RELAY®
THERAPEUTICS

J.P. Morgan Conference Presentation

January 2024

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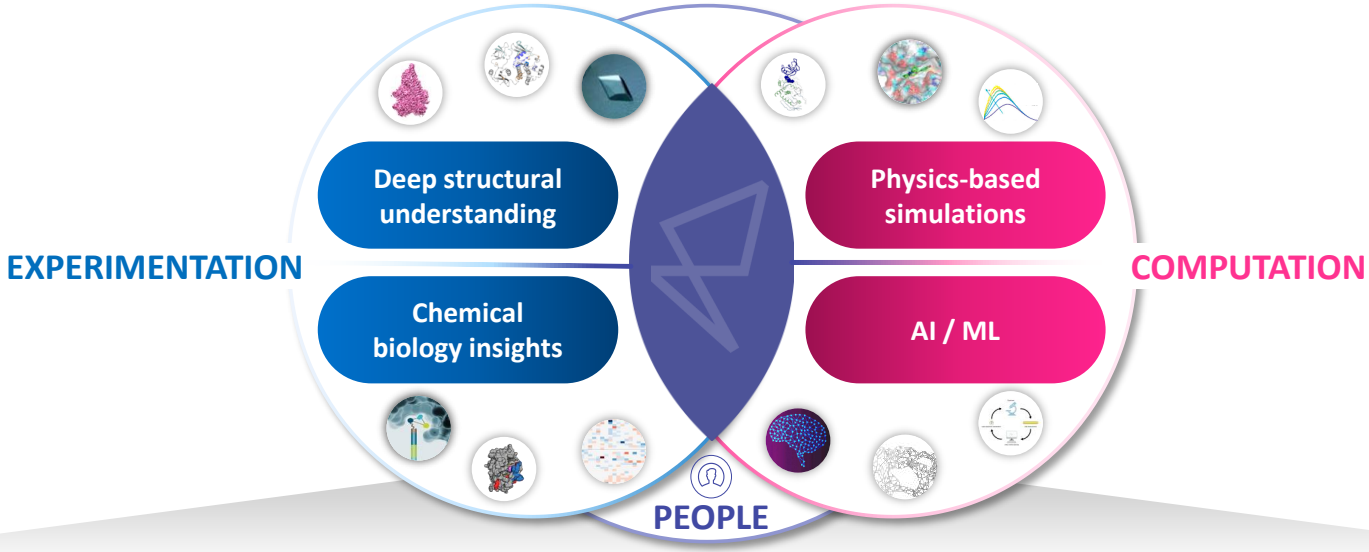
Relay Tx – Productive and Evolving Platform



Already Productive Platform…

IND	Compound	Achievement
2019	Migoprotafib[1] (SHP2)	Partnered with GNE
2020	Lirafugratinib[2] (FGFR2)	Enrolled ~450+ pt
2021	RLY-2608 (PI3Kα)	Clinical POC
2022	RLY-5836 (PI3Kα)	Clinical Start
2023	RLY-2139 (CDK2)	Clinic Ready

…Potential To Generate More Assets In Future

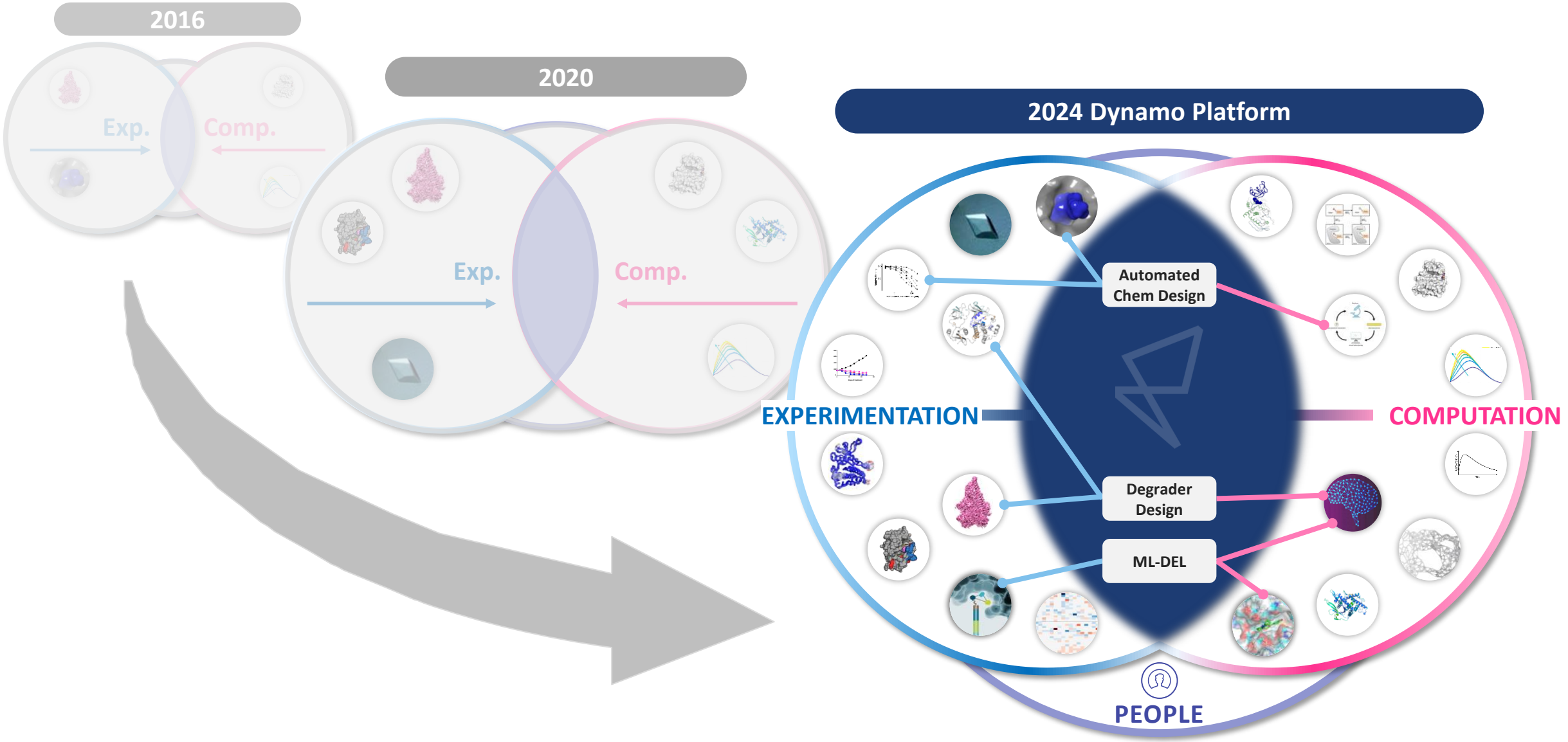
Pipeline	7+ pre-clinical programs
TAs	Oncology and Genetic Disease
Modalities	Inhibitors, chaperones and degraders
Platform	Expansion of integrated tools & capabilities

~$811M

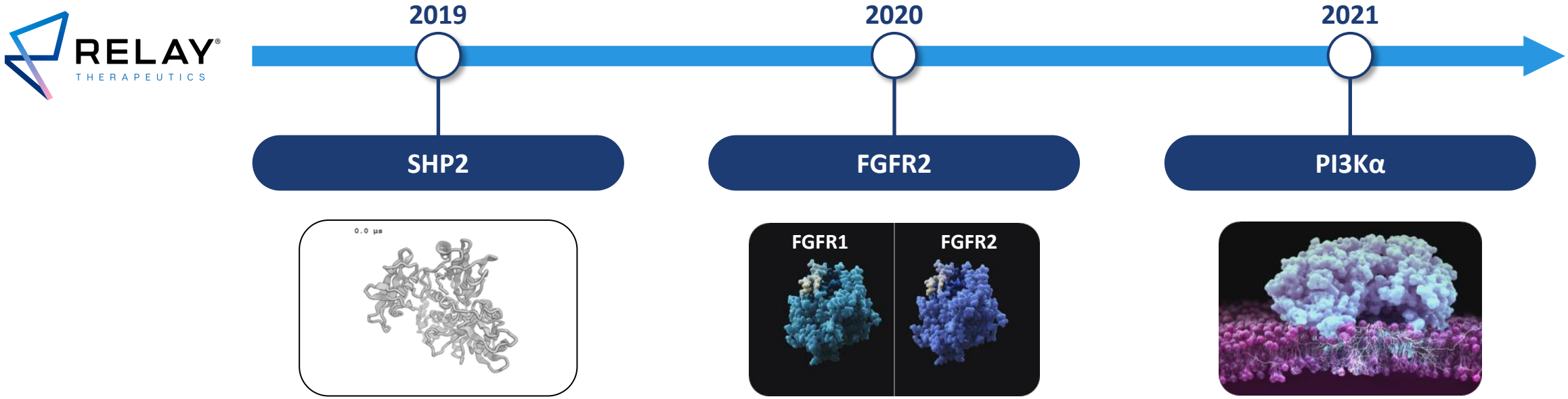
Cash, cash equivalents and investments as of the end of 3Q 2023

1. GDC-1971; 2. RLY-4008

Relay Tx's Dynamo™ Platform – Evolution to Highly Integrated Tools & Team



Relay Tx – Productive Platform Against Intractable Challenges



Migoprotafib (GDC-1971): Rapid proof of platform

Lirafugratinib (RLY-4008): Isoform Selective

RLY-2608: Mutant Selective

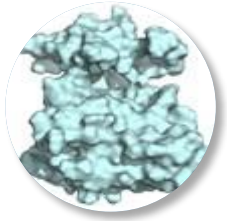
Relay Tx – Broad Precision Medicine Pipeline

Target	Program		Preclinical / Early Clinical / Late Clinical	Annual US Patient #
PI3Kα franchise	RLY-2608 PI3Kα^{PAN}	Monotherapy		~10-71K breast cancer *~76-243K all solid tumors*
		Endocrine Tx (ET) doublet		
		CDK4/6i + ET triplet		
	RLY-5836 (PI3Kα^{PAN})	Dose Escalation	*Deprioritized*	
	PI3Kα^{H1047R}			~4-27K breast cancer *~15-50K all solid tumors*
FGFR2	Lirafugratinib (RLY-4008)			~11-35K[4]
Solid Tumor	2 programs			*To be announced*
Genetic Disease	2 programs			*To be announced*
CDK2	RLY-2139		*Paused; IND ready*	~35K[2]
ERα	RLY-1013 (Degrader)		*Paused at DC*	~30-205K[3]
SHP2	Migoprotafib (GDC-1971) Genentech A Member of the Roche Group		3 ongoing combo studies	~36-69K[5]

Note: Unless otherwise indicated, patient #'s refer to total annual number of US patients with late-line cancers compared to comprehensive annual incidence that may be amenable to treatment with our programs

1. Unless otherwise indicated, all breast cancer patient numbers refer to HR+/HER2- breast cancer tumors; 2. ~35K HR+/HER2- breast cancer patients expected to receive CDK 4/6 inhibitors in adjuvant setting, first-line setting, and second-line setting in 2024, per Decision Resources Breast Cancer Market Forecast report dated November 2023; 3. HR+/HER2- US late-line breast cancer patients compared to HR+/HER2- US incident breast cancer patients; 4. FGFR2 altered late-line solid tumors compared to comprehensive annual FGFR2 altered incident solid tumors including additional FGFR gene fusions and rearrangements resulting from truncation of the protein at exon 18 and all breast cancer patients with FGFR2 alterations; 5. SHP2 combo only includes KRAS G12C in lung and colorectal, EGFR mutations in lung, and ALK fusions in lung

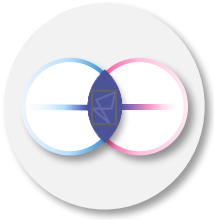
Relay Tx – Strategic Focus



Lirafugratinib (RLY-4008)

Selective FGFR2 inhibitor

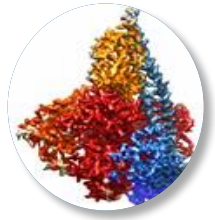
Gather clinical data to determine strategy



Early-Stage Research Programs

7+ pre-clinical programs in Oncology and Genetic Disease

New program(s) to be disclosed in 2024



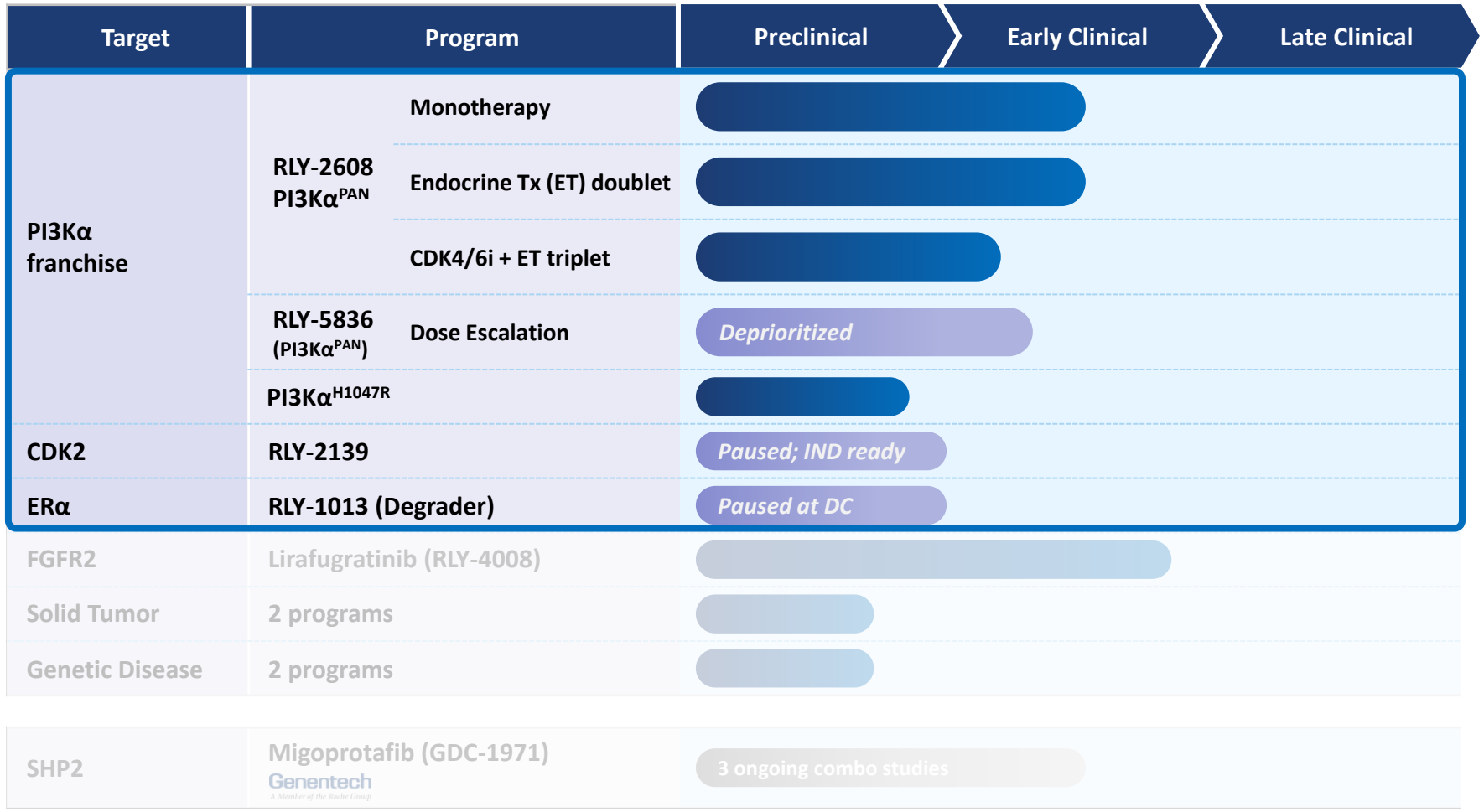
RLY-2608

Pan-mutant selective PI3Kα inhibitor

RLY-2608 selected over RLY-5836

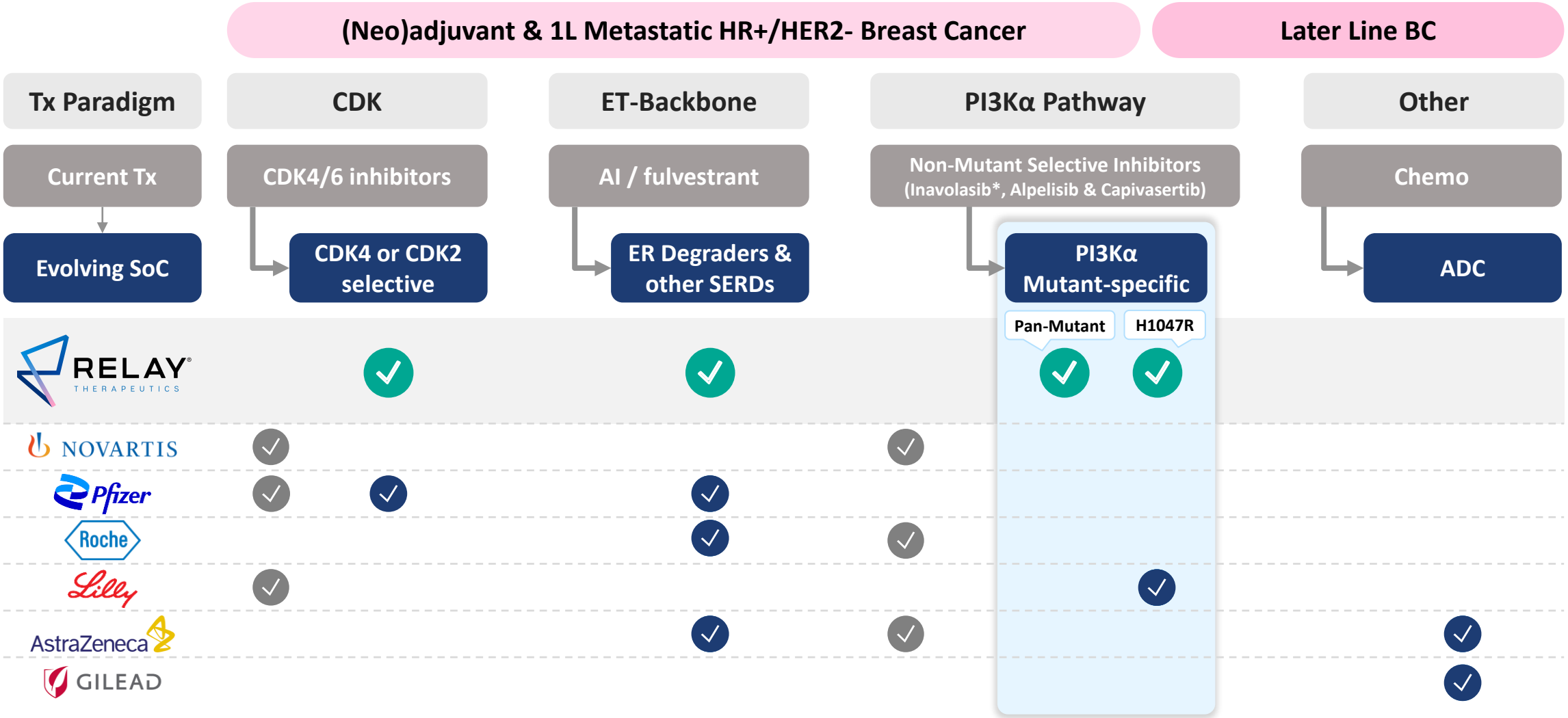
Ribociclib triplet initiated

Relay Tx – Broad Precision Medicine Pipeline



Breast Cancer – Evolving Landscape With Very Large Market Opportunity

$27B Market Size of (Neo)adjuvant and 1L Metastatic HR+/HER2- Breast Cancer



* Inavolisib is an investigational therapy in Ph3 studies

Source: Decision Resources Group – Breast Cancer Disease Landscape & Forecast (Nov 2023). 2031 Projection

PI3Kα Represents a Major Market Opportunity

All Solid Tumors

14%

of all solid tumors with PI3Kα mutation

Breast Cancer

35%

of Breast Cancer patients have PI3Kα mutation

HR+/HER2- Breast Cancer

~150k

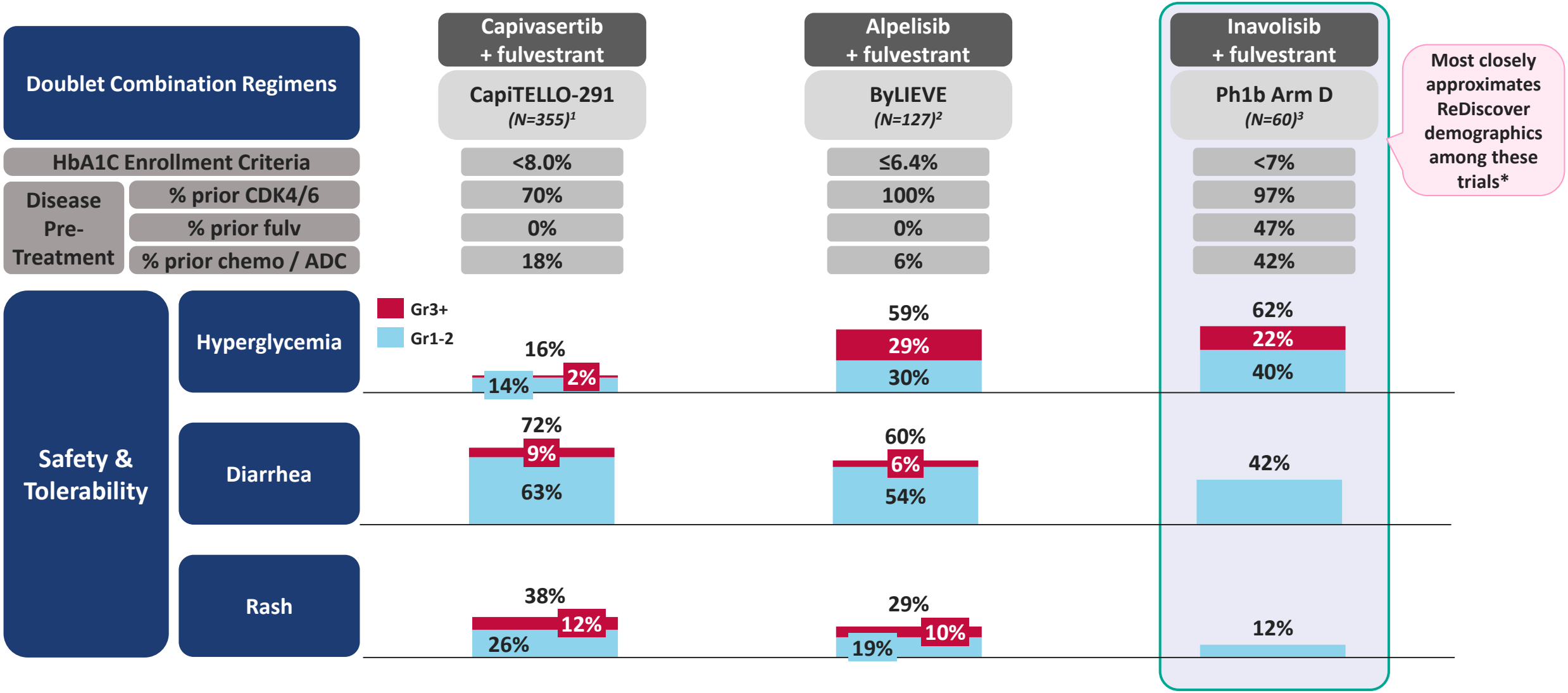
US HR+/HER2- Breast Cancer Patients[1] with PI3Kα mutation

~120k pt	~18k	~14k
(Neo)adjuvant	1L	2L

RLY-2608 has the potential to address very large patient population

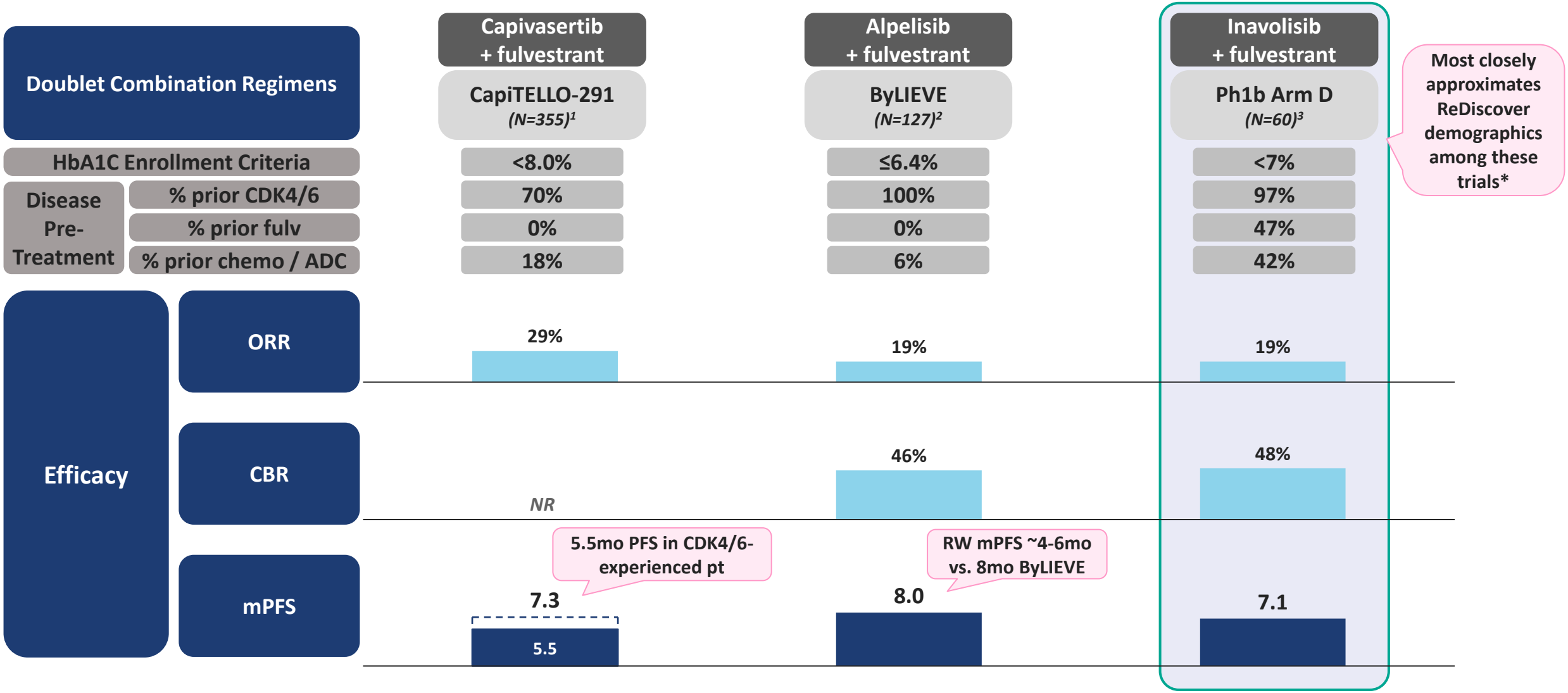
Sources: 3rd party data; Global Data HER2-/HR+ Breast Cancer Global Patient Forecast, October 2023;
1. Includes prevalent PI3Kα mutated HR+/HER2- patients receiving therapy in Neo/Adjuvant setting (includes incident patients in 2023 receiving endocrine or non-endocrine therapy in Neo/Adjuvant settings [~50k], and patients diagnosed in previous years with local/regional disease receiving sequential endocrine therapy in 2023 [~69k]), and prevalent PI3Kα mutated HR+/HER2- metastatic patients receiving therapy in 1L or 2L setting; 2. Approved in combination with fulvestrant in patients with at least one prior endocrine-based regimen in metastatic setting or early progression on endocrine therapy (during or within 12 months of completing adjuvant treatment)

RLY-2608 – Safety Profiles of Existing PI3Kα Pathway Compounds



Sources: 1. Turner N Engl J Med 2023; 388:2058-2070; 2. Rugo 2021 Lancet Oncol 22:489; 3. SABCS 2021 #P5-17-05; * For *PIK3CA*mut HR+/HER2- breast cancer in combination with fulvestrant; Note: These data are derived from different clinical trials at different points in time, with differences in trial design and patient populations. As a result, cross-trial comparisons cannot be made, and no head-to-head clinical trials have been conducted.

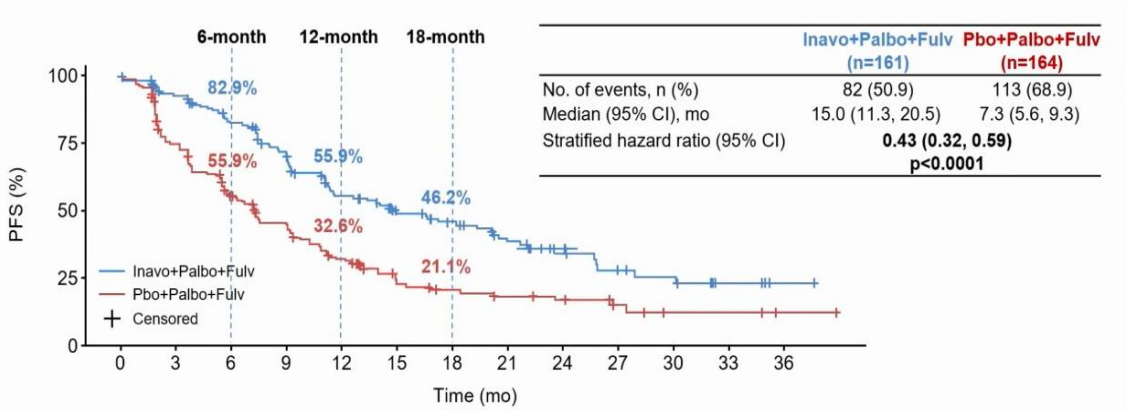
RLY-2608 – Efficacy Profiles of Existing PI3Kα Pathway Compounds



Sources: 1. Turner N Engl J Med 2023; 388:2058-2070; 2. Rugo 2021 Lancet Oncol 22:489; 3. SABCS 2021 #P5-17-05; * For *PIK3CA*mut HR+/HER2- breast cancer in combination with fulvestrant; Note: These data are derived from different clinical trials at different points in time, with differences in trial design and patient populations. As a result, cross-trial comparisons cannot be made, and no head-to-head clinical trials have been conducted.

SABCS 2023 – Encouraging Validation of PI3Kα Targeting in 1L Breast Cancer

Inavolisib + Palbociclib + Fulvestrant doubled PFS vs. Fulvestrant + Palbociclib Alone



	Inavo+Palbo+Fulv (n=161)	Pbo+Palbo+Fulv (n=164)
No. of events, n (%)	82 (50.9)	113 (68.9)
Median (95% CI), mo	15.0 (11.3, 20.5)	7.3 (5.6, 9.3)
Stratified hazard ratio (95% CI)	**0.43 (0.32, 0.59) p<0.0001**	

15.0mo mPFS
Vs. 7.3mo pbo

HR: 0.43

Demonstrated manageable safety in heavily selected, metabolically stable patient population

However, INAVO120 Ph 3 Trial Included Only a Subset of 1L HR+/HER2- Breast Cancer

Total US 1L BC Population

INAVO120 Enrollment Restrictions

1. **Endocrine Resistant Only** — **40%** of 1L BC pop.
2. **Non-Pre-Diabetic or Diabetic** — **50%** of US Pop.

US 1L BC Population which meets enrollment criteria — **~20%**

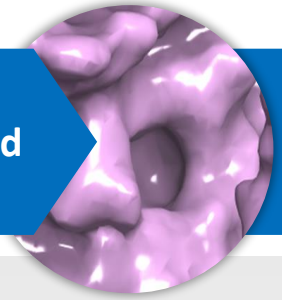
Metabolically selected patients limit market size

Source: SABCS 2023 GS03-13

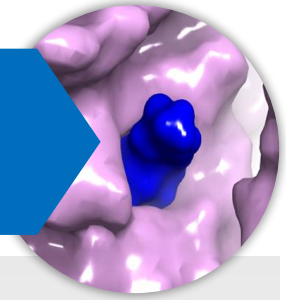
PI3Kα – Proprietary Insights Unlock Novel Approaches

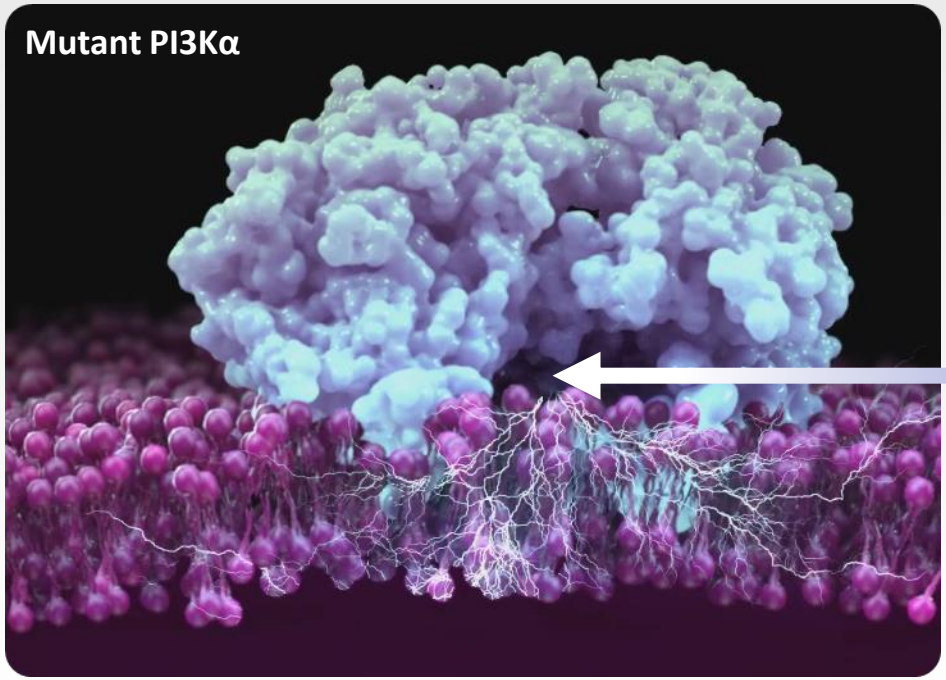
Solved first full-length structures of PI3Kα (mutant and wild-type)

Discovered novel allosteric pocket favored in mutant protein



Designed pan-mutant selective PI3Kα inhibitor (PI3Kα^{PAN})





A differentiated understanding of the structure of PI3Kα and its relationship to function equips Relay Tx to design optimal mutant-selective inhibitors of PI3Kα

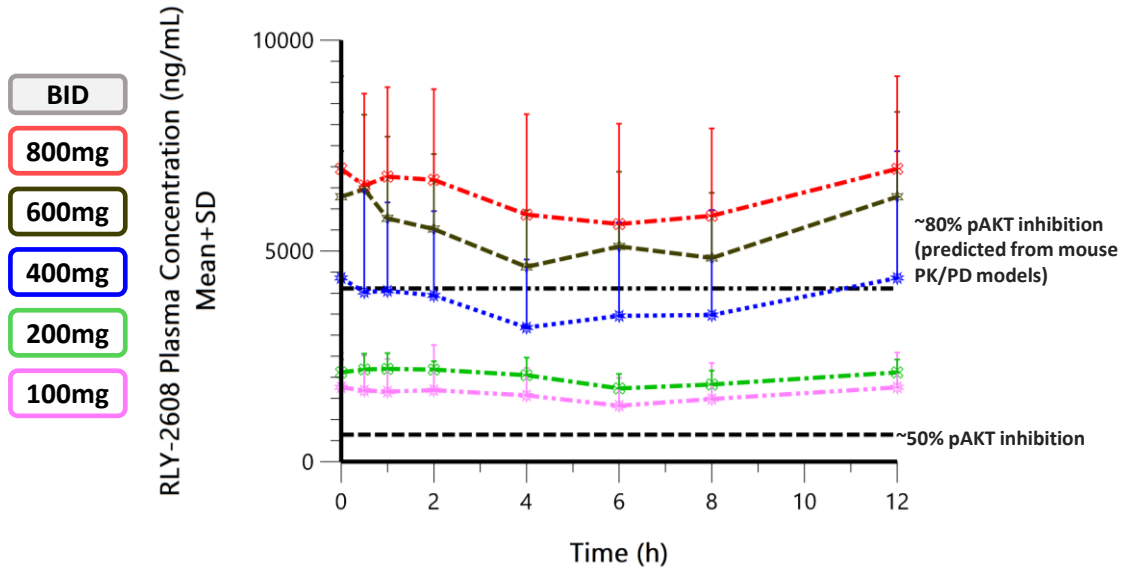
RLY-2608 – ReDiscover Trial Interim Part 1 Results

RLY-2608 + fulvestrant

Dose Escalation

- 1000mg BID N=1
- 800mg BID N=10
- 600mg BID N=17
- 400mg BID N=5
- 200mg BID N=3
- 100mg BID N=3

Favorable PK Profile Across Dose Levels

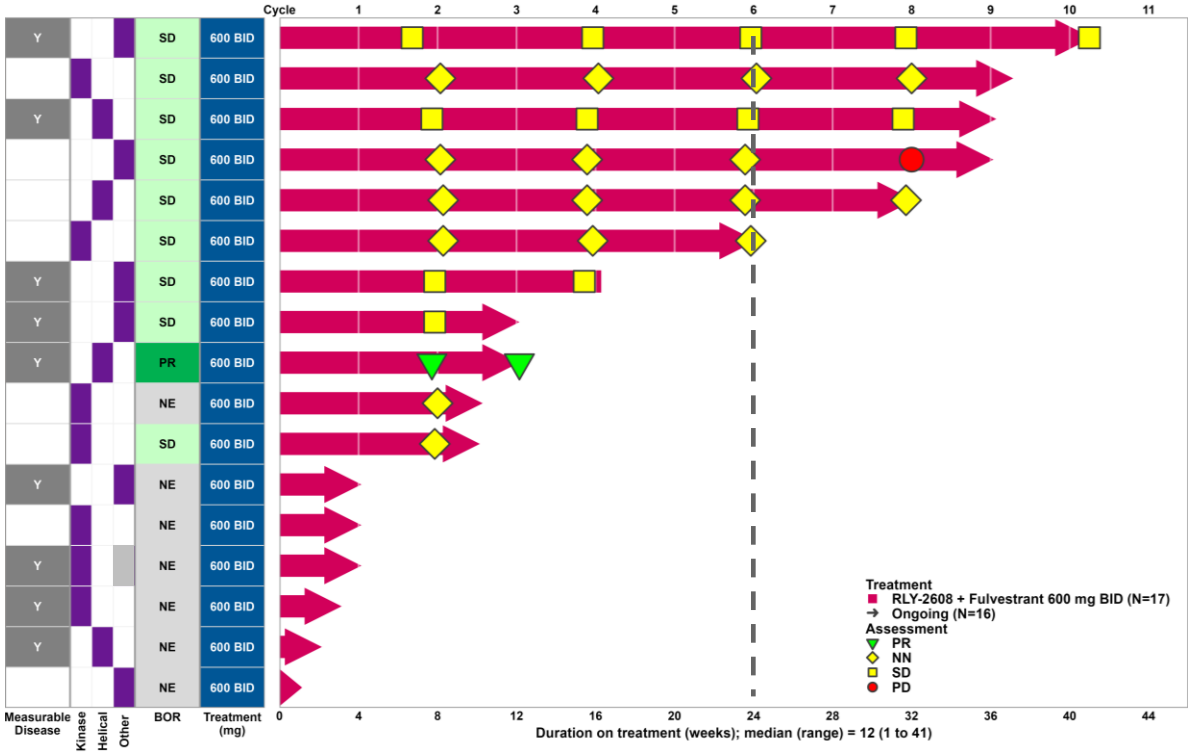


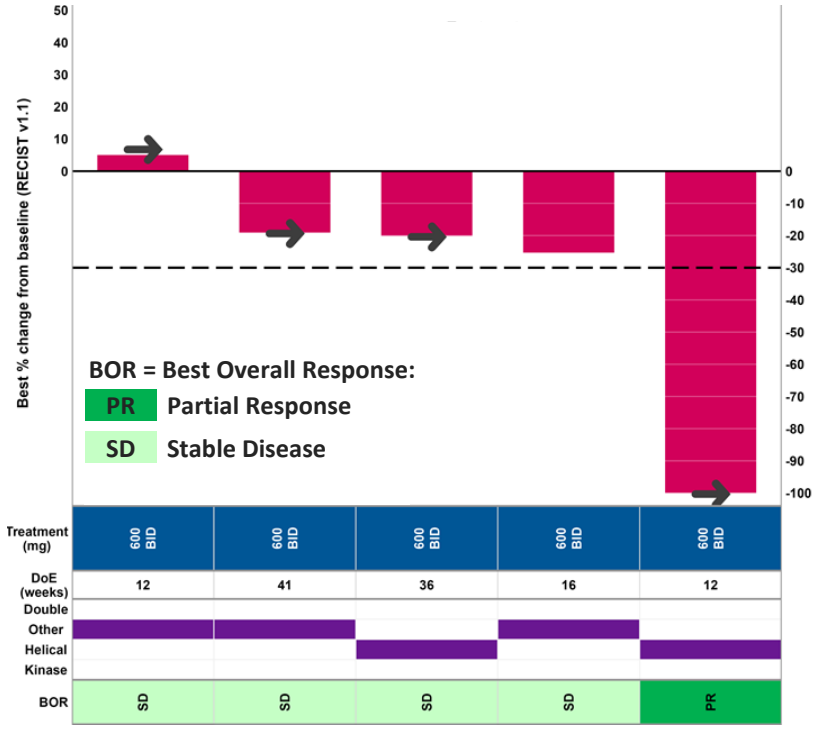
No DLTs and MTD has yet to be defined
Dose-dependent increase in exposure and low peak to trough fluctuations across dose levels
Continuous coverage at ~IC80+ across dosing interval at 400mg BID combo and above

RLY-2608 – 600 mg BID Dose Selected for Expansion Cohort

17 Breast Cancer Patients Treated with RLY-2608 600 mg BID Dose + Fulvestrant

Breast Cancer Patients 600 mg BID RLY-2608 + Fulvestrant (N=17)





RLY 2608 + Fulvestrant 600mg BID:

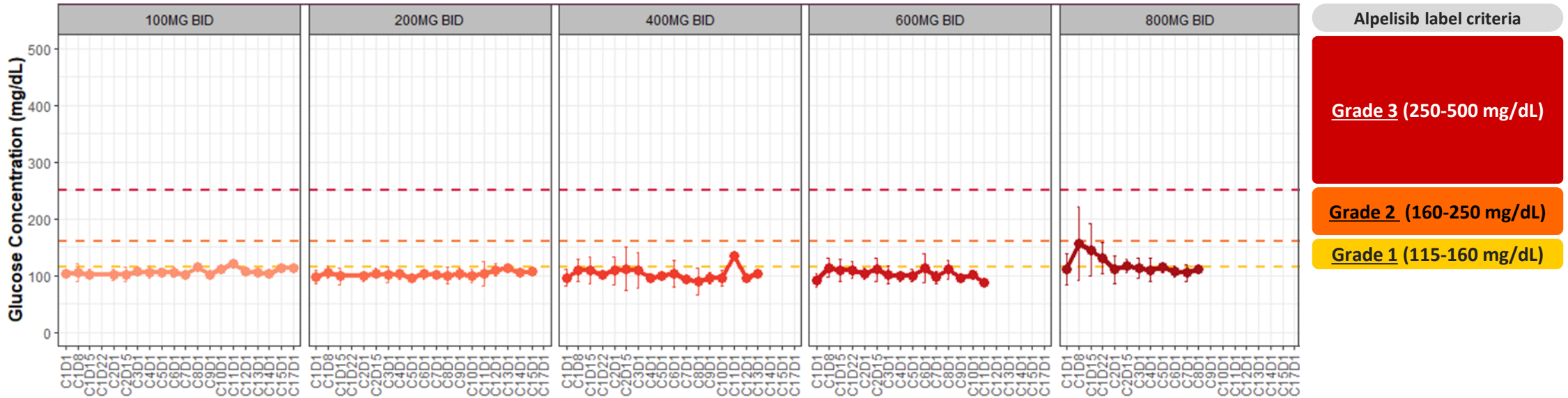
- 86% (6/7) CBR in patients with at least 6 months follow up
- Confirmed PR achieved in 1 of 5 efficacy evaluable[1] patients with measurable disease
- 17 patients treated, 15 remain on treatment*
- mDoT: 12wk (range: 1-41wk)

CBR: Clinical Benefit defined as all patients with confirmed complete response or partial response or stable disease ≥24 weeks; evaluable patients started treatment ≥24 weeks prior to the data cutoff

* Note: one additional pt at 600mg BID dose remains on treatment after PD assessment; 1. Efficacy analysis includes patients with measurable disease who had opportunity for ≥1 tumor assessment or discontinued treatment with <1 tumor assessment

RLY-2608 – Limited Observed Impact on Glucose Homeostasis Supports Selectivity

RLY-2608 + Fulvestrant Combination



No Grade 3 hyperglycemia per CTCAE v5.0

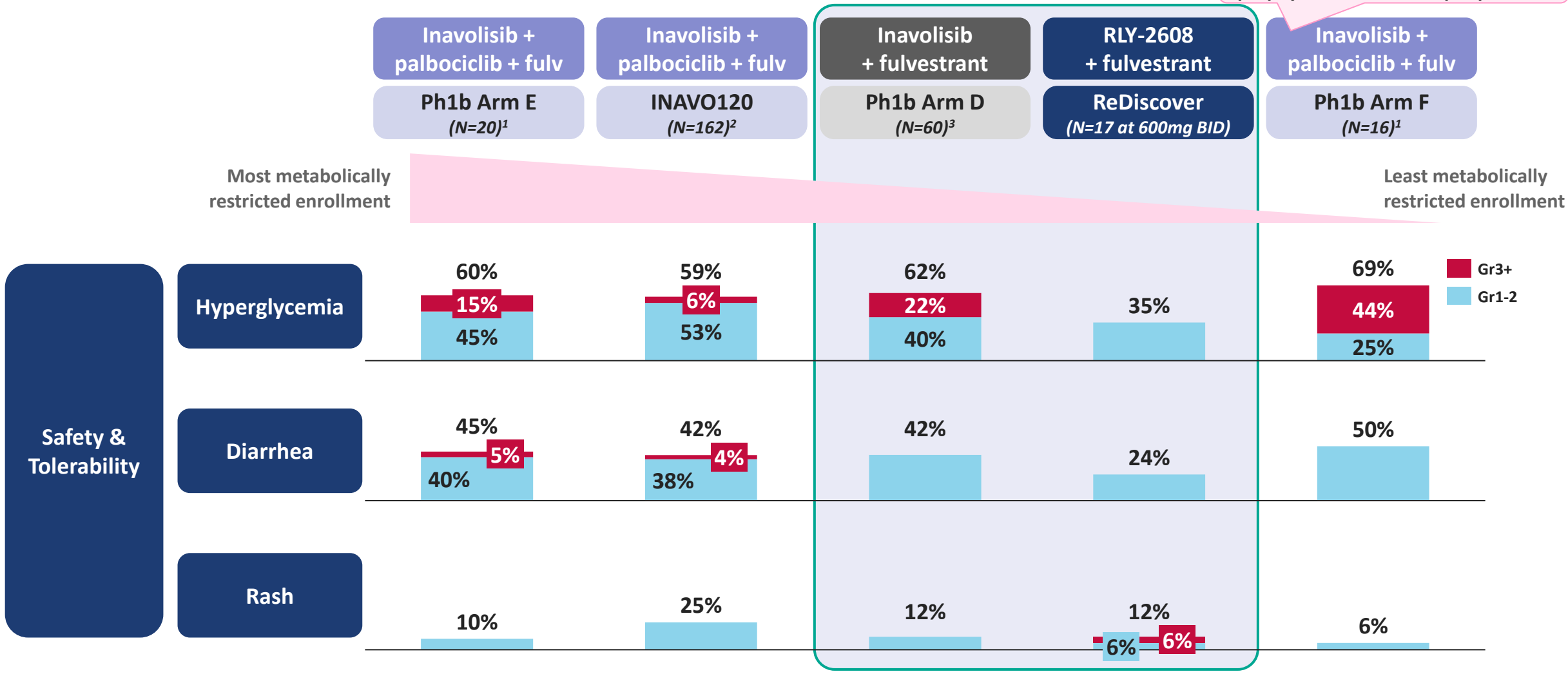
Note: one 1000mg BID combo pt not shown; pt had Gr2 glucose elevation per alpelisib label criteria; Data represent mean per cohort +/- standard deviation
Source: Central lab analysis

RLY-2608 – Safety Profiles of Existing PI3Kα Pathway Compounds

Data below are not from head-to-head studies.
Cross-trial data interpretation should be considered with caution as it is limited by differences in study population and many other factors.

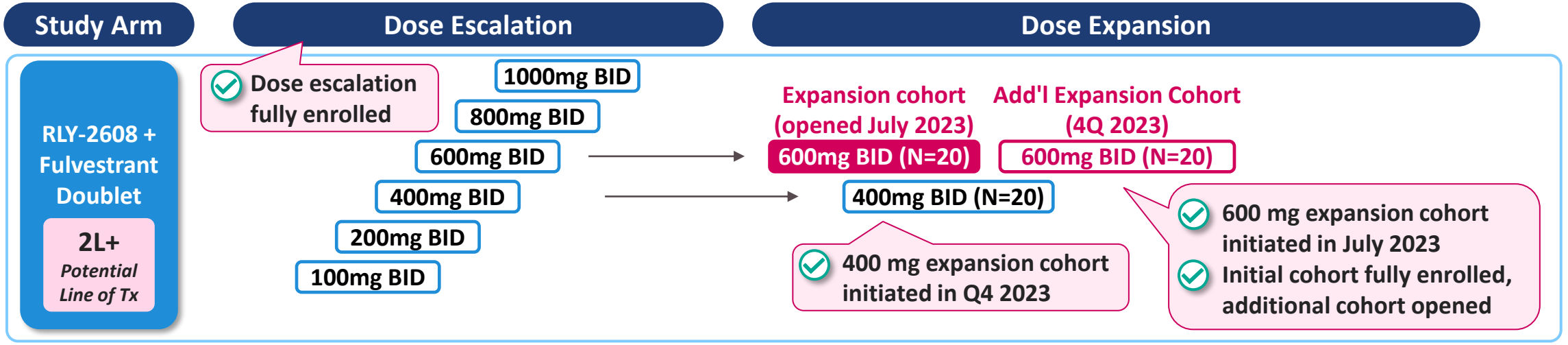
RELAY THERAPEUTICS

Arm F: Patients administered prophylactic metformin per protocol



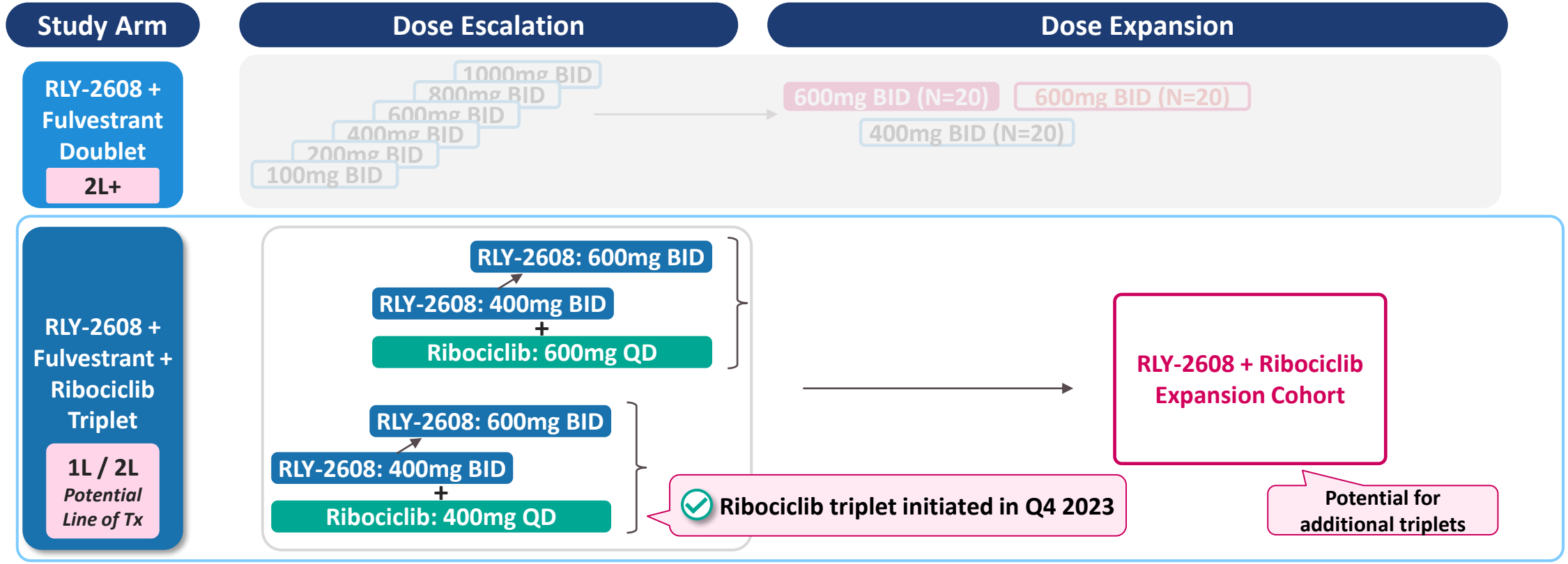
Sources: 1. SABCS 2020 #PS-11-11; 2. SABCS 2023 GS03-13; 3. SABCS 2021 #P5-17-05

RLY-2608 – ReDiscover Trial Design – Doublet



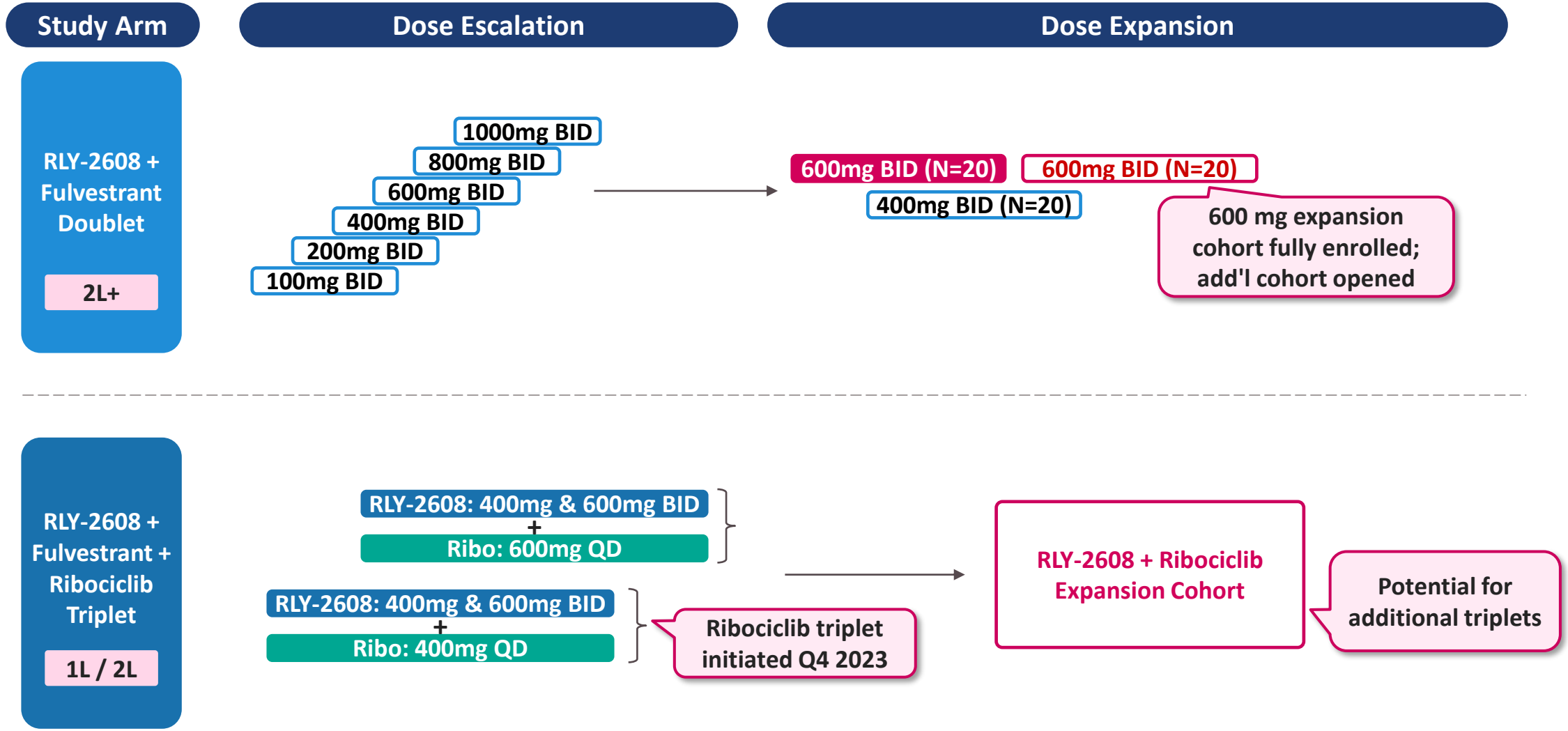
Next RLY-2608 doublet data to be disclosed in 2H 2024 after further data maturation

RLY-2608 – ReDiscover Trial Design – CDK4/6 Triplet



Initial Ribociclib triplet safety data to be disclosed in 2H 2024

RLY-2608 – ReDiscover Combination Trial Design

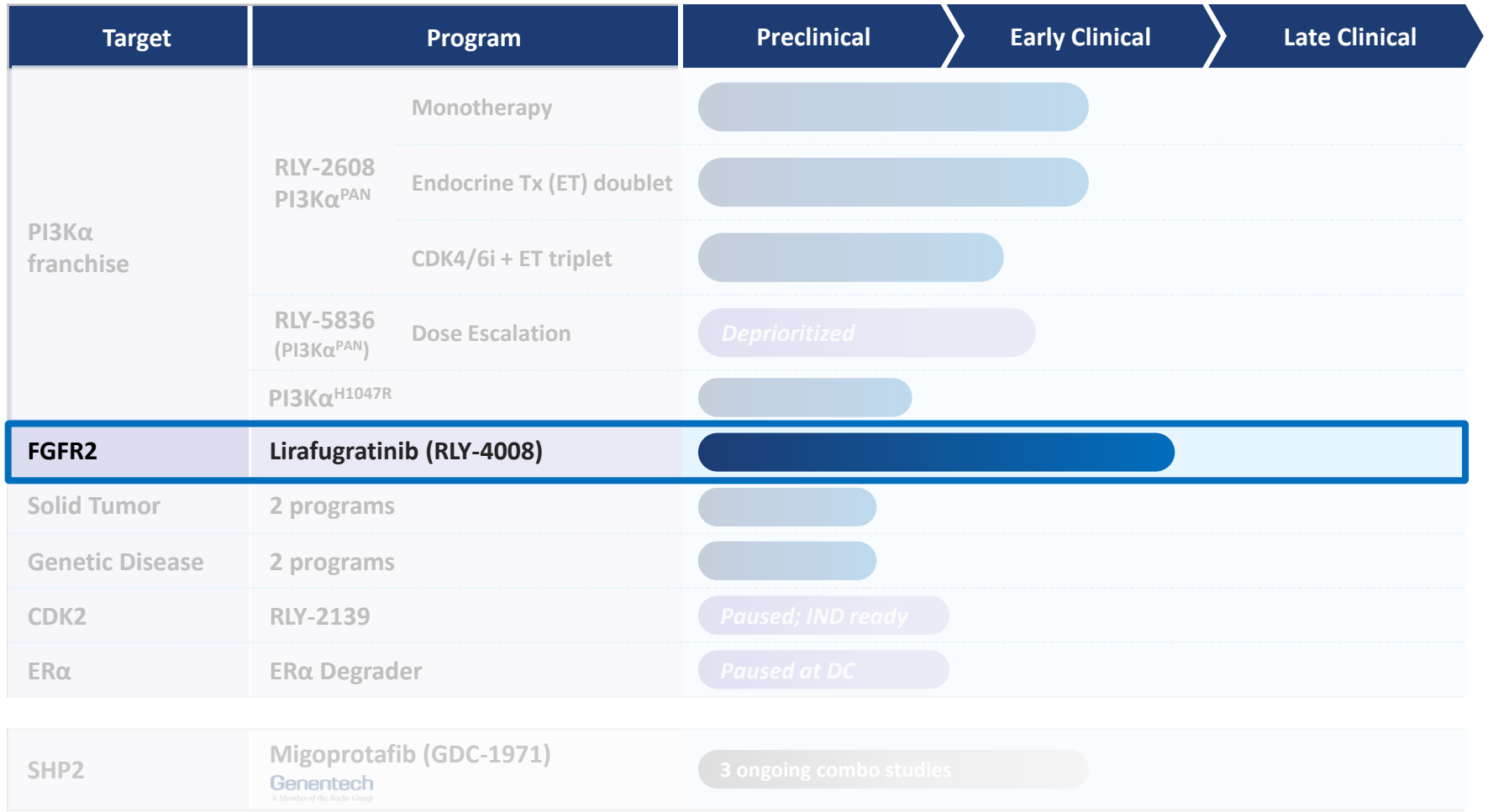


RLY-2608 – ReDiscover Milestones

Study Arm	Potential Line of Tx	Dose Escalation	Dose Expansion	
RLY-2608 + Fulvestrant Doublet	2L+	✓ Dose escalation fully enrolled • Data update in 2H 2024	600 mg BID Doublet cohort	✓ Initiated July 2023 ✓ Fully enrolled + increased size • Data update in 2H 2024
			400 mg BID Doublet cohort	✓ Initiated in Q4 2023
RLY-2608 + Fulvestrant + Ribociclib Triplet	1L / 2L	→ Ribociclib Triplet cohort		✓ Initiated Q4 2023 • Ribociclib triplet safety data in 2H 2024

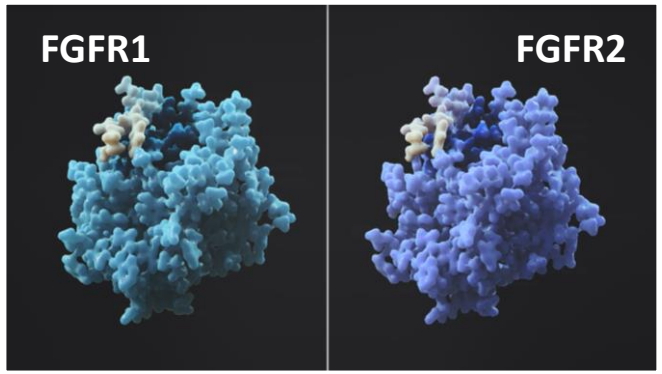
Next RLY-2608 data update in 2H 2024

Relay Tx – Broad Precision Medicine Pipeline



FGFR2 – Limitations of Current CCA and Non-CCA Treatment Options

FGFR1-4 static structures look the same



No FGFR2-targeted therapy available

Pan-FGFRi's lead to high rates of off-target toxicity, esp. for FGFR1,4

FDA Approved Compound[1]	% of Patients with Hyperphosphatemia	% of Patients with Diarrhea
Pemigatinib	93%	39%
Futibatinib	88%	33%
Erdafitinib	71%	59%

Chemo and other late line therapies also have high rates of AEs and dose modifications

Efficacy limited by off-target tox

CCA

36-42% ORR in currently approved tx[1]
(in fusion+ CCA, FGFRi-naïve pt)

Non-CCA Solid Tumors

0-15% ORR in approved late-line tx[2]
(based on NCCN guidelines)

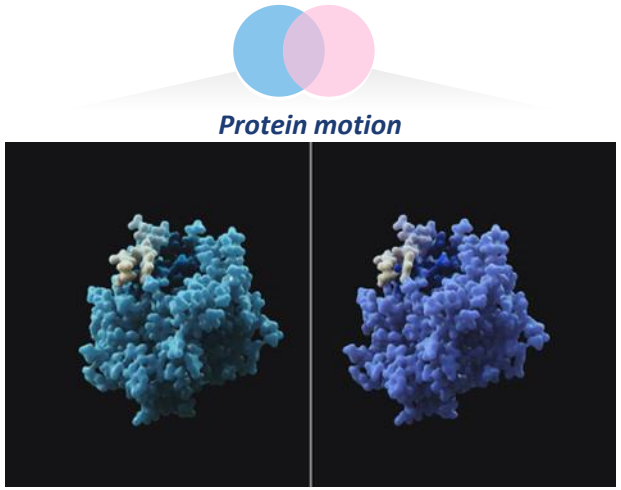
mPFS 1-5mo in non-CCA solid tumors

1. Sources: Pemigatinib – prescribing information; futibatinib – prescribing Information; erdafitinib – prescribing information; (note: AEs are reflective of respective label indications); 2. Reflects reported ORRs in key randomized studies evaluating NCCN recommended regimens for recurrent/metastatic patients (second/third line or later) for the following tumor types: HR+ breast cancer, gastric cancer, pancreatic cancer, NSCLC, ovarian cancer, and head and neck;
Note: These data are derived from different clinical trials at different points in time, with differences in trial design and patient populations. As a result, cross-trial comparisons cannot be made, and no head-to-head clinical trials have been conducted.

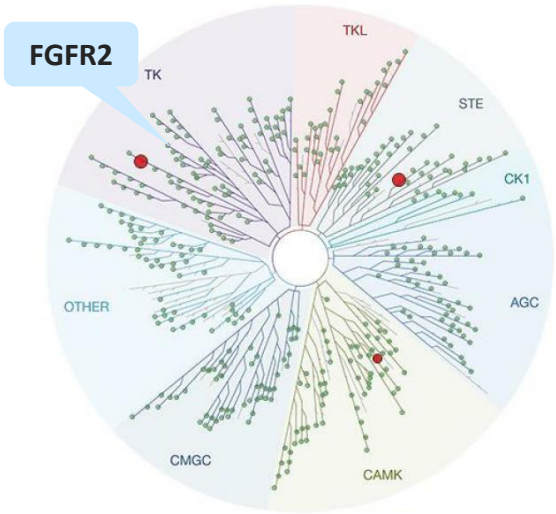
Lirafugratinib (RLY-4008) – Embodies The Power of Our R&D Engine

Motion Based Drug Design…

Relay Approach



...Created First Known Selective FGFR2



Strong Clinical Execution Drives Rapid Pathway to Potential Registration

Sep 2020 — First Patient Dosed

demonstrated PoC, RP2D selected, expansion cohorts initiated

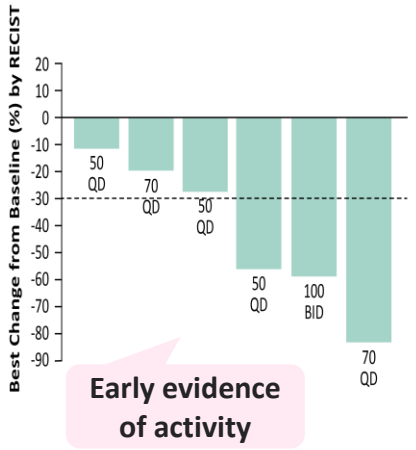
Oct 2023 — Pivotal Cohort Fully Enrolled

~450 Patients Treated Within 3 Years[1]

1. RLY-4008-101 treated patient total as of 29 Sept 2023

Lirafugratinib (RLY-4008) – Evolution of Data Maturity

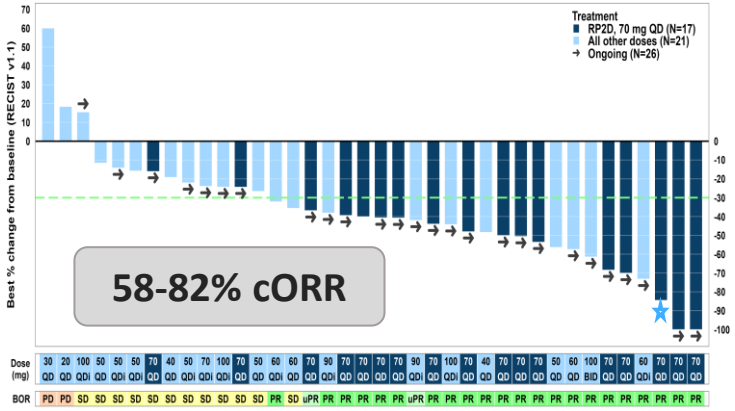
2021 – Initial Clinical Activity Demonstrated[1]



Early evidence of activity

N = 49
(All solid tumors)

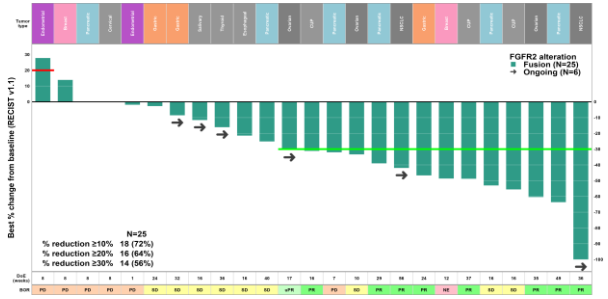
2022 – Interim Efficacy in CCA Fusion[2]



58-82% cORR

N = 38
(fusion+, FGFRi-naïve CCA)

2023 – Interim Tumor Agnostic Efficacy[3]



- **35%** Non-CCA Fusions
- **24%** Amps
- **13%** Muts
- **40%** Breast
- **19%** Gastric
- **2of4** NSCLC

N = 84
(non-CCA solid tumor expansion cohorts)

Tumor agnostic data and regulatory update in 2H 2024

Data presented at: 1. 2021 ENA Meeting (data as of 09 September 2021); 2. 2022 ESMO Congress (data as of 01 August 2022); 3. 2023 Triple Meeting (data as of 27 September 2023)

Relay Tx – Broad Precision Medicine Pipeline

Target	Program		Preclinical	Early Clinical	Late Clinical
PI3Kα franchise	RLY-2608 PI3Kα^{PAN}	Monotherapy			
		Endocrine Tx (ET) doublet			
		CDK4/6i + ET triplet			
	RLY-5836 (PI3Kα^{PAN})	Dose Escalation	*Deprioritized*		
	PI3Kα^{H1047R}				
FGFR2	Lirafugratinib (RLY-4008)				
Solid Tumor	2 programs				
Genetic Disease	2 programs				
CDK2	RLY-2139		*Paused; IND ready*		
ERα	ERα Degrader		*Paused at DC*		
SHP2	**Migoprotafib (GDC-1971)** Genentech *A Member of the Roche Group*		3 ongoing combo studies		

SHP2 – Genentech Global Collaboration for Migoprotafib (GDC-1971)

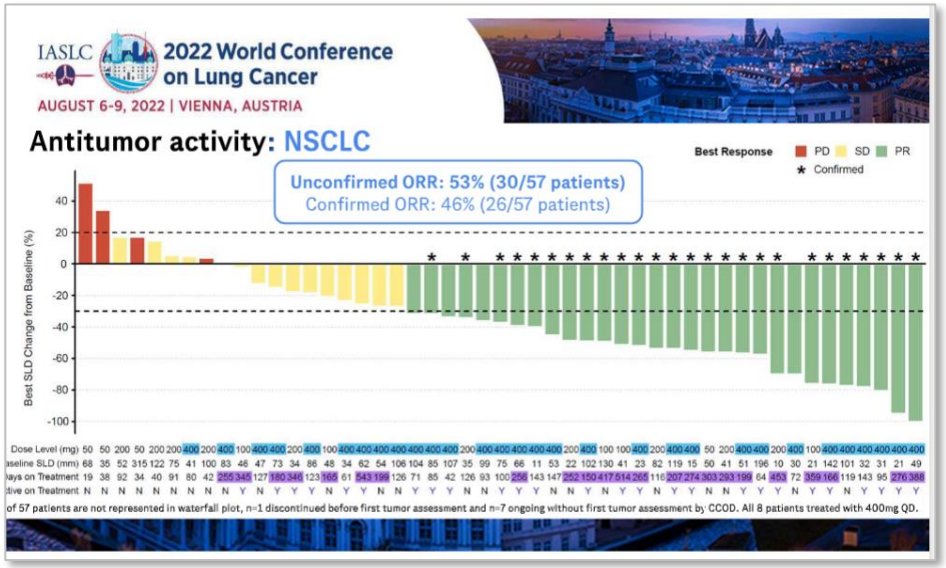
Three ongoing trials with migoprotafib

Migoprotafib
+
GDC-6036 (KRAS G12Ci)
initiated July 2021

Migoprotafib
+
Atezolizumab (PD-L1 Ab)
initiated August 2022

Migoprotafib
+
Osimertinib/Cetuximab (EGFRi)
initiated July 2023

Clinical Update for GDC-6036 Monotherapy at World Lung 2022



Unconfirmed ORR: 53% (30/57 patients)
Confirmed ORR: 46% (26/57 patients)

Collaboration provides meaningful economics to Relay Tx[1]

Source: World Lung 2022 #OA03.04

1. As of September 30, 2023: $110 million in upfront & milestone payments received, and eligible to receive up to $685M in potential additional total milestones, low-to-mid teen royalties on global net sales plus additional royalties upon approval of GDC-1971 and GDC-6036 in combination

Relay Tx – Broad Precision Medicine Pipeline

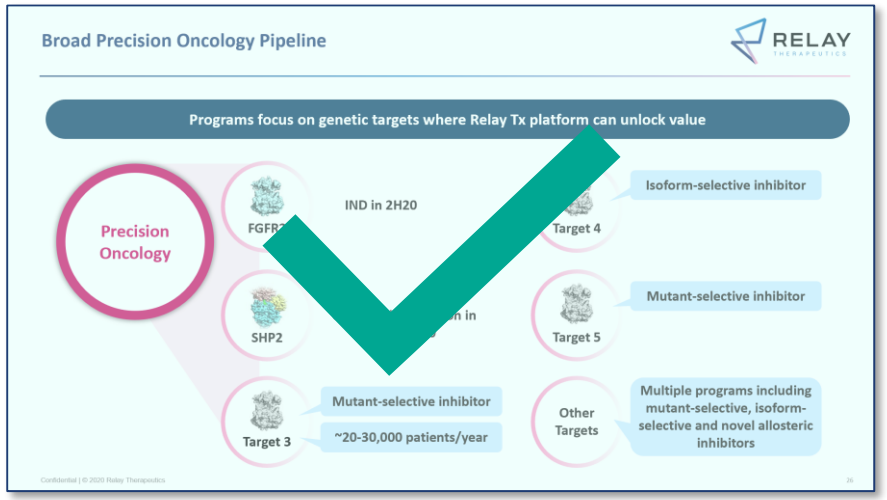
Target	Program		Preclinical / Early Clinical / Late Clinical	Annual US Patient #
PI3Kα franchise	RLY-2608 PI3Kα^{PAN}	Monotherapy		~10-71K breast cancer *~76-243K all solid tumors*
		Endocrine Tx (ET) doublet		
		CDK4/6i + ET triplet		
	RLY-5836 (PI3Kα^{PAN})	Dose Escalation	*Deprioritized*	
	PI3Kα^{H1047R}			~4-27K breast cancer *~15-50K all solid tumors*
FGFR2	Lirafugratinib (RLY-4008)			~11-35K[4]
Solid Tumor	2 programs			*To be announced*
Genetic Disease	2 programs			*To be announced*
CDK2	RLY-2139		*Paused; IND ready*	~35K[2]
ERα	RLY-1013 (Degrader)		*Paused at DC*	~30-205K[3]
SHP2	Migoprotafib (GDC-1971) Genentech A Member of the Roche Group		3 ongoing combo studies	~36-69K[5]

Note: Unless otherwise indicated, patient #'s refer to total annual number of US patients with late-line cancers compared to comprehensive annual incidence that may be amenable to treatment with our programs

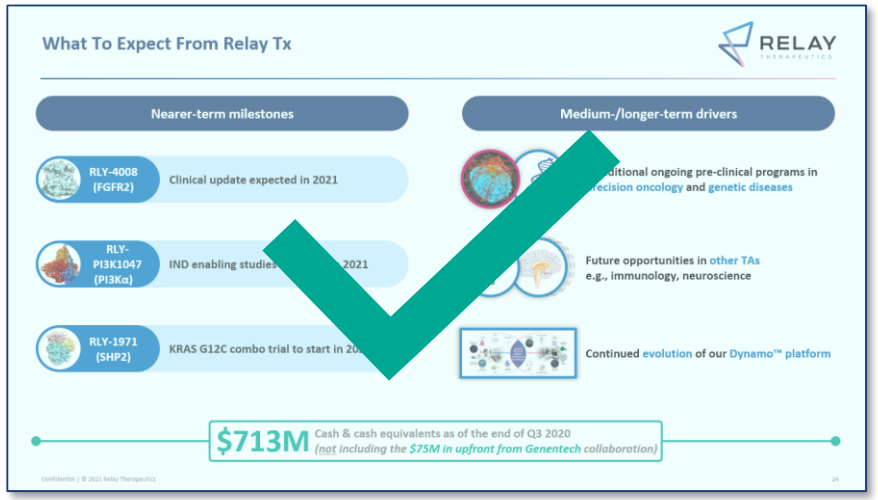
1. Unless otherwise indicated, all breast cancer patient numbers refer to HR+/HER2- breast cancer tumors; 2. ~35K HR+/HER2- breast cancer patients expected to receive CDK 4/6 inhibitors in adjuvant setting, first-line setting, and second-line setting in 2024, per Decision Resources Breast Cancer Market Forecast report dated November 2023; 3. HR+/HER2- US late-line breast cancer patients compared to HR+/HER2- US incident breast cancer patients; 4. FGFR2 altered late-line solid tumors compared to comprehensive annual FGFR2 altered incident solid tumors including additional FGFR gene fusions and rearrangements resulting from truncation of the protein at exon 18 and all breast cancer patients with FGFR2 alterations; 5. SHP2 combo only includes KRAS G12C in lung and colorectal, EGFR mutations in lung, and ALK fusions in lung

Relay Tx's Execution Focus

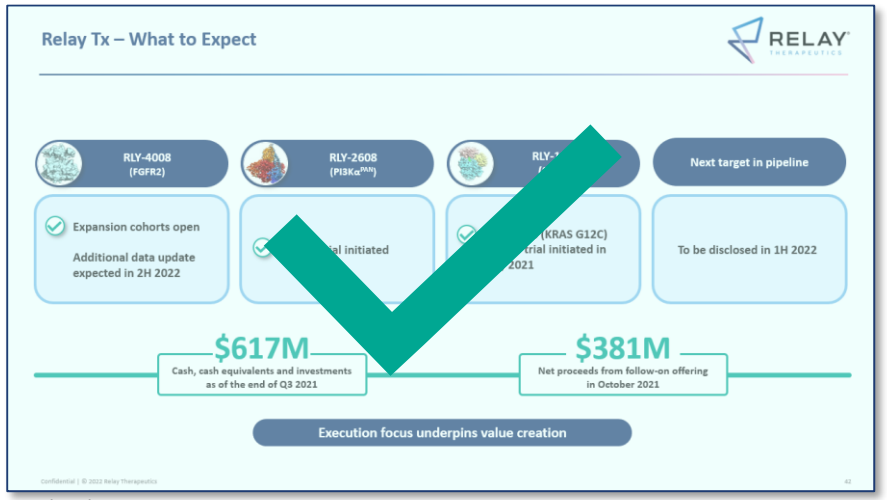
JPM Conference 2020



JPM Conference 2021

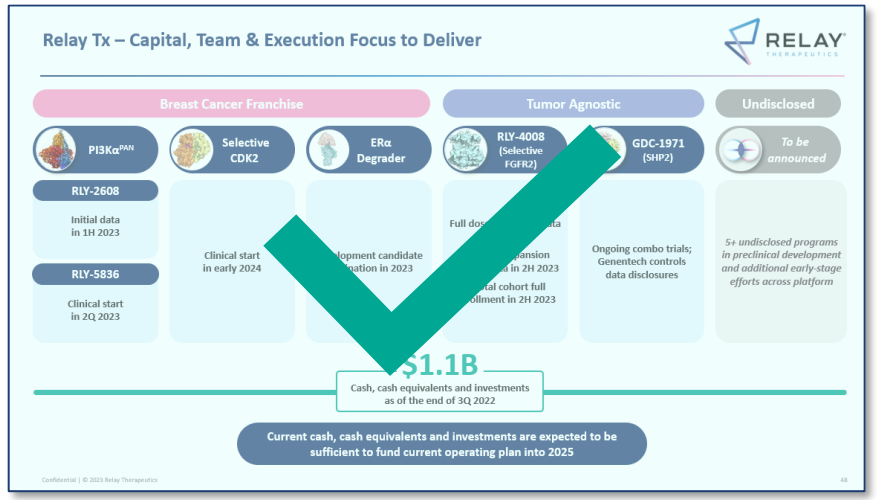


JPM Conference 2022



Continuing to achieve the goals we set

JPM Conference 2023



Relay Tx – Capital, Team & Execution Focus to Deliver on Milestones

2024 Corporate Objectives

RLY-2608 Doublet *(PI3Kα)*	• Additional clinical data in 2H 2024
RLY-2608 Triplet *(PI3Kα)*	✓ Ribociclib triplet initiation in Q4 2023 • Ribociclib triplet safety data in 2H 2024
Lirafugratibnib (RLY-4008) *(FGFR2)*	• Tumor agnostic data and regulatory update in 2H 2024
Pre-clinical Pipeline *(Targets unnamed)*	• New program(s) to be disclosed in 2024 • *7+ undisclosed programs in preclinical development and additional early-stage efforts across platform*
Migoprotafib (GDC-1971) Genentech *(SHP2)*	• Three ongoing combination trials **Genentech controls data disclosures*

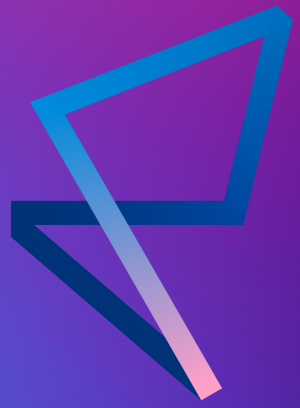
Goal is a first- or best-in-class profile

Significant Capital to Achieve Goals

~$811M

Cash, cash equivalents and investments as of the end of 3Q 2023

Expected to be sufficient to fund current operating plan into 2H 2026



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