual incidence of RAS-mutated cancers is 3.4 million per Prior et al., *Cancer Research 2020*
- RAS mutations drive 30% of human cancers per Prior et al., *Cancer Research 2020*
- KRAS^{G12X} includes KRAS^{G12D}, KRAS^{G12V}, KRAS^{G12R} and KRAS^{G12C}
- Mouse tumor responses on slides 9 and 14 assigned according to mRECIST (modified from Gao et al. Nat Med. 2015):
 - mPD = progressive disease; mSD = stable disease; mPR = partial response; mCR = complete response
- Kaplan-Meier progression on slide 10 defined as tumor doubling from baseline over 28 days:
 - KRAS^{G12X} Tumors, where X = D,V,C, A or R: n = 207
 - RAS Pathway Mutant Tumors includes KRAS^{G12X} and other RAS and RAS pathway mutant tumors: KRAS^{G13C}, KRAS^{G13D}, KRAS^{K117N}, KRAS^{Q61H}, NF1^{LOF}, PTPN11^{E76K or G503V}, BRAF^{Class 3-mutant}, and KRAS^{WT-Amp}: n = 332
- PDX = patient-derived xenograft; CDX = cell line-derived xenograft