

Investor Presentation Ticker: IMRX October 2021





FORWARD-LOOKING STATEMENTS AND OTHER DISCLAIMERS

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These forward-looking statements are based on management's current expectations. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, the following: the impact of COVID-19 on the Company's ongoing and planned clinical trials, research and development and manufacturing activities, the Company's business and financial markets; the Company has incurred and will continue to incur significant losses and is not and may never be profitable; need for additional funding to complete development and commercialization of any product candidate; the lengthy, expensive and uncertain process of clinical drug development and regulatory approval; limited experience successfully obtaining marketing approval for and commercializing product candidates; the results of preclinical work in animals not being indicative of the results from clinical trials in humans; differences between preliminary or interim data and final data; adverse events or undesirable side effects; disruptions at the FDA and other regulatory agencies; failure to identify additional product candidates; new or changed legislation; costly and damaging litigation, including related to product liability, intellectual property or brought by stockholders; misconduct by employees or independent contractors; reliance on third parties, including to conduct clinical trials and manufacture product candidates; compliance with laws and regulations, including healthcare and environmental, health, and safety laws and regulations; failure to obtain, maintain and enforce protection of patents and other intellectual property; security breaches or failure to protect private personal information; attracting and retaining key personnel; and ability to manage growth.

These and other important factors discussed under the caption "Risk factors" in the Company's most recent periodic filing with the Securities and Exchange Commission (SEC) and its other reports filed with the SEC could cause actual results to differ materially from those indicated by the forward-looking statements made in this presentation. Any such forward-looking statements represent management's estimates as of the date of this presentation. While the Company may elect to update such forward-looking statements at some point in the future, it disclaims any obligation to do so, even if subsequent events cause its views to change. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of this presentation.



An Emerging Pipeline Focused on Achieving Broad Activity

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13 Years in the Making

- 2008 Goal: understand what is happening in responders, expand to more people (achieve broad activity)
- **Approach:** translational bioinformatics (analyzing transcriptomic, genomic, and/or proteomic data)
- **Early Years:** partnered with pharma to perform analyses of ibrutinib, ipilimumab, daratumumab, others. Built platform.
- 2018 Turning Point: decision to use our platform to create a wholly owned pipeline

Lead Product Candidate for RAS Mutant Solid Tumors

- IMM-1-104: a dual-MEK inhibitor designed to target RAS mutant tumors
- Existing RAS Inhibitors: are limited to specific mutations (e.g., KRAS^{G12C}); reports of acquired resistance
- Our Approach: aims to treat broad patient populations durably and safely by disrupting signaling dynamics of tumors
- IMM-1-104 Preclinical Studies:
 - Broad activity in RAS and RAF mutated tumor models and wide range of "humanized" 3D tumor models
 - ✓ Synergy with covalent KRAS^{G12C} inhibitor, sotorasib (formerly known as AMG-510)¹
 - ✓ Greater anti-tumor activity and improved tolerability vs selumetinib, binimetinib¹

A Robust Pipeline Enabled By Signaling Dynamics

- **Our Focus:** the MAPK and mTOR pathways, which are inappropriately activated in more than half of all cancers
- Our Pipeline Beyond IMM-1-104:
 - MEK-io: designed for immunologically "cold" solid tumors. In an animal model that does not respond to a checkpoint inhibitor alone, adding MEK-io inhibited tumor growth.
 - Trifecta-MEK: designed for BRAF mutant tumors. A potential alternative to RAF and MEK inhibitor combinations. Displayed 10X less pERK than registered RAF or MEK inhibitors *in vitro*.
 - ✓ 4 additional oncology programs
 - ✓ **2** neuroscience programs

Experienced Leadership Team Driving Innovation

¹As demonstrated in head-to-head studies versus IMM-1-104 in certain tumor models



Immuneering

Experienced Leadership Team







7 Precision Oncology Programs Enabled by Signaling Dynamics

i	Discovery	IND-Enabling	Phase 1	Phase 2	Phase 3	Upcoming Milestones
Oncology						IND filing
Dual-MEK: IMM-1-10	04					anticipated in Q1 2022
MEK-io					7	
Trifecta-MEK						
KRAS4B						Anticipate at least two IND filings – one in
RAS Induction					Γ	each of 2023 and 2024
Covalent-MEK						
PI3K-alpha						
Neuroscience						
IMM-ALL-01						Discovery efforts
IMM-ALL-03						underway



RAS Mutations are a Major Driver of Global Cases of Cancer

Indication	Annual Incidence (U.S.)	RAS ^{mut}	Annual Incidence (EU)	RAS ^{mut}	Annual Incidence (China)	RAS ^{mut}
NSCLC Adenocarcinoma (Ras Mutations)	101,376	32%	205,340	24%	331,702	12%
Pancreatic Ductal Adenocarcinoma	54,387	86%	119,303	80%	104,661	82%
Colorectal Adenocarcinoma	149,500	41%	341,419	41%	303,853	49%
Cutaneous Melanoma	106,110	23%	150,627	24%	20,000	10%

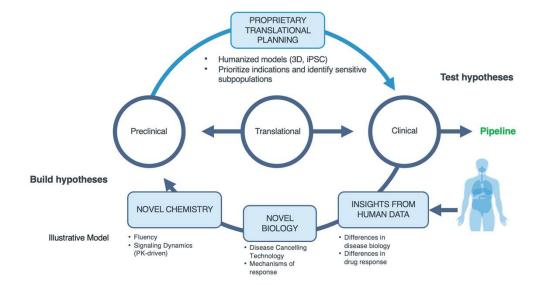
Sources: 1) www.seer.cancer.gov; 2) Prior et al. Cancer Res 2020 Jul 15; 80(14):2969-2974 doi: 10.1158/0008-5472. CAN-19-3682; 3) Globocan registry; www.uicc.org/news/globocan-2020-new-global-cancer-data; 4) Turpin et al. Cancer Management and Research 2019 Sept 13; 11 8337-8344; doi: 10.2147/CMAR.S211119; 5) Scheffler et al. J Thorac Oncol 2019 Apr; 14(4): 606-616; doi; 10.1016/j.jtho.2018.12.013; 6) Heppt et al. BMC Cancer 2017 Aug 10; 17(1): 536. doi: 10.1186/s12885-017-3529-5; 7)

Ho-Fung Loong et al. Transl Lung Cancer Res 2020 Oct; 9(5): 1759-1769. doi: 10.21037/tlcr-20-455.



IMM-1-104: Novel Approach to Targeting MEK

- We aim to achieve broader activity <u>and</u> better tolerability in the RAS mutant disease setting, versus existing FDA-approved agents:
 - AMG-510, a KRAS inhibitor, is indicated for the treatment of KRAS^{G12C} mutated locally advanced NSCLC¹
 - Current FDA-approved MEK inhibitors are indicated for BRAF mutant tumors and have shown little or no activity in RAS mutant disease.

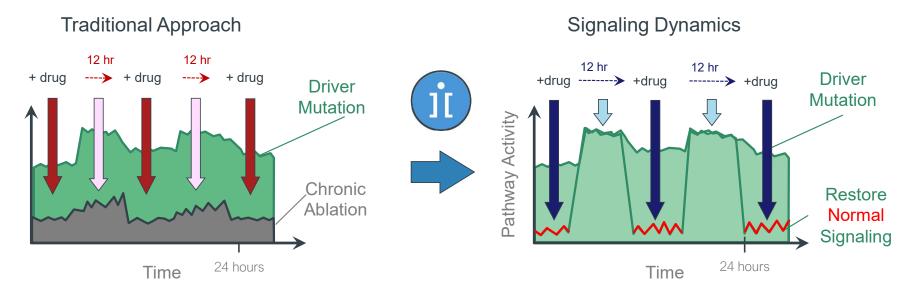


 Unlike existing FDA-approved agents, IMM-1-104 is designed to prevent RAF-mediated activation of MEK (CRAF-bypass) and is designed with a short plasma half-life to potentially achieve deep cyclic inhibition of the pathway.

¹In patients who have received at least one prior systemic therapy



Our Unique Approach: Deep Cyclic Inhibition

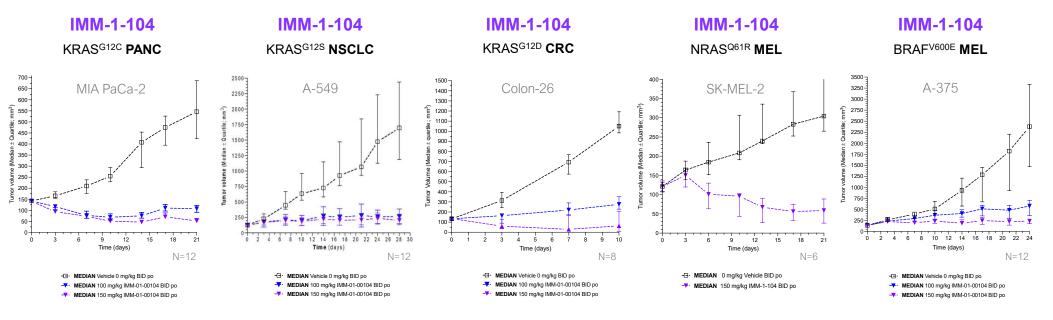


Chronic Suppression \rightarrow TOXICITY

Cyclic Disruption → TOLERABILITY



Demonstrates Broad Activity in RAS and RAF Mutant Cancer

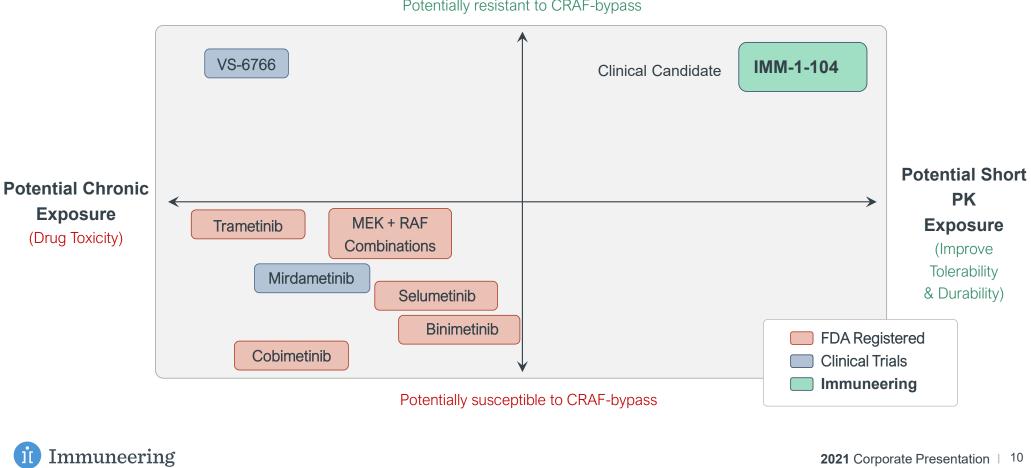


Goal: decouple therapeutic activity and tolerability; demonstrate broader activity in RAS mutant disease setting

CRC = colorectal cancer; NSCLC = non-small cell lung cancer; MEL = melanoma; PANC = pancreatic cancer

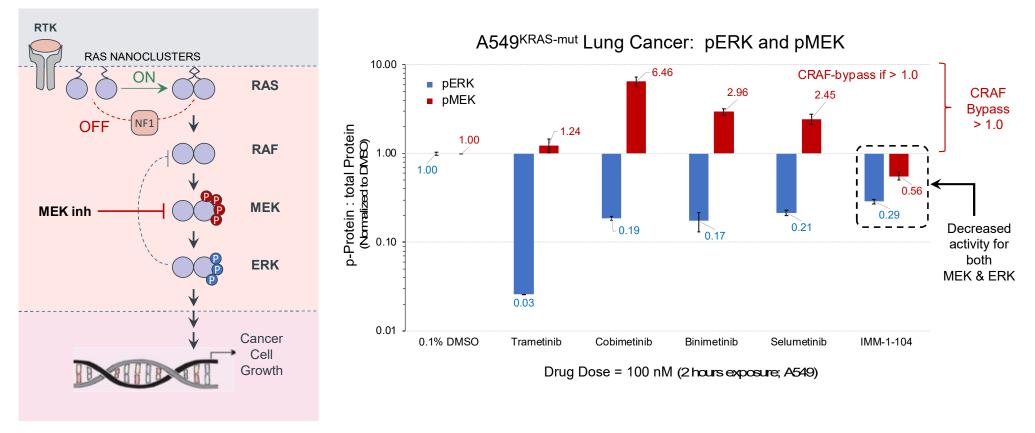


IMM-1-104 Differentiation Versus MEK Inhibitors



Potentially resistant to CRAF-bypass

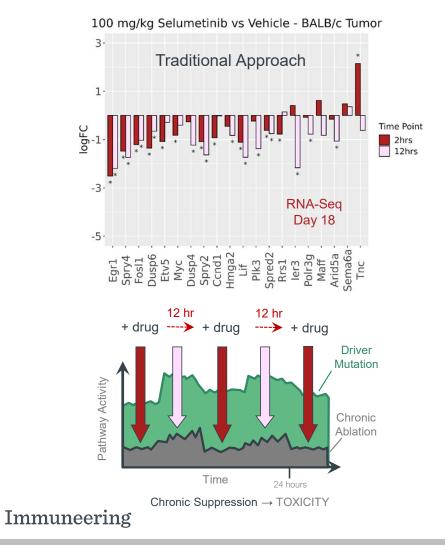
Head-to-Head Comparison of IMM-1-104 Against FDA-Approved MEK Inhibitors: CRAF-Bypass Resistance

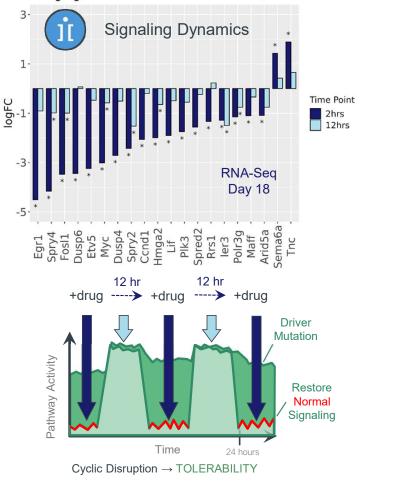


• FDA-Approved MEK inhibitors: Trametinib, Cobimetinib, Binimetinib, Selumetinib; Commercially purchased



Deep Cyclic Inhibition Confirmed Using Transcriptomics

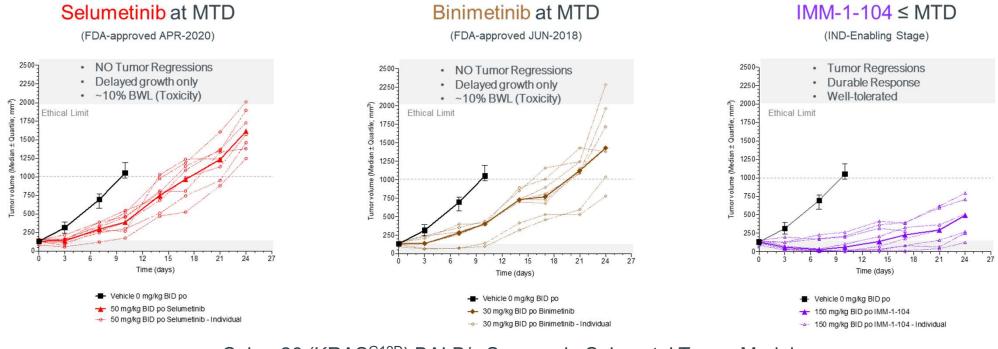




100 mg/kg IMM-01-104 vs Vehicle - BALB/c Tumor

Head-to-Head Comparison of IMM-1-104 Against Selumetinib and Binimetinib in KRAS^{G12D} CRC Tumor Model

IMM-1-104 as compared to selumetinib and binimetinib demonstrated greater tumor growth inhibition (TGI), lower body weight loss (BWL) and greater durability evidenced by sustained reductions in tumor volume (TV)

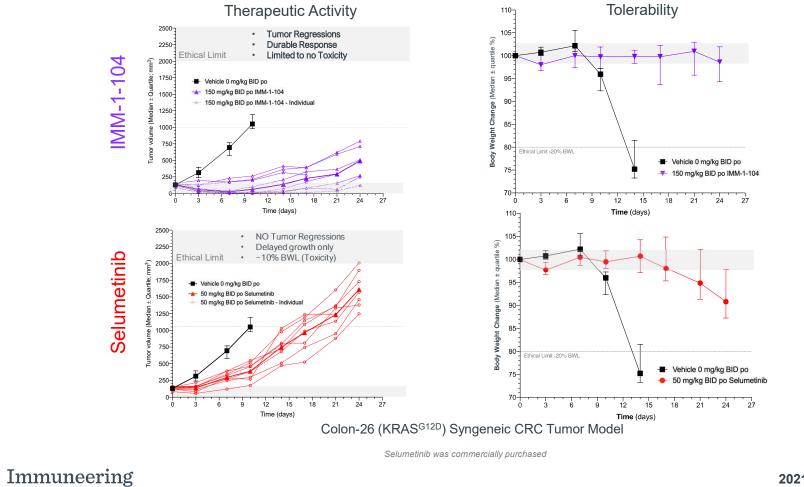


Colon-26 (KRAS^{G12D}) BALB/c Syngeneic Colorectal Tumor Model

Colon-26 (KRAS^{G12D}) Syngeneic Colorectal Tumor Model in Immune Competent Mice Selumetinib and Binimetinib were commercially purchased

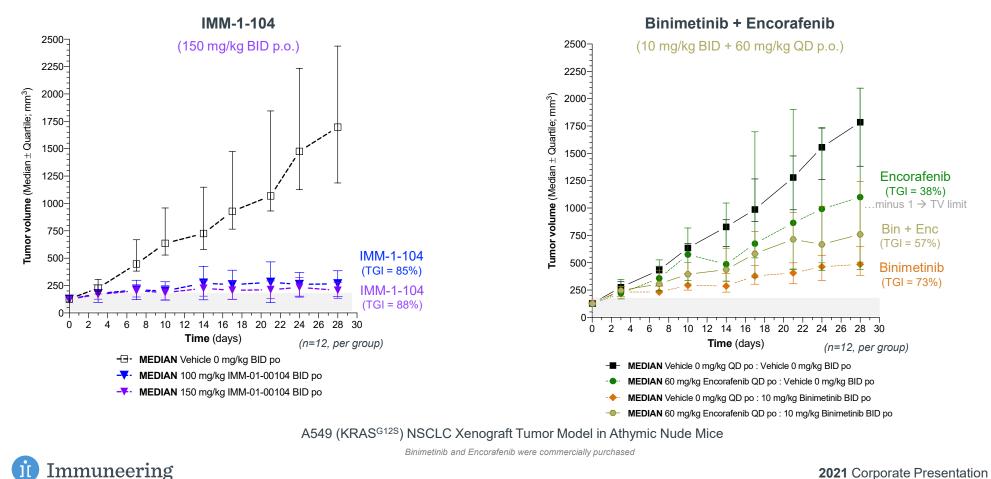


Head-to-Head Comparison of IMM-1-104 Against Selumetinib in KRAS^{G12D} CRC Tumor Model



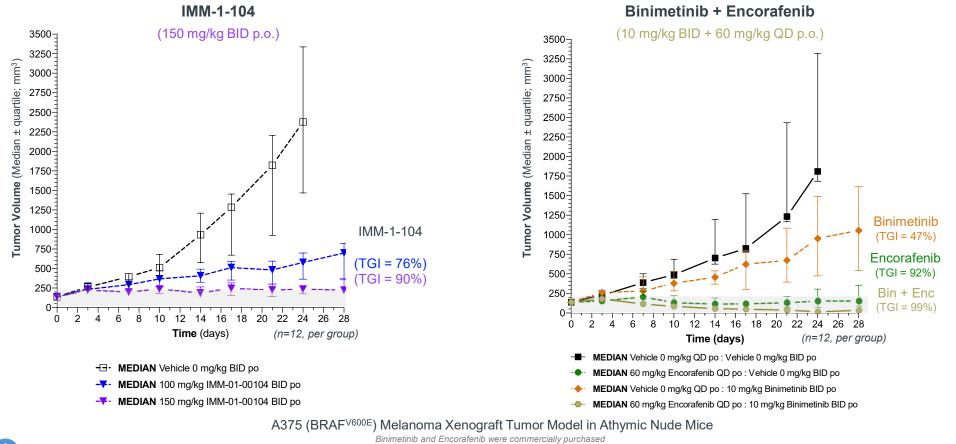
Head-to-Head Comparison of IMM-1-104 Against Binimetinib +/- Encorafenib in KRAS^{G12S} NSCLC Tumor Model

IMM-1-104 as compared to binimetinib monotherapy demonstrated greater tumor growth inhibition (TGI)



Head-to-Head Comparison of IMM-1-104 vs. Binimetinib +/- Encorafenib in BRAF^{V600E} Melanoma Tumor Model

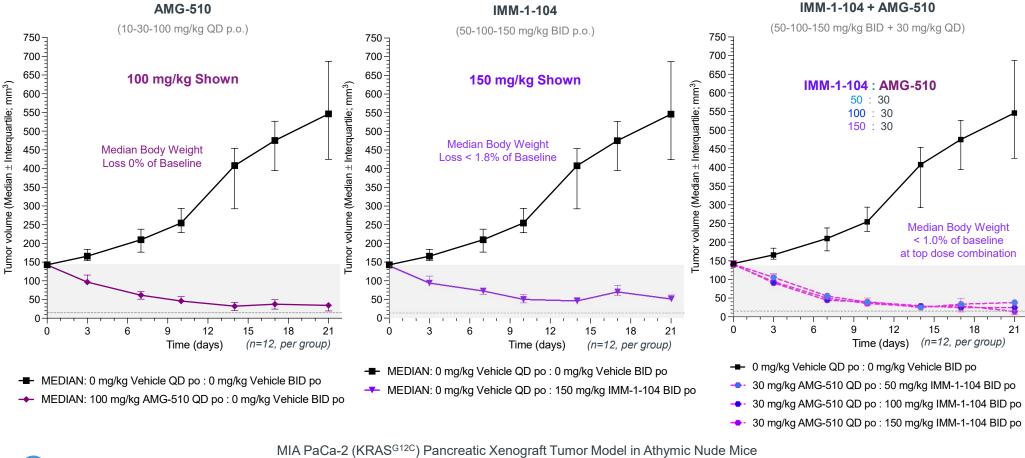
IMM-1-104 as compared to binimetinib monotherapy demonstrated greater tumor growth inhibition (TGI)





Head-to-Head Comparison of IMM-1-104 +/- AMG-510 in a KRAS^{G12C} Pancreatic Tumor Model

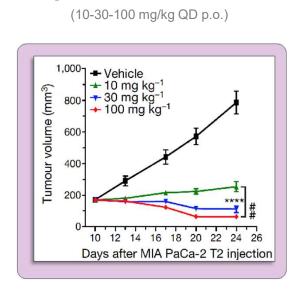
IMM-1-104 as compared to AMG-510 demonstrated tumor regression with insignificant BWL





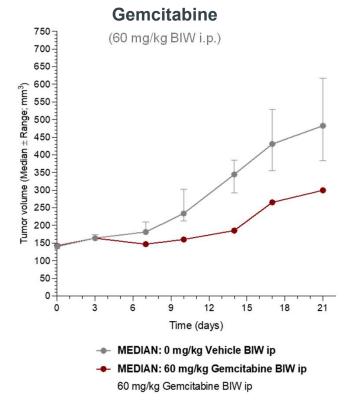
Immuneering

Benchmark Comparisons in a KRAS^{G12C} Pancreatic Tumor Model



Amgen Benchmark - AMG-510

Canon, et al. 2019 Nature 575(7781):217



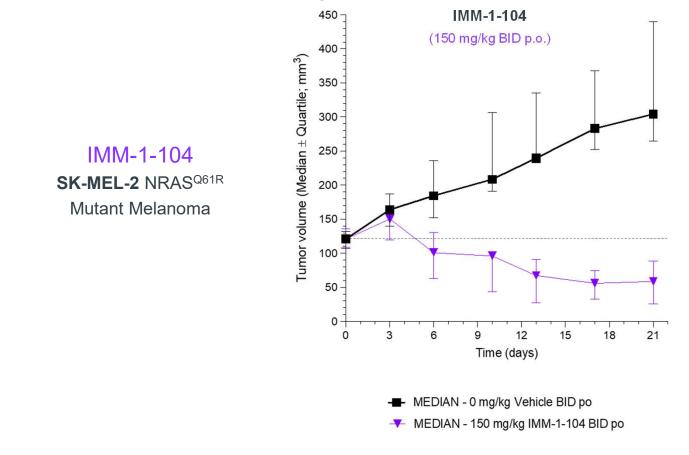
MIA PaCa-2 (KRAS^{G12C}) Pancreatic Xenograft Tumor Model in Athymic Nude Mice

ELN: PJK03-0033PK-21 Day Study (Complete)



IMM-1-104 Evaluated in NRAS^{Q61R} Melanoma Tumor Model

IMM-1-104 demonstrated tumor volume regression



SK-MEL-2 (NRAS^{Q61R}) Melanoma Xenograft Tumor Model in Athymic Nude Mice



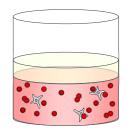
Leveraging Humanized 3D Tumor Models for Translational Profiling

- 3D tumor growth models mimic the tumor microenvironment more closely than standard 2D models
- 3D tumor growth models more accurately reflect human tumor biology and complexity when evaluating pharmacological data of MAPK pathway inhibition *in vivo*¹
- Established several dozen humanized 3D tumor models that display mutations in the MAPK pathway to evaluate sensitivity to IMM-1-104
- Tumor models with KRAS or NRAS mutations were most sensitive to IMM-1-104 followed closely by tumor models with BRAF mutations
- Our 3D tumor growth model data suggests that KRAS mutant pancreatic cancer and NRAS mutant melanoma may be particularly sensitive to single agent IMM-1-104

¹Janes et al. Targeting KRAS Mutant Cancers with a Covalent G12C-Specific Inhibitor. Cell. 2018 Jan 25;172(3):578-589.e17. doi: 10.1016/j.cell.2018.01.006. PMID: 29373830. ² Sasser, et al. 2007 Cancer Letters (PMID:17467167); Casneuf, et al. 2016 BCTT (PMID: 26893580)



Humanized 3D-TGA²

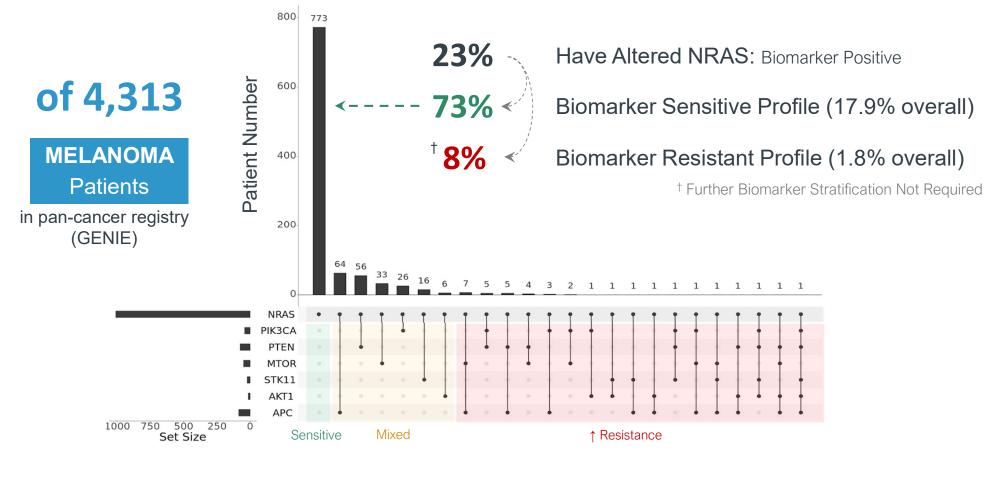


Tumor cells + Humanized Factors in 3D Extracellular Matrix

Complexity & TME-relevance

NRAS Mutant Melanoma: Translational Opportunity

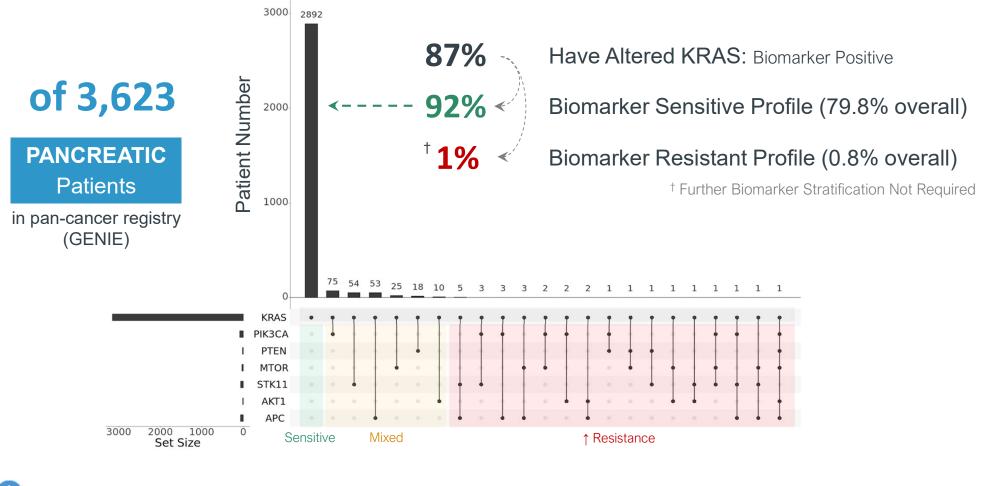
(1.) High unmet clinical need population & (2.) Majority of patients display sensitivity profile to single agent IMM-1-104





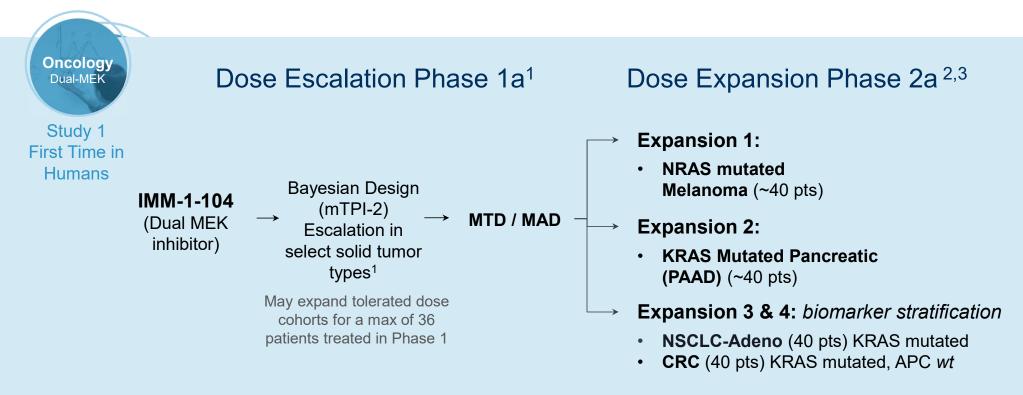
KRAS Mutant Pancreatic (PAAD): Translational Opportunity

(1.) High unmet clinical need population & (2.) Majority of patients display sensitivity profile to single agent IMM-1-104





IMM-1-104: Phase 1/2 Trial Plan



IND filing expected in Q1 2022, Phase 1 clinical trial initiation in 1H 2022

- ¹ Solid tumor, all comer with evidence of increased MAPK pathway activation (especially: RAS^{mut})
 ² Proposed tumor types may change based upon ongoing preclinical PGx studies and clinical function review
 3 Simon 2-Stage Design; Stage 1, 10-14 patients; stage 2, up to 32 patients
- MTD = Maximum Tolerated Dose; MAD = Minimum Active Dose; RP2D = Recommended Phase 2 Dose; PGx = Pharmacogenomics; MAPK = Mitogen-Activated Protein Kinase



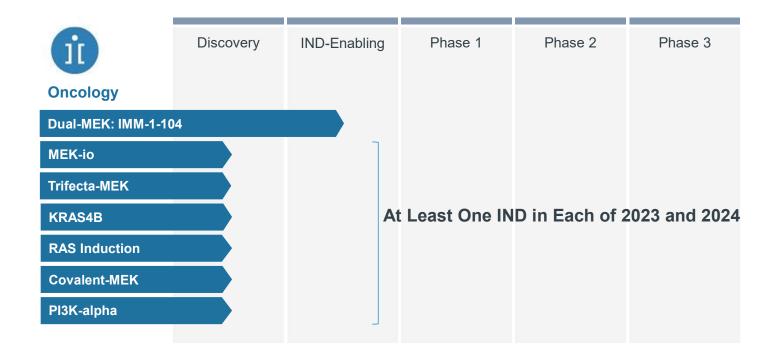
IMM-1-104: Competitive Landscape

IMM-1-104 Plans To Target RAS Mutant Tumors Without Requiring A RAF Inhibitor And Exhibits A Short Half-Life

	Drug Name	Brand Name	Company	Indication	Target/MOA
	Binimetinib	Mektovi	Pfizer	Metastatic melanoma with BRAFV600 mutation with BRAF	MEK
ved	Cobimetinib	Cotellic	Roche	Metastatic melanoma with BRAFV600 mutation with BRAF	MEK
-approved	Selumetinib	Koselugo	AstraZeneca	Neurofibromatosis Type 1	MEK
FDA	Trametinib	Metastatic melanoma with BRAFV600 mutation with BRAF Mekinist Novartis Adjuvant in melanoma with BRAFV600 mutation with BRAF NSCLC with BRAFV600E with BRAF Anaplastic thyroid cancer with BRAFV600E with BRAF		MEK	
	VS-6766	-	Verastem	Low grade serous ovarian cancer (monotherapy and combo with FAKi) KRAS-mutant NSCLC (monotherapy and combo with FAKi) Metastatic uveal melanoma (combo with FAKi)	RAF/MEK
Phase 1/2	Mirdametinib	-	SpringWorks Therapeutics	Neurofibromatosis Type 1 (monotherapy) Solid tumors (combination with Beigene's lifirfenib)	MEK
Pha	Pimasertib	-	Day One Biopharma	MAPK-altered solid tumors (in combo with pan-RAFi)	MEK
	FCN-159	-	ShanghaiFosun	NRAS-aberrant and NRAS-mutant metastatic melanoma	MEK



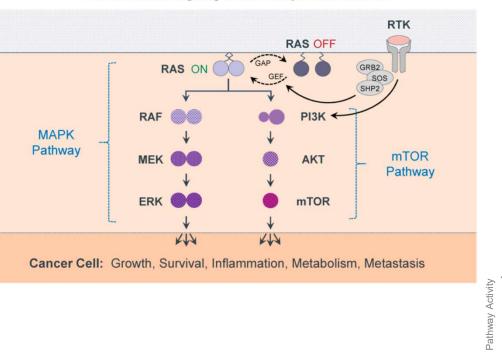
A Focus on the Early-Stage Oncology Pipeline





Building a Franchise Pipeline Against Core Oncology Addiction

Expand on novel approach of deep cyclic oncogenic pathway inhibition



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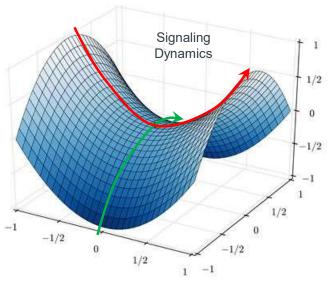
Fundamental Cancer Signaling Cellular Pathways: MAPK and mTOR

Potential Potential Attribute **Differentiating Factors** Program Target **Dual-MEK** MEK Target + T_{1/2} Unique Design **MEK-io** MEK Target + T_{1/2} IO Optimized **Trifecta-MEK** MEK Engagement Potency + Target RAS-i Pan-RAS Nanoclusters **RAS** Induction KRAS4B-inh KRAS4B Nanoclusters Novel Inhibition **Covalent-MEK** MEK Engagement Lock Down + $T_{1/2}$ PI3K-alpha PI3K-a Allosteric Target + T_{1/2} **Traditional Approach** Signaling Dynamics 12 hr 12 hr +drug ----> +drug ----> +drug + drug $\xrightarrow{12 \text{ hr}}$ + drug $\xrightarrow{12 \text{ hr}}$ + drug Driver Driver Mutation Mutation Pathway Activity Chronic Restore Ablation Normal Signaling Time Time 24 hours 24 hours Chronic Suppression → TOXICITY Cyclic Disruption → TOLERABILITY 2021 Corporate Presentation | 26

MEK-io: Optimize Immune Modulation of MAPK

Program in Lead Optimization: *In Vivo* PoC Achieved → Currently Screening for Potential Clinical Candidates

The MEK-io Saddle Point

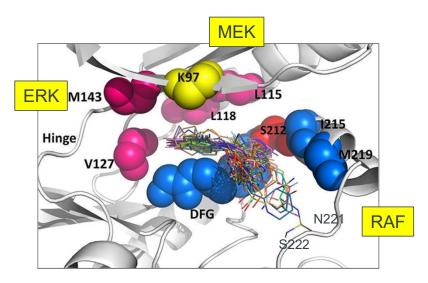


- Maximize Antitumor MEK Impact
- Optimize Antitumor Immunity
 - Int J Mol Sci 2019 Salaroglio, et al.
- i Immuneering

- Patients with immunologically cold tumors have suboptimal Tcell responses and represent unmet medical need
- MEK-io Goal: Develop a MEK inhibitor with unique PK and PD profiles that optimally boosts antitumor immunity via toggling ERK activity
- The investigational MEK-io program inhibitors are designed to optimize the patient's immune response and promote antitumor responses in combination with select immune modulators
- Initial *in vivo* proof-of-concept observed with synergistic antitumor activity in combination with a checkpoint inhibitor in a widely used syngeneic murine model

Trifecta-MEK: Unique MEK Engagement

Program is in Late Lead Identification: Goal is Superiority Versus BRAF/MEK inhibitor Combination Therapy



2017 Zhao PLoS One, MEK Type-III Inhibitors 2015 Wu Semin Oncol, MEK1/2 Inhibitors

Compound	pERK: tERK 100 nM A549 % of control, 4h	pMEK: tMEK 100 nM A549 Notes % of control, 4h	
0.1% DMSO	1.000	1.000	Vehicle Control
Encorafenib	2.693	3.431	Paradoxical MAPK Activation
Binimetinib	0.173	4.031	CRAF-bypass Evident
Trifecta-MEK*	0.011	0.345	pERK and pMEK control

A549 tumor model: KRASG12S mutant NSCLC

A375 tumor model: BRAF^{V600E} mutant Melanoma

Compound	pERK: tERK 100 nM A375 % of control, 4h	pMEK: tMEK 100 nM A375 % of control, 4h	Notes			
0.1% DMSO	1.000	1.000	Vehicle Control			
Encorafenib	0.023	0.039	Prevents pMEK (BRAF inhibitor)			
Binimetinib	0.057	1.094	BRAF activity stable (pMEK)			
Trifecta-MEK*	0.002	0.095	pERK and pMEK control			

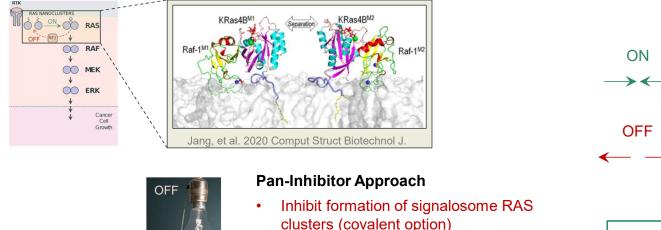
*One of our investigational Trifecta-MEK program inhibitors

Binimetinib and Encorafenib were commercially purchased



RAS Forms Nanoclusters to Activate Signaling Cascade

Our KRAS4B and RASi programs are designed to modulate RAS-RAS interactions and are therefore potentially agnostic to common mutations



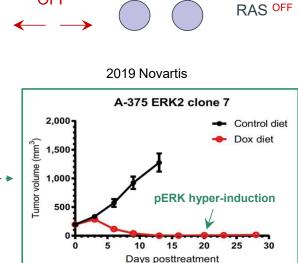
KRAS-4B (inhibitor) $IC_{50} = 1 \text{ uM}$; 95% inhibition at 30 uM



- clusters (covalent option)
- Disrupt KRAS4B activity by preventing • **RAS-RAS** dimers

RAS Induction Approach

- Enhance RAS clusters and amplify MAPK signaling
- Leverage MAPK addiction against tumor cells



RAS NANOCLUSTERS

RAS ON

Leung, et al. 2019 Mol Can Res 17(1):199



RASi (induction)

At 10-30 uM ~ up to 844% induction



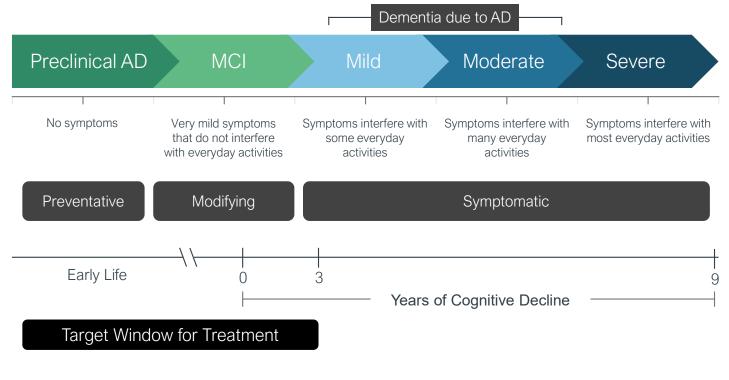




Neuroscience Pipeline

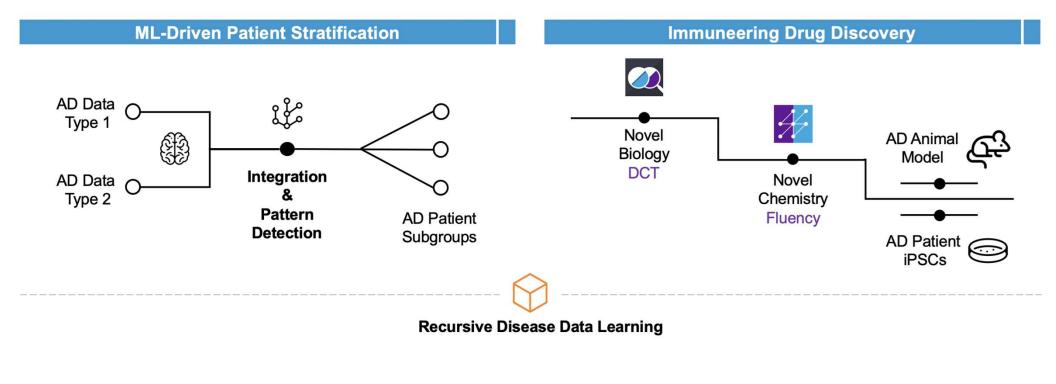
Alzheimer's Disease

Alzheimer's Disease Continuum



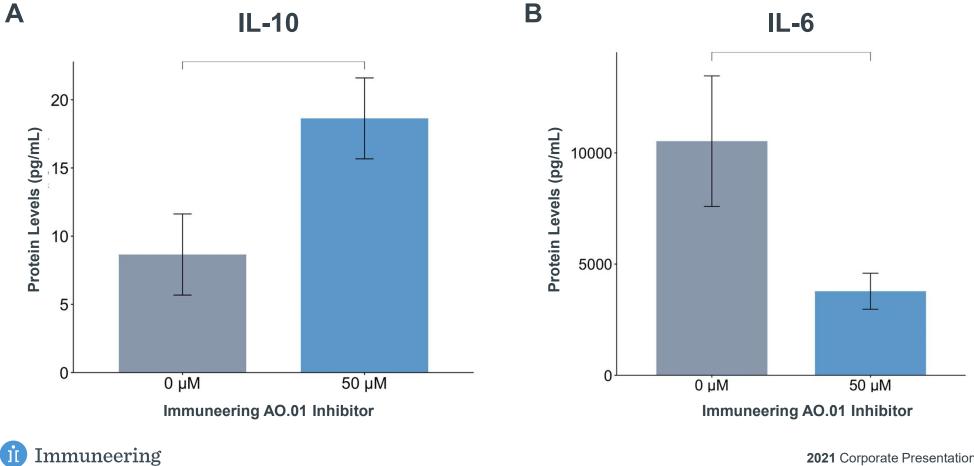


AD Patient Subgroup Stratification and Application of Our Drug Discovery Platform

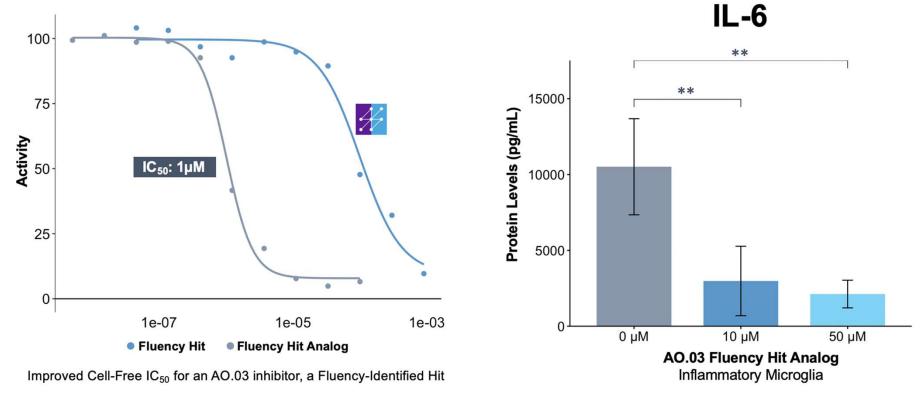




In Vitro Observation of IMM-ALL-01 (AO.01 Inhibitors) Decreasing the Release of IL-6 and Promoting IL-10 Expression

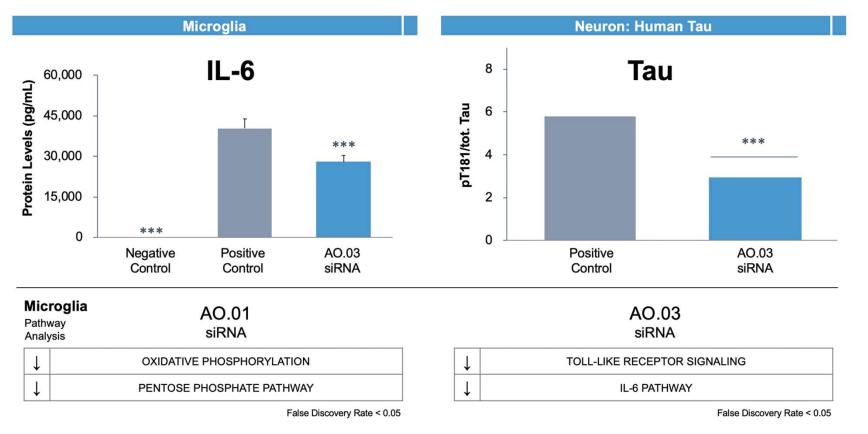


Fluency Platform Identifies Small Molecules of IMM-ALL-03 (AO.03 Inhibitors) Decreasing the Release of IL-6

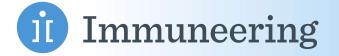




The Biological Effect of Reducing AO.03 Gene Expression on Inflammation and Tau Deposition, and Pathway Analysis of AO.01 versus AO.03

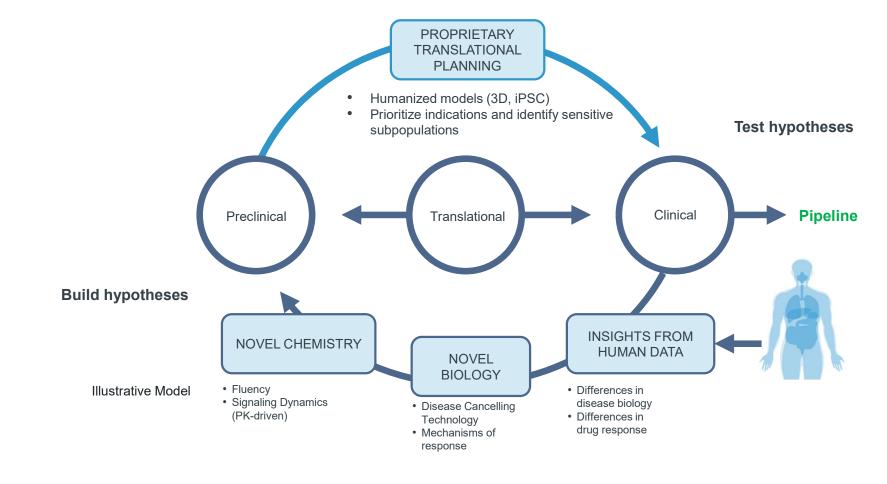






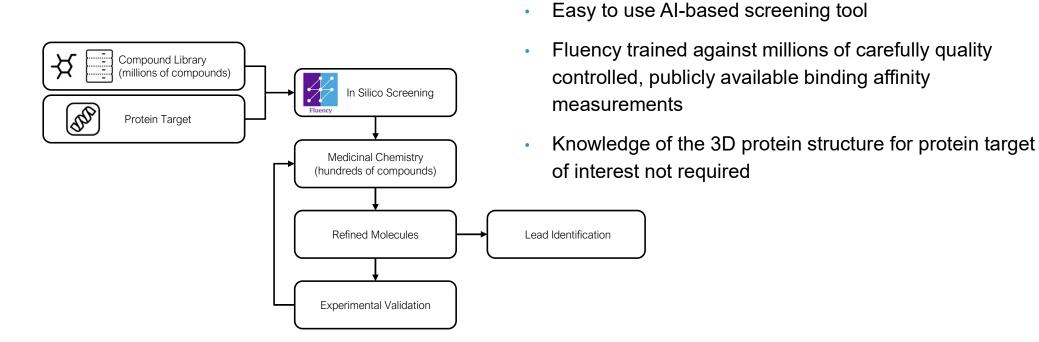
BioInformatics Platform

The Four Key Elements of Our Drug Development Process





Fluency's Role in Our Drug Discovery

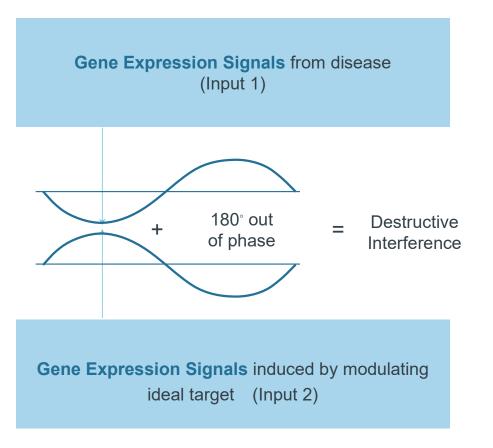


Can Screen 10M⁺ Compounds in a Single Day



Workflow of Disease Cancelling Technology

- Carefully curated and QC human transcriptomic data representing a specific aspect of disease (Input 1) is input and vectorized for processing
- Gene expression signals associated with perturbing specific targets at specific time points and concentrations (Input 2) is input for processing
- Strength of disease cancellation is measured





Disease Cancelling Technology (DCT)

New Targets and Better Ways to Drug Existing Targets from Human Transcriptomic Data

DCT's key differentiators:

- ✓ Data Type: RNA
- Data Source: Patients (does not use literature)
- Drug Novelty: Produces new composition of matter
- ✓ Disease Areas: Positive track record in oncology, neuroscience, rare diseases

DCT's key capabilities:

- Identify novel targets
- Identify pathway contribution to disease cancelling
- MOA information (driver genes and pathways)
- Ideal target combinations
- Relevant cell types
- Orthogonal data to refine hypothesis

Cosiner results <					Search:				
Load cosiner results	preferred_name	similarity 🌢	compound_id	pert_type	dose 🐘	time 🕴	database 🍵	overlap_gene	
Display results	All	[All	All	IIA			4	All	All
	chembi1715984	-0.136112848391016	1096715	parent_molregno	0.4	24	lincs_phase1	IRF9 ISG15 IRF9 ISG15 IFI6 IRF7 IFI71 IFI35 TRIM14 OAS2 IFI4 HERC6 IFI75 IFIH1 SP110 IFI44 CXCL5 SHFL UAP1L1	2.3753951
	chembl1290246	-0.113421398820688	716660	parent_molregno	10	6	lincs_phase1	IFI6 IFIT1 ISG15 MX1 OAS3 IFI44 IFITM1 IFI44L USP18 DDX58 OAS2 IFIT3 SAMHD1 HERC5 EIF2AK2 RAP1GAP C1S IFI16	9.1434564



Financial Information

• Cash, cash equivalents and marketable securities as of June 30, 2021: \$50.2 million

July 2021 IPO with Net Proceeds of \$118.3 million

Cash Runway Into 2024 And Would Support:

- IMM-1-104 IND Filing in Q1 2022
- IMM-1-104 Phase 1 Trial Plan to Initiate in 1H 2022
- Two IND Filings in Oncology One Each in 2023 and in 2024
- Discovery Research in Four Additional Oncology Programs
- Discovery Research in Neuroscience Targeting Neuroinflammation in Alzheimer's disease
- Shares outstanding (as of September 3, 2021): 25,398,064



THANK YOU!

13 Years in the Making

- 2008 Goal: understand what is happening in responders, expand to more people (achieve broad activity)
- **Approach:** translational bioinformatics (analyzing transcriptomic, genomic, and/or proteomic data)
- **Early Years:** partnered with pharma to perform analyses of ibrutinib, ipilimumab, daratumumab, others. Built platform.
- 2018 Turning Point: decision to use our platform to create a wholly owned pipeline



- IMM-1-104: a dual-MEK inhibitor designed to target RAS mutant tumors
- Existing RAS Inhibitors: are limited to specific mutations (e.g., KRAS^{G12C}); reports of acquired resistance
- Our Approach: aims to treat broad patient populations durably and safely by disrupting signaling dynamics of tumors
- IMM-1-104 Preclinical Studies:
 - Broad activity in RAS and RAF mutated tumor models and wide range of "humanized" 3D tumor models
 - ✓ Synergy with covalent KRAS^{G12C} inhibitor, sotorasib (formerly known as AMG-510)¹
 - ✓ Greater anti-tumor activity and improved tolerability vs selumetinib, binimetinib¹

A Robust Pipeline Enabled By Signaling Dynamics

- **Our Focus:** the MAPK and mTOR pathways, which are inappropriately activated in more than half of all cancers
- Our Pipeline Beyond IMM-1-104:
 - MEK-io: designed for immunologically "cold" solid tumors. In an animal model that does not respond to a checkpoint inhibitor alone, adding MEK-io inhibited tumor growth
 - Trifecta-MEK: designed for BRAF mutant tumors. A potential alternative to RAF and MEK inhibitor combinations. Displayed 10X less pERK than registered RAF or MEK inhibitors *in vitro*
 - 4 additional oncology programs
 - ✓ 2 neuroscience programs

¹As demonstrated in head-to-head studies versus IMM-1-104 in certain tumor models

