RELAY®
THERAPEUTICS

Corporate Presentation

As of February 22, 2024

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This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, implied and express statements regarding the progress and timing of the clinical development of the programs across our portfolio, including the expected therapeutic benefits of our programs, and potential efficacy and tolerability, and the timing and success of interactions with and approval of regulatory authorities; the timing of clinical data updates across our pipeline, including the timing of a clinical data update for the PI3Kα franchise, the progress of doublet and triplet combinations for RLY-2608, the timing of clinical updates for RLY-2608, and the timing of a clinical data and regulatory update for lirafugratinib; the timing of disclosure of additional pre-clinical programs; the possibility that unconfirmed results from these trials will not be confirmed by additional data as our clinical trials progress; the potential of RLY-2608 to address a major unmet medical need; expectations regarding our pipeline, operating plan, use of capital, expenses and other financial results; our cash runway projection; the competitive landscape and potential market opportunities for our product candidates; the expected strategic benefits under our collaborations; our ability to successfully establish or maintain collaborations or strategic relationships for our product candidates; expectations regarding current and future interactions with the U.S. Food and Drug Administration (FDA); our ability to manufacture our product candidates in conformity with the FDA's requirements; the capabilities and development of our Dynamo™ platform; our plans to develop, manufacture and commercialize our current product candidates and any future product candidates; and the implementation of our business model and strategic plans for our business, current product candidates and any future product candidates. The words "may," "might," "will," "could," "would," "should," "plan," "anticipate," "intend," "believe," "expect," "estimate," "seek," "predict," "future," "project," "potential," "continue," "target" and similar words or expressions, or the negative thereof, are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

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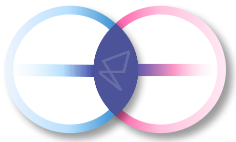
Relay Tx – Patient-Driven

New Breed of Biotech

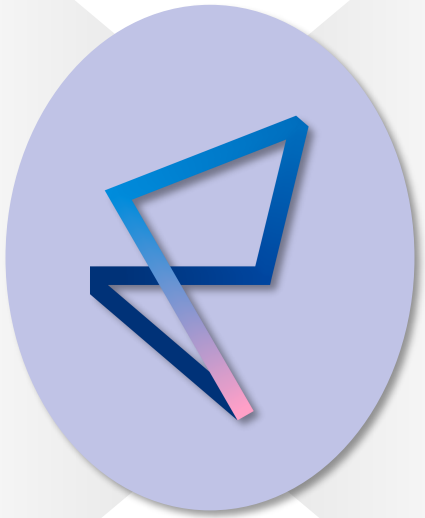
EXPERIMENTATION



COMPUTATION

Clear Focus

Targets & Therapeutic Areas	Validated Targets only	Oncology	Genetic diseases
Modalities	Small Molecules	Degraders	Chaperones



~$750M

Cash, cash equivalents and investments as of the end of 4Q 2023

Validated Approach

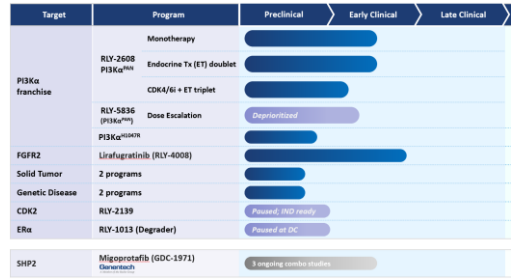
3 Clinical Programs

- PI3Kα *RLY-2608*
- FGFR2 *RLY-4008*
- SHP2 *GDC-1971*

Pre-clinical

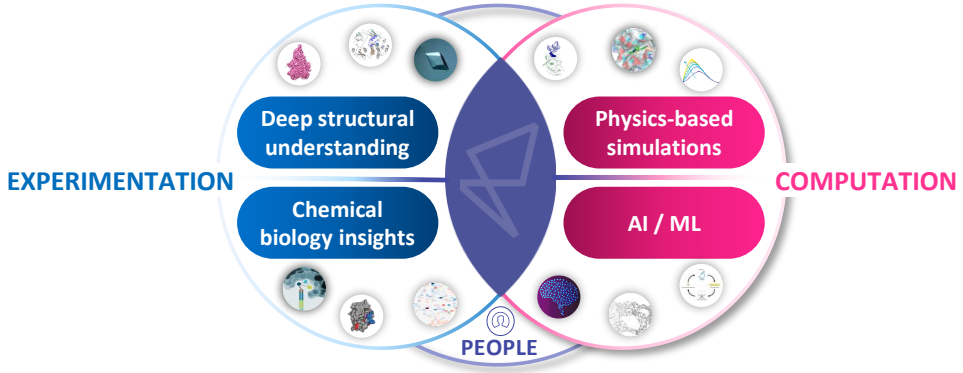
- 7+ add'l programs in pipeline

Execution-Focused

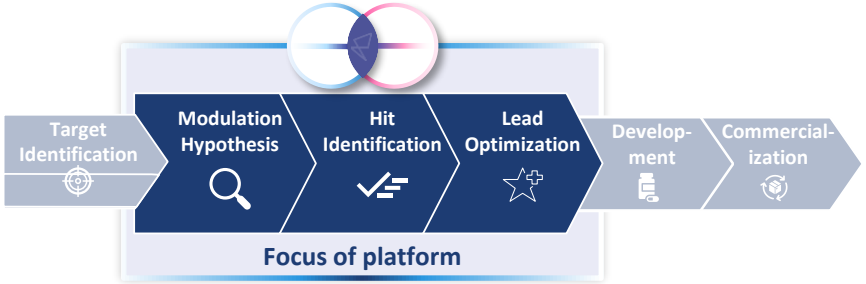


Relay Tx – Dynamo™ Platform

1 Dynamo™ Platform…



2 …is focused on making medicines



3 …aims to address selectivity on validated targets

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 – 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

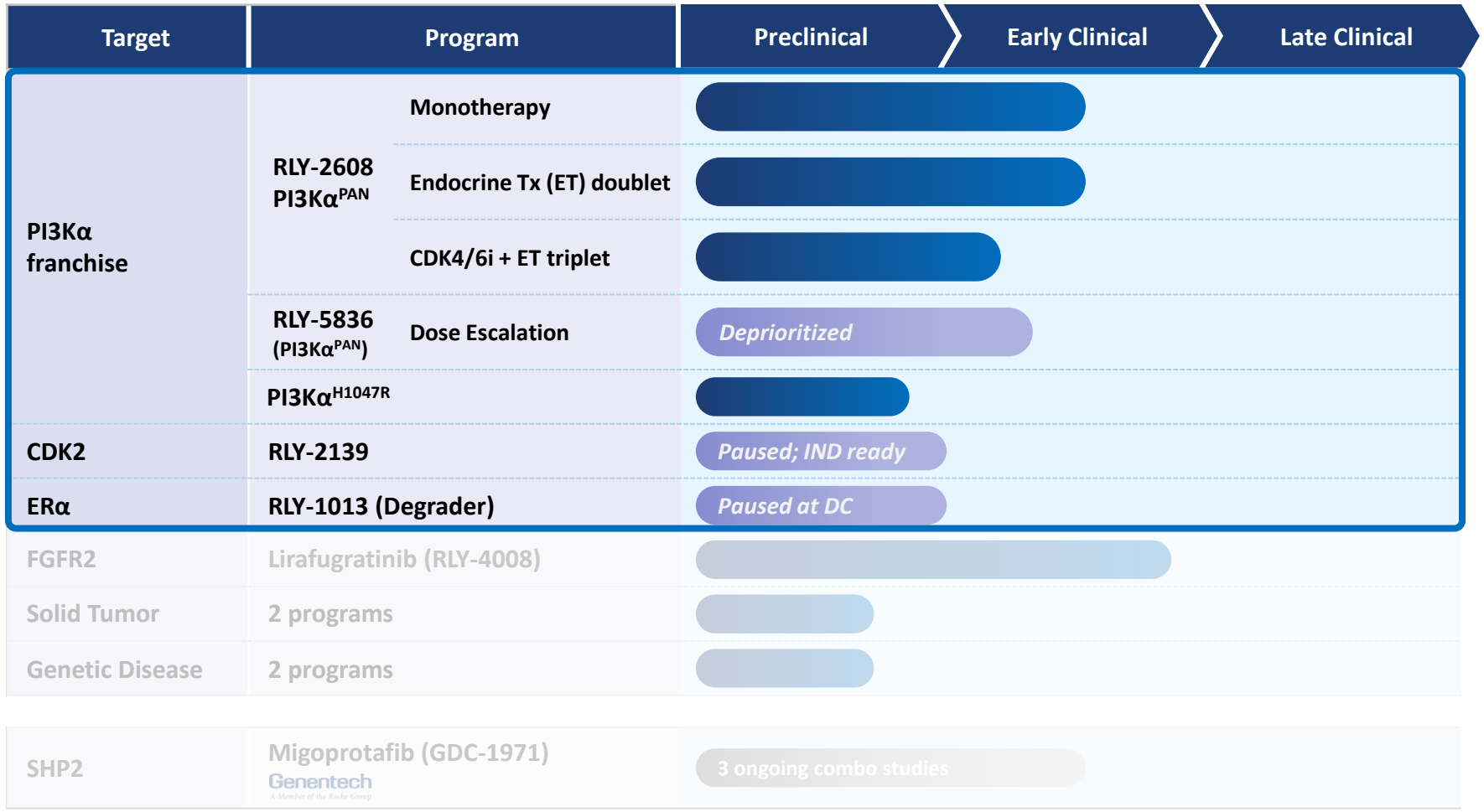
Significant Capital to Achieve Goals

~$750M

Cash, cash equivalents and investments as of the end of 4Q 2023

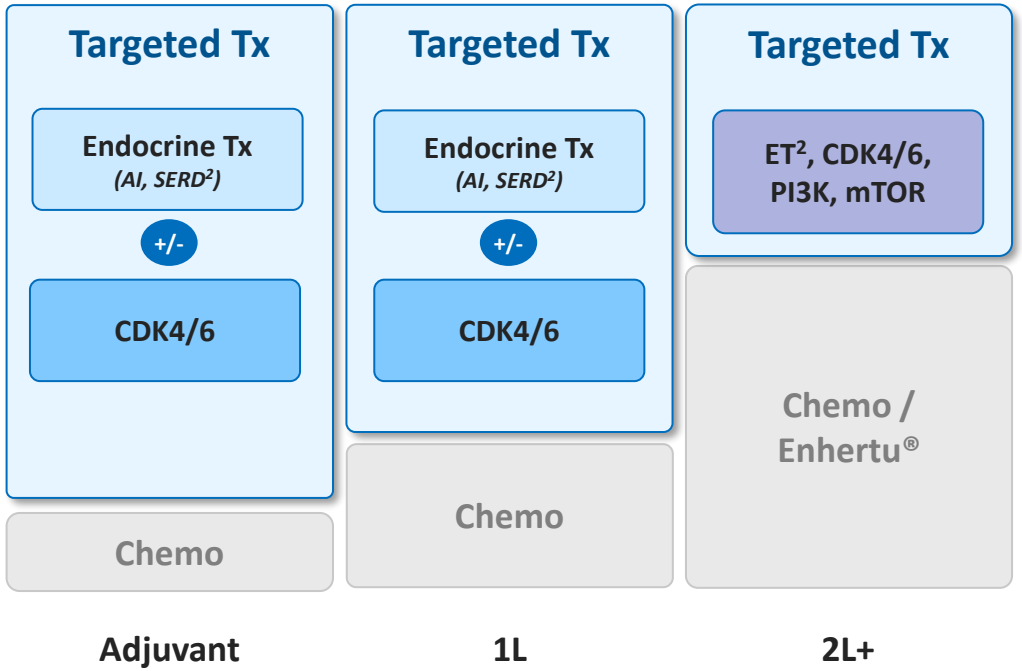
Expected to be sufficient to fund current operating plan into 2H 2026

Relay Tx – Broad Precision Medicine Pipeline



Breast Cancer – Limitations of Current Standard of Care

HR+/HER2- breast cancer standard of care[1]…



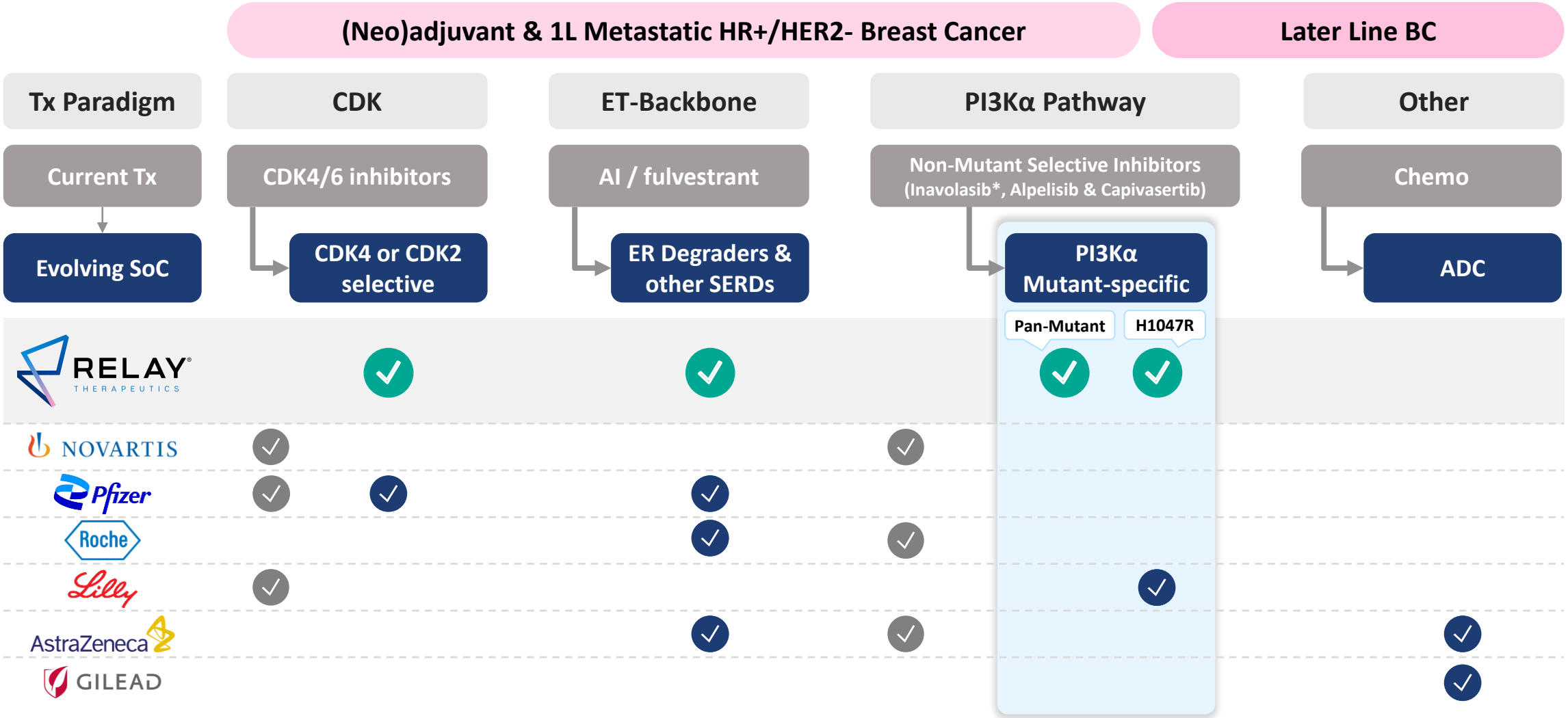
…is limited by efficacy of available treatments

Source: Internal analysis based on third party industry data

1. Standard of care for HR+/HER2- breast cancer is illustrative; 2. AI = Aromatase Inhibitor; SERD: Selective Estrogen Receptor Degrader; ET = Endocrine Therapy

Breast Cancer – Evolving Landscape With Very Large Market Opportunity

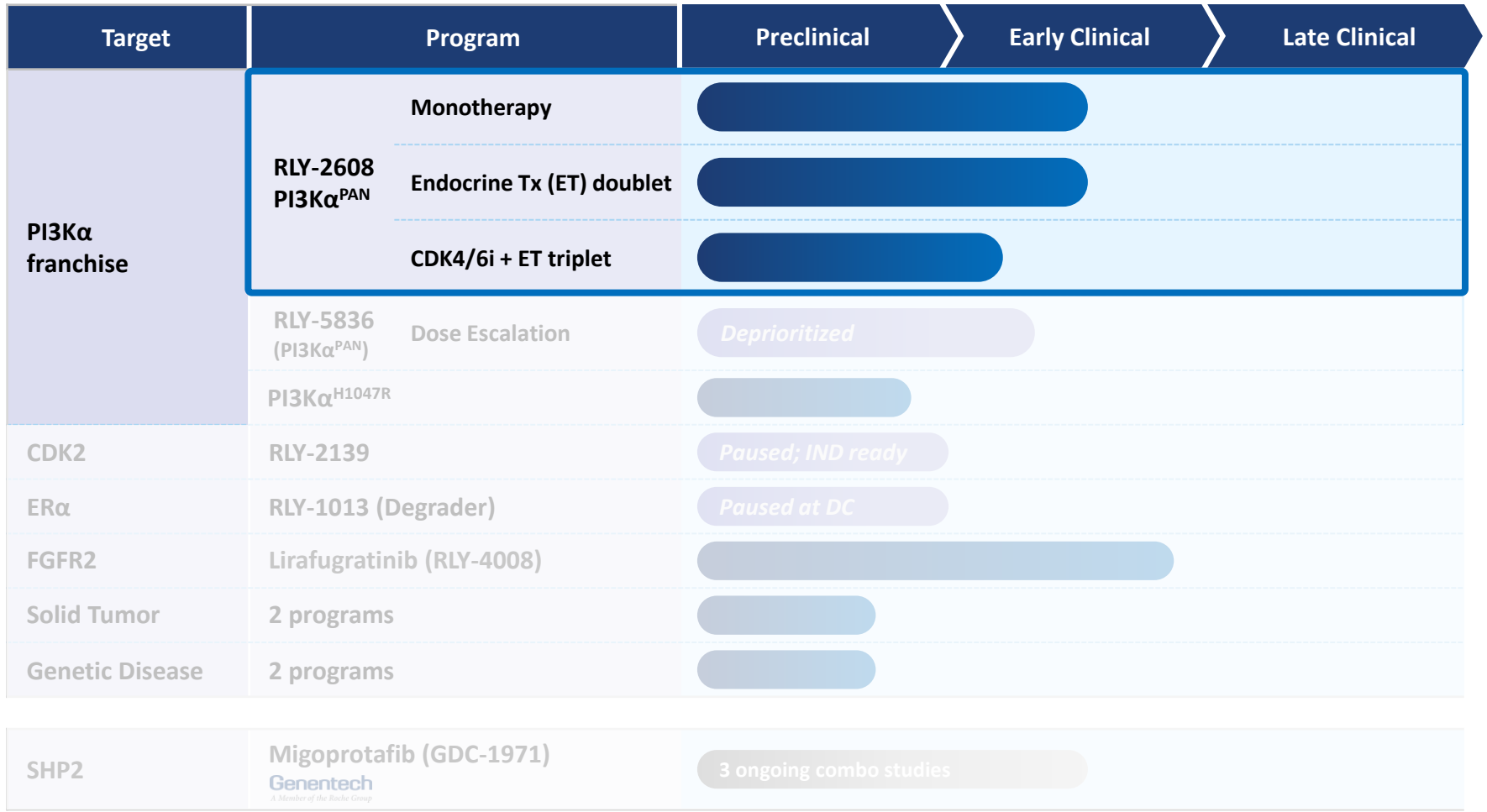
$27B Market Size of (Neo)adjuvant and 1L Metastatic HR+/HER2- Breast Cancer



* Inavolisib is an investigational therapy in Ph3 studies

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

Relay Tx – Broad Precision Medicine Pipeline



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

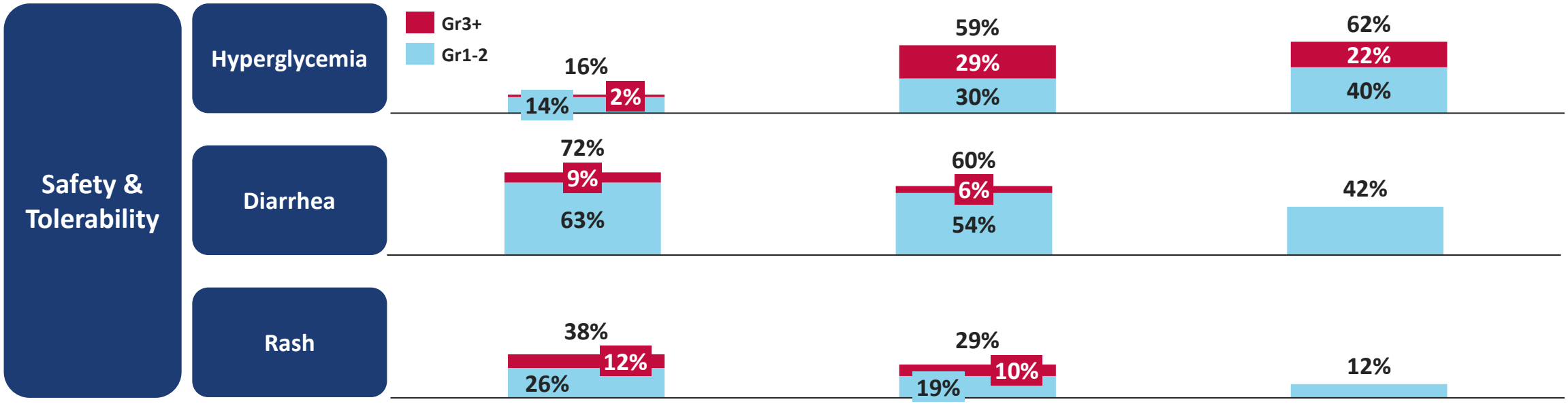
~120k pt	~18k	~14k
(Neo)adjuvant	1L	2L

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

Doublet Combination Regimens		Capivasertib + fulvestrant	Alpelisib + fulvestrant	Inavolisib + fulvestrant
		CAPItello-291 *(N=355)*[1]	BYLieve *(N=127)*[2]	Ph1b Arm D *(N=60)*[3]
HbA1C Enrollment Criteria		<8.0%	≤6.4%	<7%
Disease Pre-Treatment	% prior CDK4/6	70%	100%	97%
	% prior fulv	0%	0%	47%
	% prior chemo / ADC	18%	6%	42%



Sources: 1. Turner N Engl J Med 2023; 388:2058-2070; 2. Rugo 2021 Lancet Oncol 22:489; 3. SABCS 2021 #P5-17-05

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

Doublet Combination Regimens		Capivasertib + fulvestrant	Alpelisib + fulvestrant	Inavolisib + fulvestrant
		CAPItello-291 *(N=355)*[1]	BYLieve *(N=127)*[2]	Ph1b Arm D *(N=60)*[3]
HbA1C Enrollment Criteria		<8.0%	≤6.4%	<7%
Disease Pre-Treatment	% prior CDK4/6	70%	100%	97%
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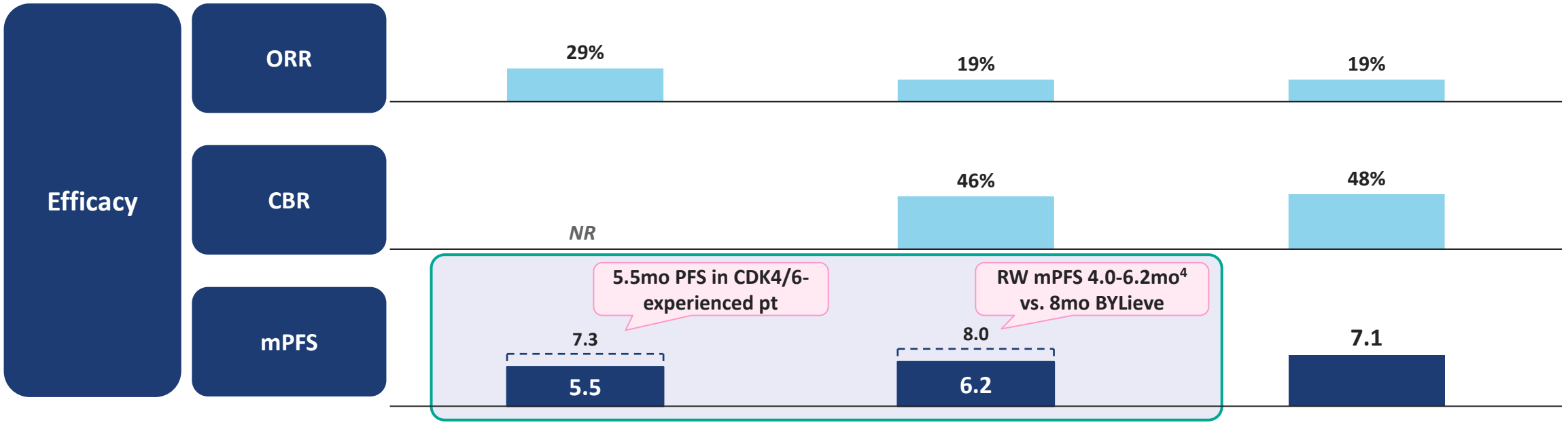


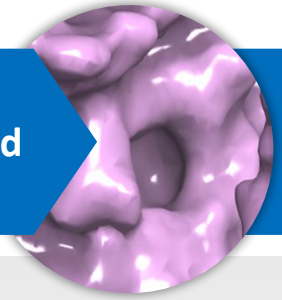
Sources: 1. Turner N Engl J Med 2023; 388:2058-2070; 2. Rugo 2021 Lancet Oncol 22:489; 3. SABCS 2021 #P5-17-05; 4. ASCO 2022 #1055 (Novartis-sponsored real-world evidence study for alpelisib + fulvestrant)

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.

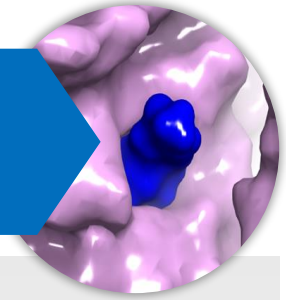
PI3Kα – Proprietary Insights Unlock Novel Approaches

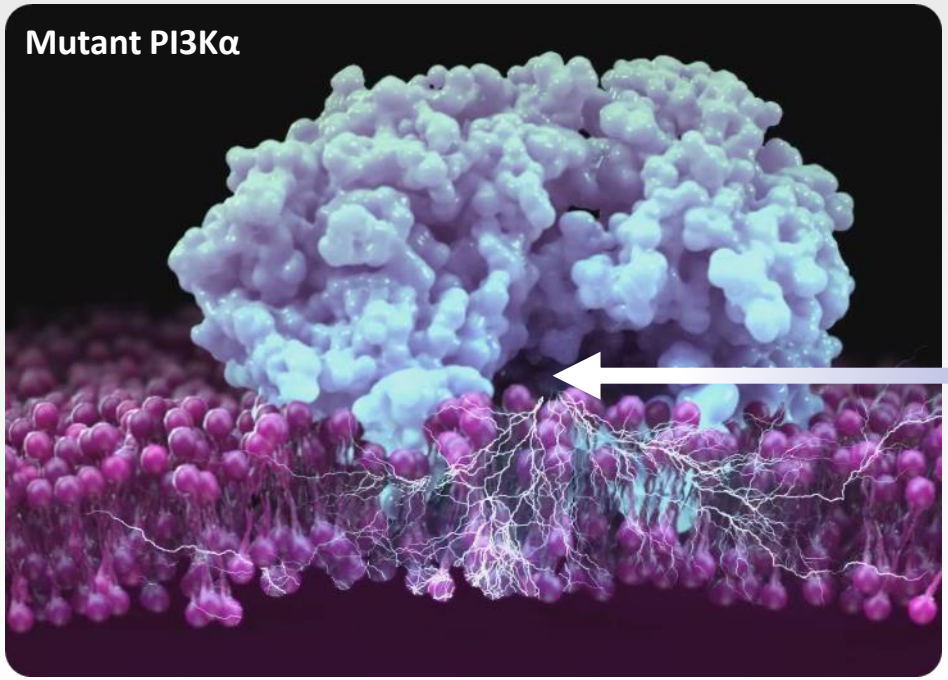
Solved first full-length structures of PI3Kα (mutant and wild-type)

Discovered novel allosteric pocket favored in mutant protein



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





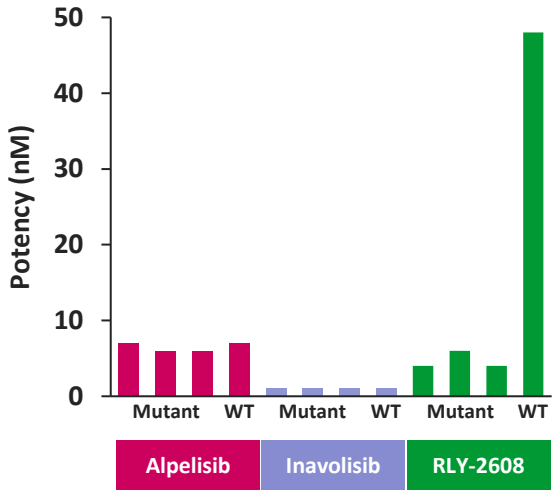
A differentiated understanding of the structure of PI3Kα and its relationship to function equips Relay Tx to design optimal mutant-selective inhibitors of PI3Kα

RLY-2608 – First Mutant Selective Inhibitor to Enter the Clinic

All Data Shown is Preclinical

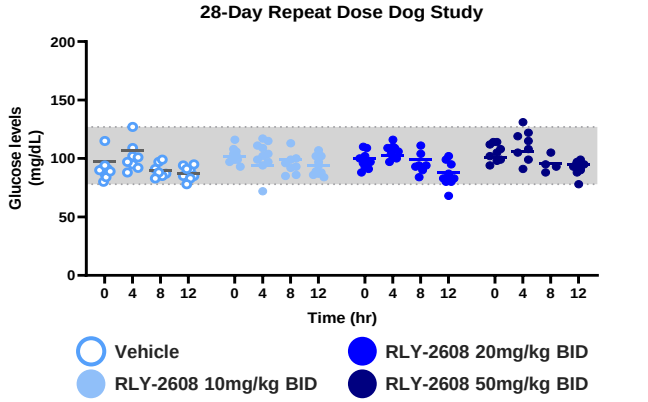
Favorable Selectivity

Limited potency against WT PI3Kα and other PI3K isoforms



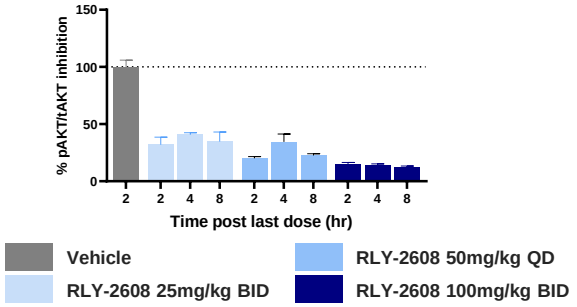
Favorable Tolerability

Manageable key toxicities, especially hyperglycemia shown in dog study



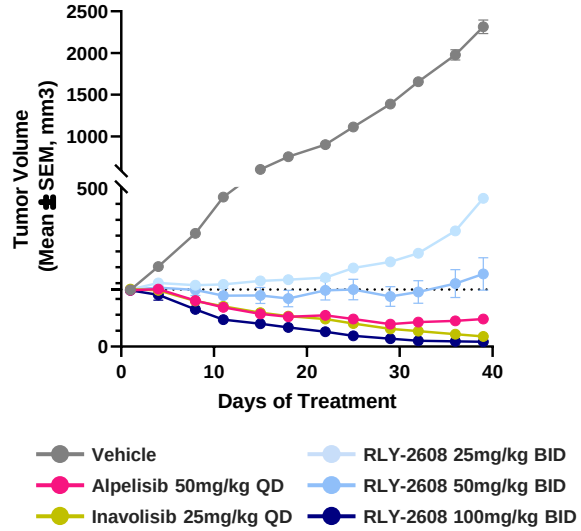
Favorable Target Inhibition

Maintains approx. 80% mutant PI3Kα inhibition in mouse model

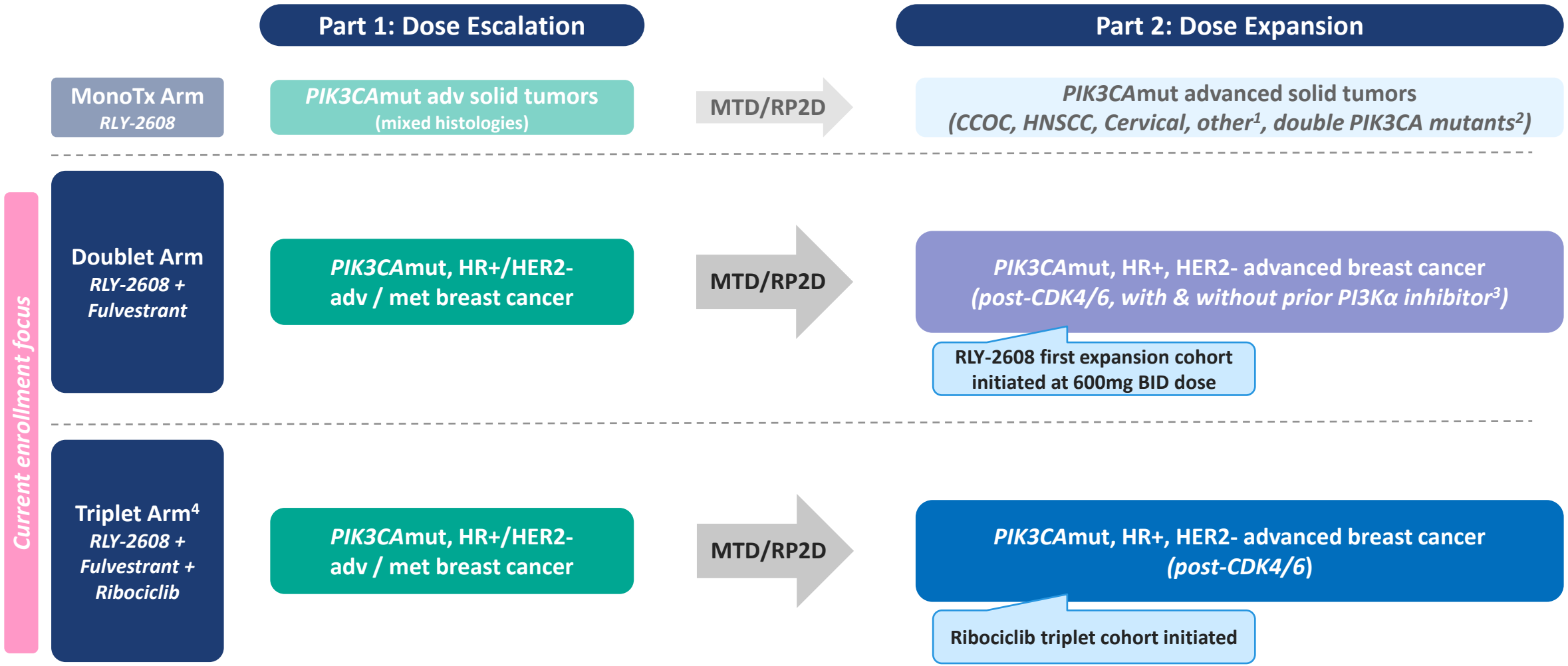


Favorable Efficacy

Robust tumor regression at tolerable doses in mouse model

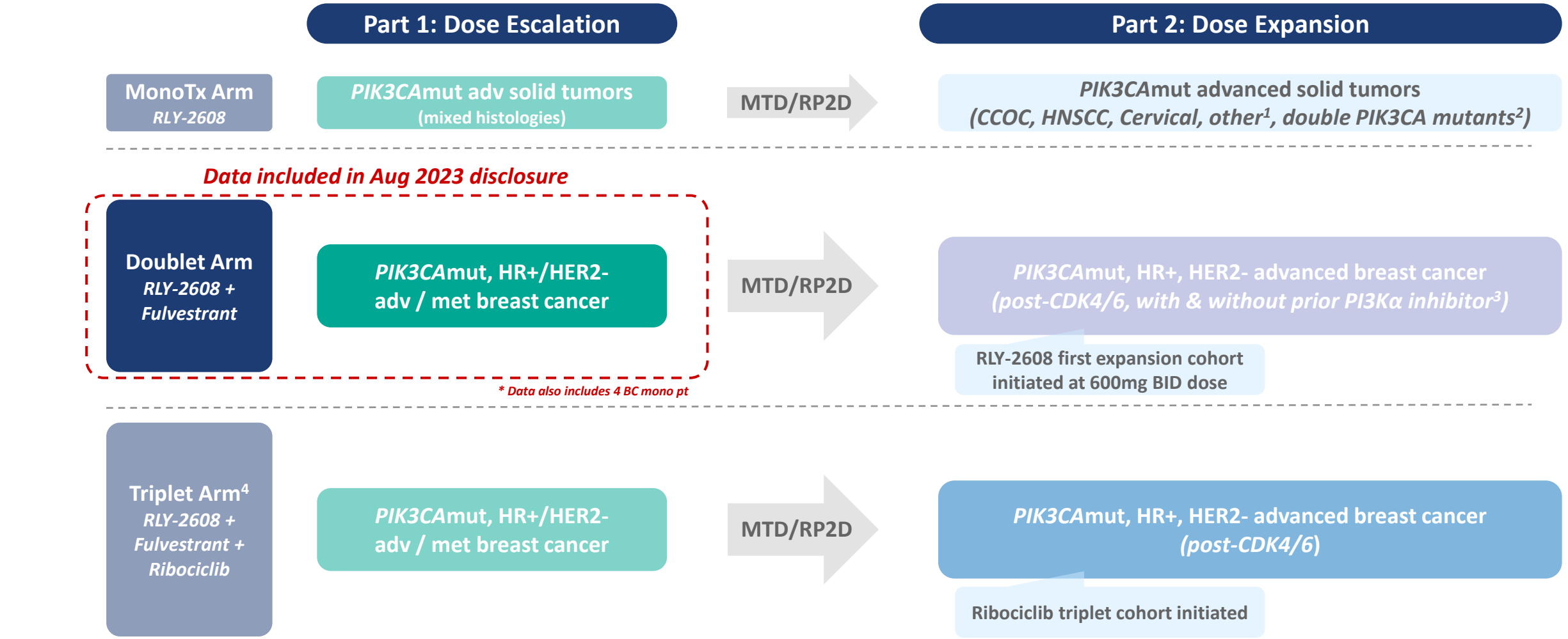


RLY-2608 – Trial Design



1. Excludes PIK3CAmut clear cell OvCA, HNSCC, Cervical cancer, and colorectal patients; 2. Double mutation defined as one major PIK3CA mutation (E542X, E545X, H1047X) + ≥1 additional PIK3CA mutation per local assessment; 3. Patients with previous PI3Kα inhibitor include those with intolerance to PI3Kαi defined as treatment discontinuation due to treatment-related AE (e.g., hyperglycemia, rash, diarrhea, stomatitis) other than severe hypersensitivity reaction and/or life-threatening reactions, such as anaphylaxis and Stevens-Johnson syndrome; 4. RLY-2608 + fulvestrant + CDK4/6 arm expected to be added in a protocol amendment

RLY-2608 – ReDiscover Trial Interim Part 1 Results Disclosed in August 2023



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RLY-2608 – Initial Data Support Selective Targeting of Mutant PI3Kα

Summary of initial data in 43 Breast Cancer patients[1] as first disclosed in August 2023

Initial Clinical Proof of Mechanism

Initial anti-tumor activity observed across range of doses

- At 600mg BID dose in combination with fulvestrant:
  - 86% interim CBR (6 of 7 patients with CR, PR, or SD for ≥6mo)
  - 1 cPR out of 5 evaluable[2] patients with measurable disease
- Overall, 4 PRs (of 24 evaluable[2] breast cancer pts) observed across mono and fulvestrant combo, dose levels and PI3Kα genotypes

Favorable safety profile at therapeutically active doses with evidence of selective target inhibition

- Low rates of hyperglycemia, rash and diarrhea compared to non-selective PI3K inhibitors
- Limited observed impact on glucose homeostasis
- Continuous PK exposure above IC_{80} achieved at ≥400mg BID
- Safety profile at 600mg BID compelling for use in mBC combinations

Expansion cohorts at 400mg and 600mg BID underway

Goal for Expansion Cohorts

- Interpretable Efficacy (CBR, ORR)
- Longer-Term Tolerability

DLTs = dose limiting toxicities; 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

1. N=43 Breast Cancer patients: 39 fulvestrant combo (17 at 600 mg BID), 4 monotherapy; 2. Efficacy analysis includes patients with measurable disease who had opportunity for ≥1 tumor assessment or discontinued treatment with <1 tumor assessment; 3. per CTCAE v5.0

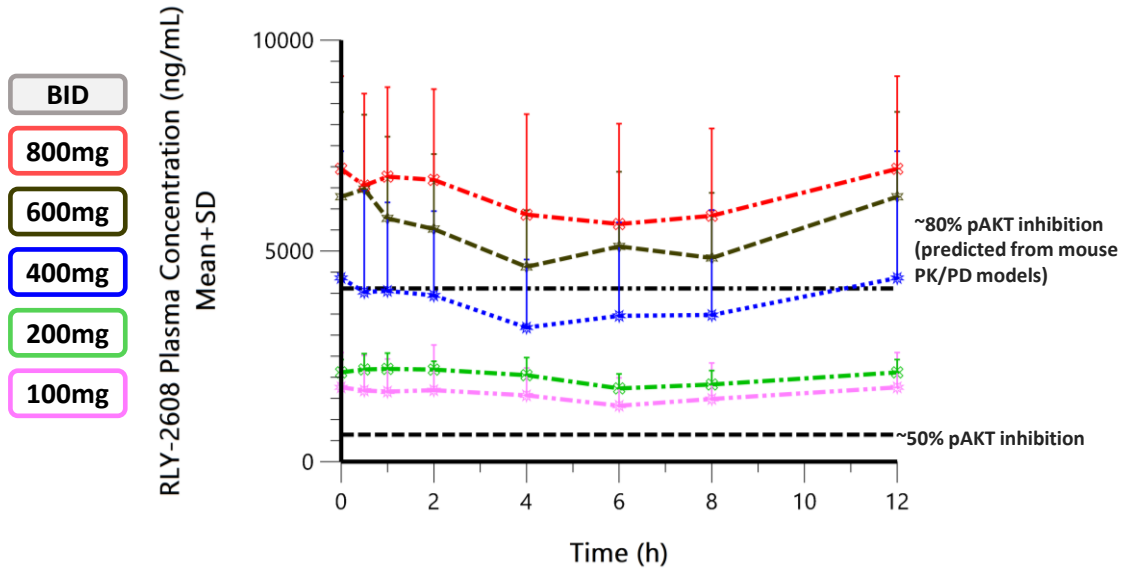
RLY-2608 – ReDiscover Trial Interim Part 1 Results

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

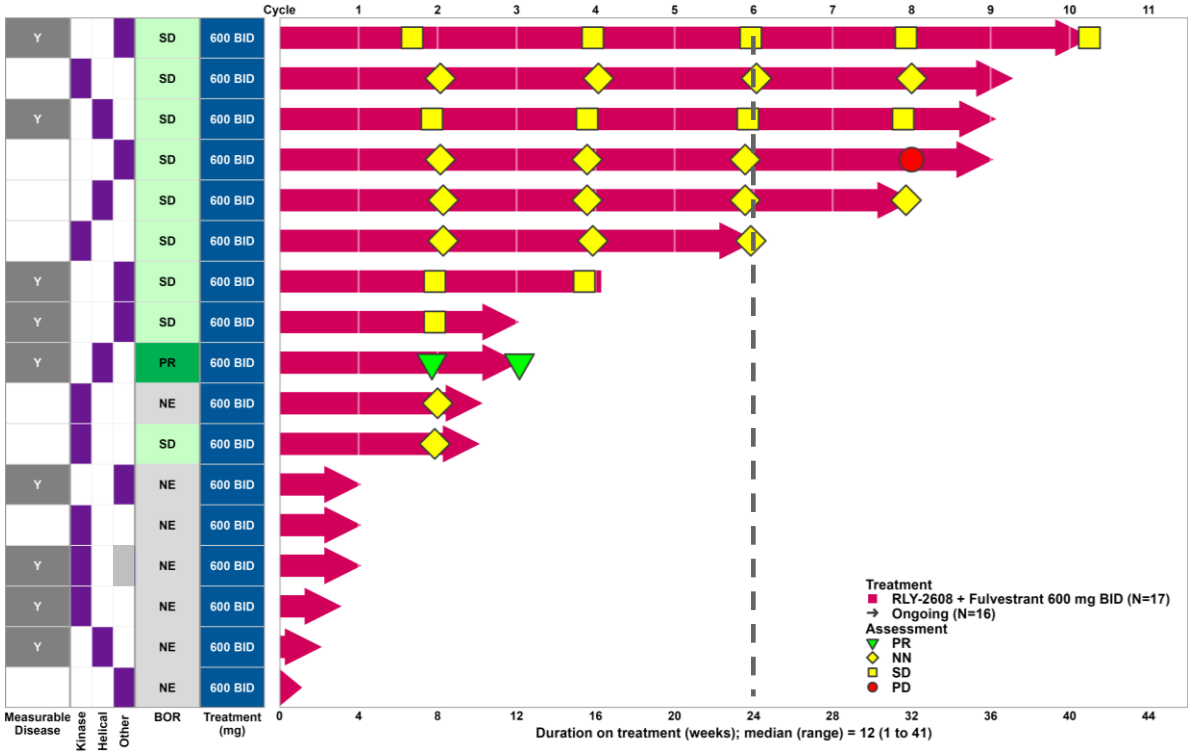
RLY-2608 – ReDiscover Trial Breast Cancer Baseline Demographics and Genotype

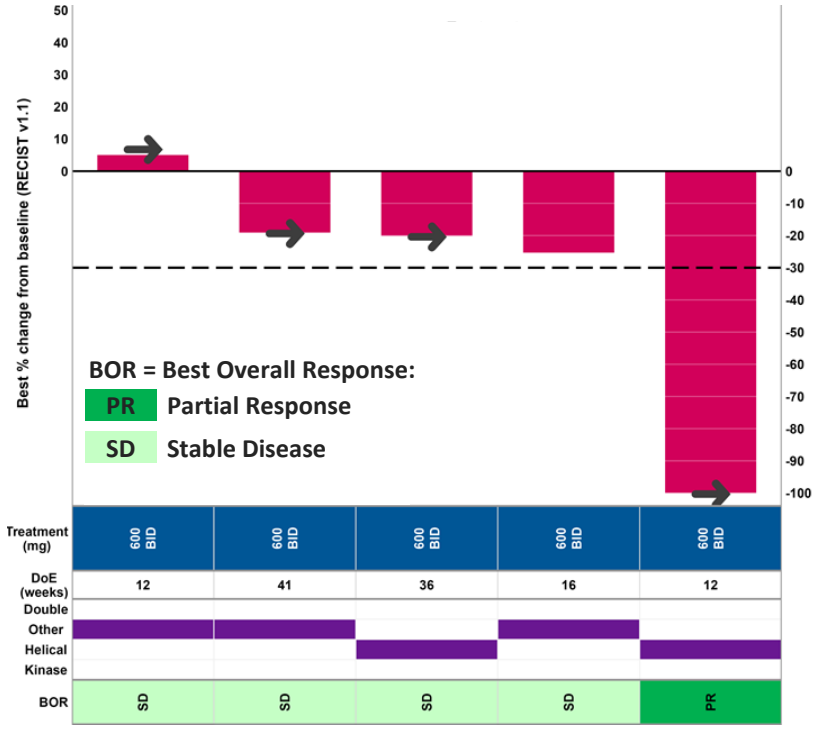
	RLY-2608 + fulvestrant (N=39)	RLY-2608 + fulvestrant 600 mg BID (N=17)	RLY-2608 Monotherapy (N=4)
Age, median (range), years	59 (40-82)	60 (49-80)	64 (58, 85)
Female, n (%)	39 (100%)	17 (100%)	4 (100%)
Ethnicity, %			
White / Asian / American Indian / Black / Unknown	67% / 3% / 3% / 3% / 23%	59% / 0% / 0% / 0% / 41%	100% / 0% / 0% / 0% / 0%
ECOG, n (%)			
0	21 (54%)	8 (47%)	2 (50%)
1	18 (46%)	9 (53%)	2 (50%)
BMI, kg/m^2, median (range)	25 (18-41)	23 (19-36)	26 (18, 44)
<30, n (%)	29 (74%)	14 (82%)	3 (75%)
≥30, n (%)	10 (26%)	3 (18%)	1 (25%)
Prior regimens of therapy in metastatic setting, median (range)	1 (1,6)	2 (1,6)	5 (1, 12)
Pending data entry	2 (5%)	1 (6%)	0 (0%)
1	19 (49%)	6 (35%)	1 (25%)
2	10 (26%)	6 (35%)	0 (0%)
3+	8 (21%)	4 (24%)	3 (75%)

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:

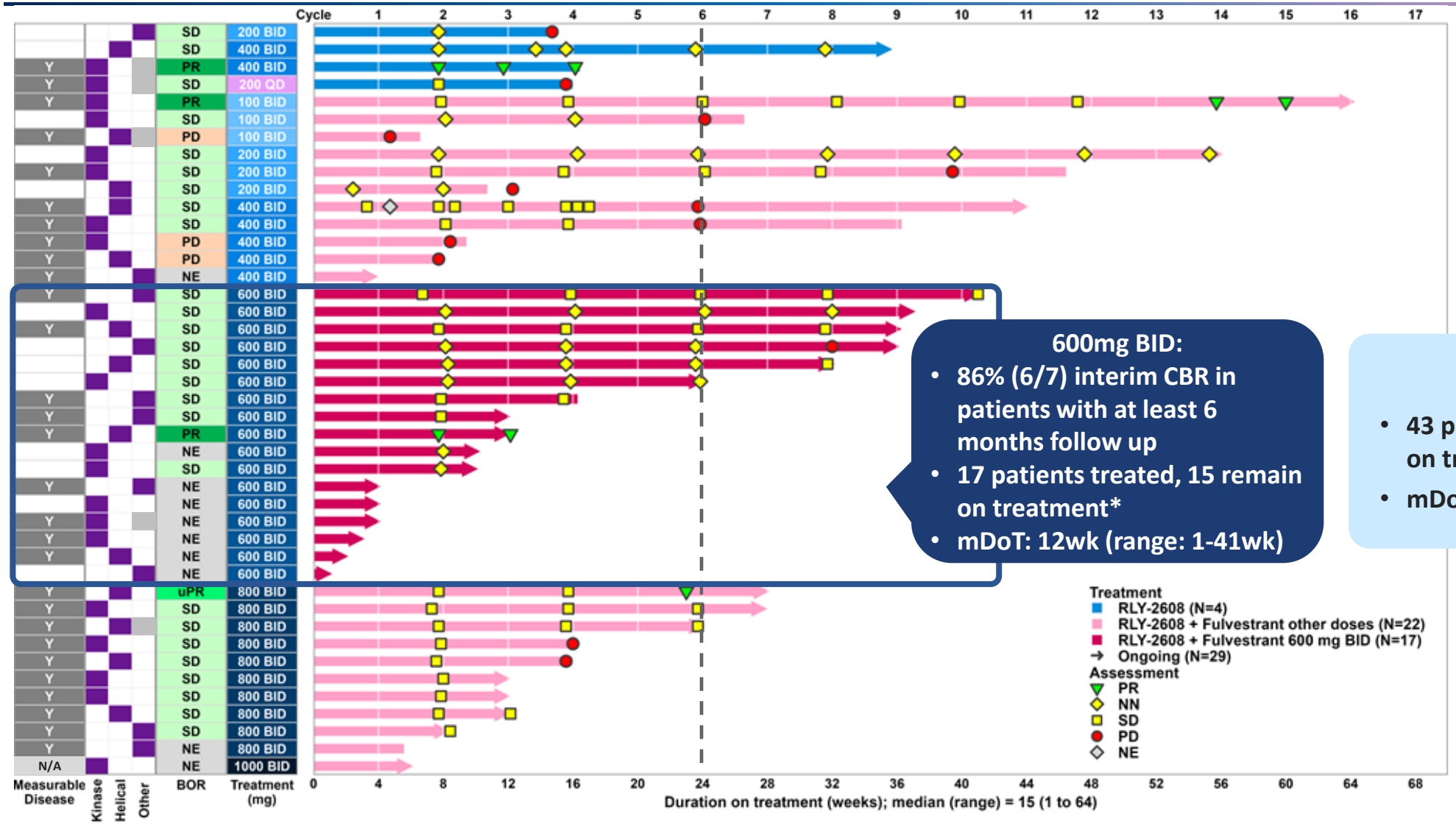
- **86% (6/7) CBR in patients with at least 6 months follow up**
- **Confirmed PR achieved in 1 of 5 efficacy evaluable[1] patients with measurable disease**
- **17 patients treated, 15 remain on treatment***
- **mDoT: 12wk (range: 1-41wk)**

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 – Breast Cancer Disease Control Across Dose Levels

43 Breast Cancer Patients – Measurable and Non-Measurable Disease



600mg BID:

- 86% (6/7) interim CBR in patients with at least 6 months follow up
- 17 patients treated, 15 remain on treatment*
- mDoT: 12wk (range: 1-41wk)

Across all doses:

- 43 patients treated, 28 remain on treatment*
- mDoT: 15wk (range: 1-64wk)

***PIK3CA* Mutation Key:**

- Primary *PIK3CA* mutation type
- 2nd *PIK3CA* mutation in double mutation

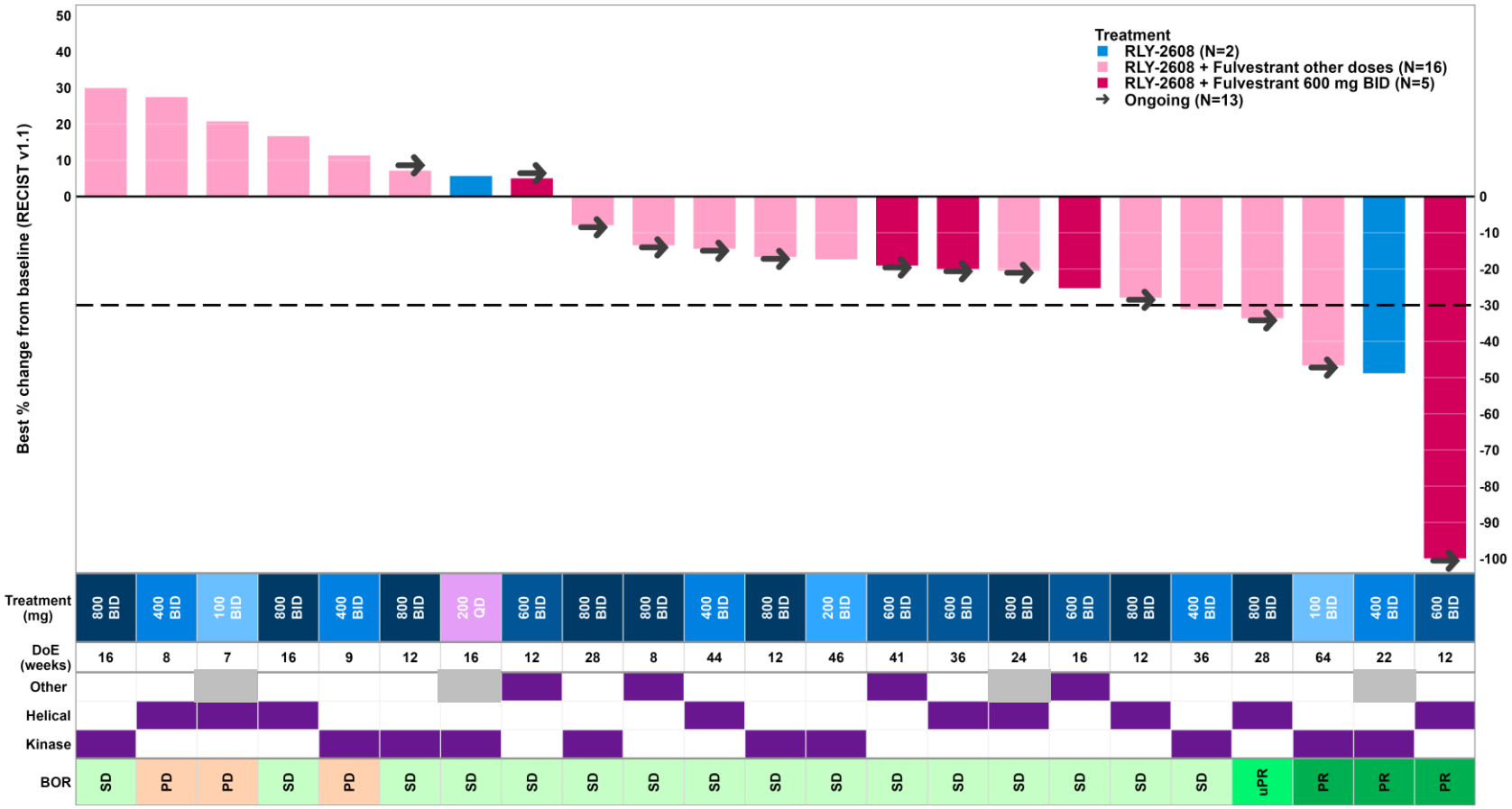
CBR: Clinical Benefit defined as all patients with confirmed complete response or partial response or stable disease ≥24 weeks; evaluable patients started treatment ≥24 weeks prior to the data cutoff; N/A: not available as of data cut off, pending data entry

* Note: one additional pt at 600mg BID dose remains on treatment after PD assessment

RLY-2608 – Evidence of Anti-Tumor Activity Supports Selective Target Engagement

24 Breast Cancer Patients – Measurable Disease Only*

Breast Cancer Patients (RECIST Measurable Disease) N=24*



- At 600mg BID combo, 80% of patients (4/5) exhibited radiographic tumor reductions
  - 1 pt experienced a partial response and remains on treatment
- Overall, 63% of patients (15/24) exhibited radiographic tumor reductions; 13/24 patients ongoing
- 4 partial responses observed across mono and combo, dose levels and PI3Kα genotypes

BOR = Best Overall Response:

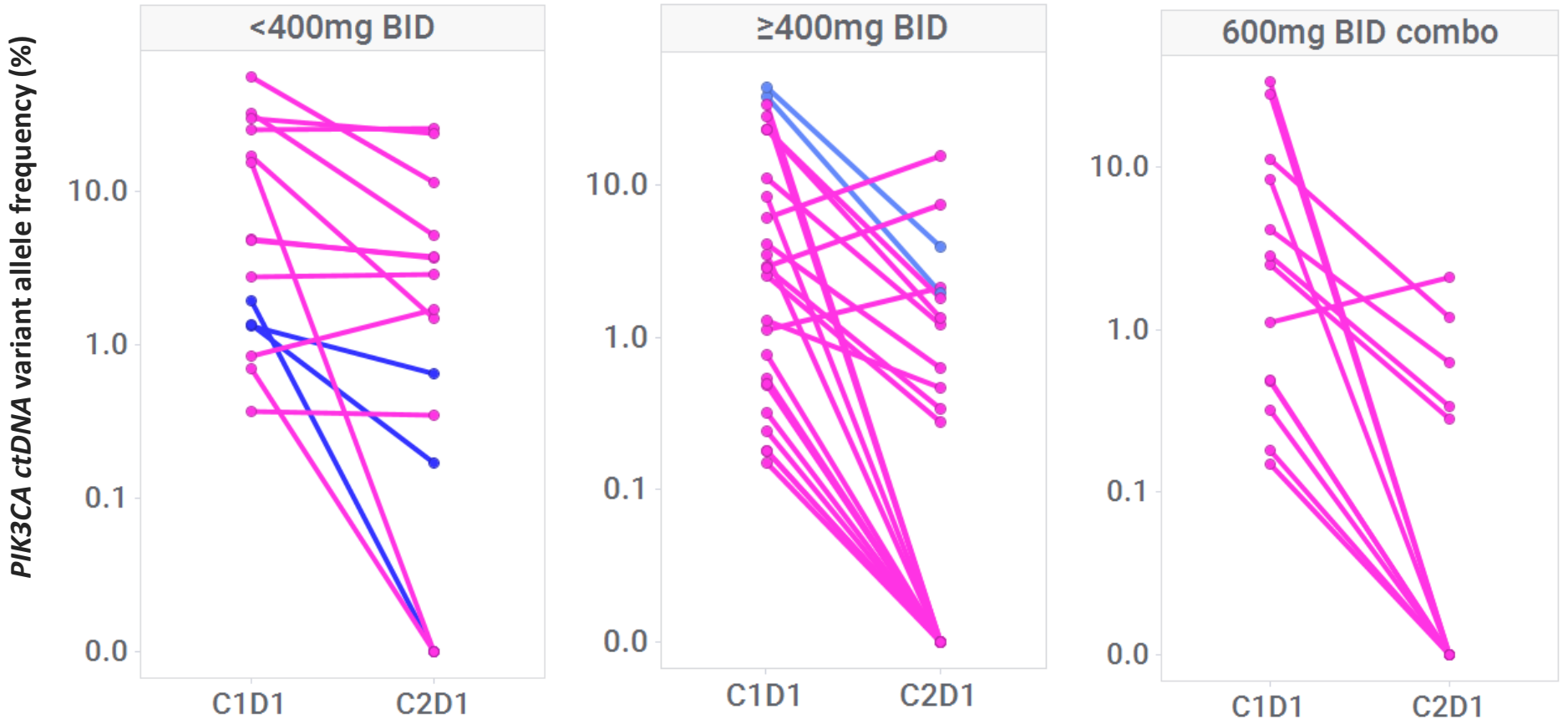
PR	Partial Response
uPR	Unconfirmed Partial Response
SD	Stable Disease
PD	Progressive Disease

PIK3CA Mutation Key:

- Primary *PIK3CA* mutation type
- 2nd *PIK3CA* mutation in double mutation

* one patient discontinued prior to first scan and is not shown on waterfall plot

RLY-2608 – Mutant PIK3CA Decline Supports Dose Dependent Target Inhibition



- 30 Breast cancer patients with evaluable paired C1D1-C2D1 ctDNA Sample
  - Mono: 3 pt; combo: 27 pt
- 6 patients have ≥2 PIK3CA mutation
- 26 patients had decline in PIK3CA ctDNA
- 13 patients completely cleared PIK3CA ctDNA by C2D1

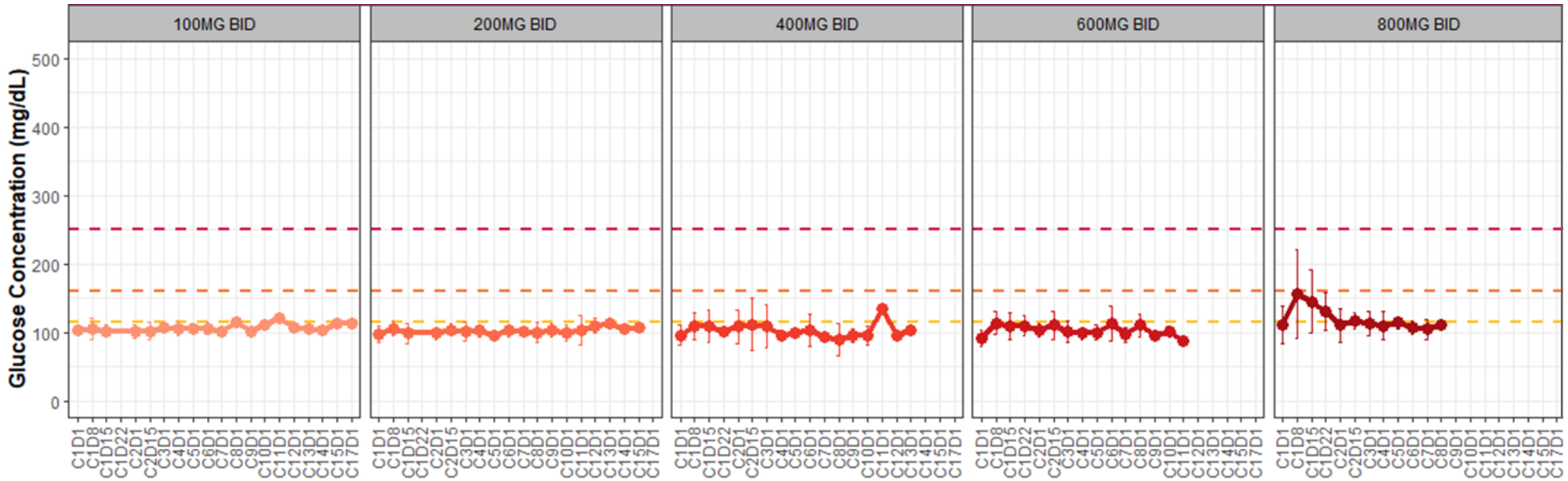
Patients with paired evaluable ctDNA

<400mg BID	≥400mg BID	600mg BID combo
Mono: n=2	Mono: n= 1	Mono: n= 0
Combo: n=10	Combo: n=17	Combo: n=8

Note: data points at zero are below limits of detection
Source: Central lab analysis

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

RLY-2608 + Fulvestrant Combination



Alpelisib label criteria

Grade 3 (250-500 mg/dL)

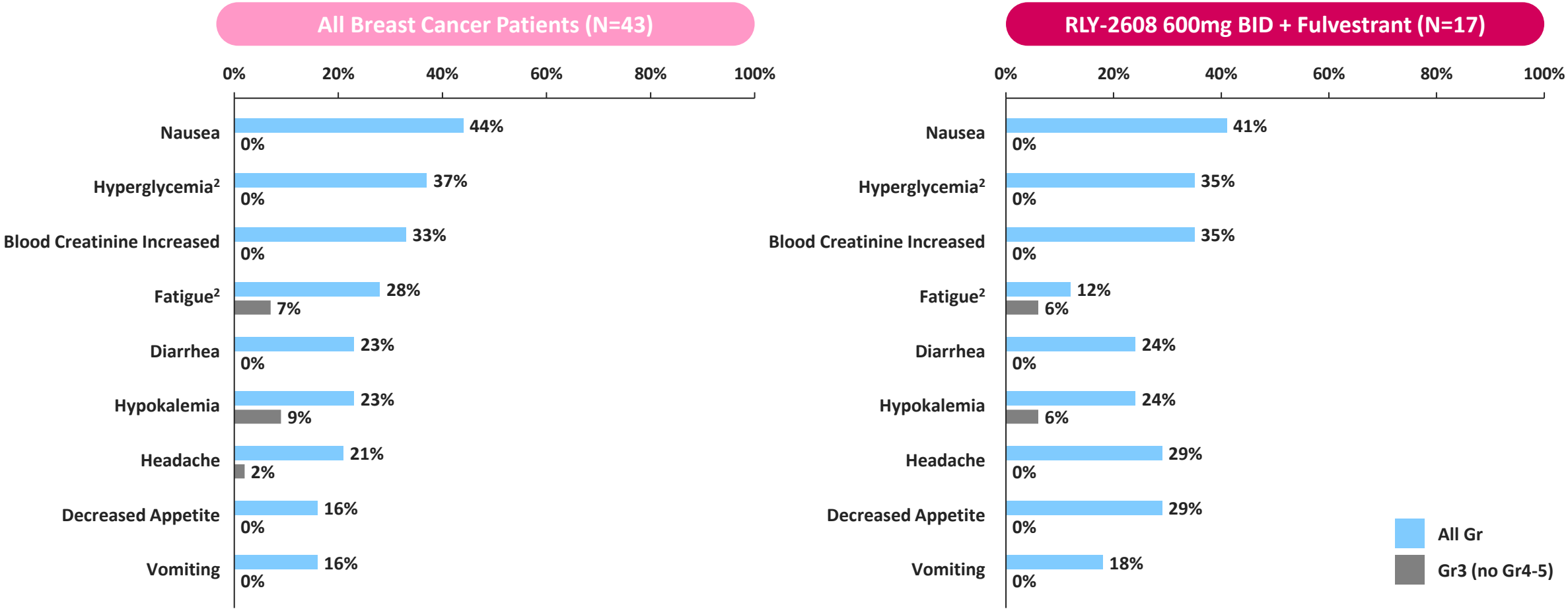
Grade 2 (160-250 mg/dL)

Grade 1 (115-160 mg/dL)

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 – TEAEs Generally Consistent with Mutant-Selective Inhibition

TEAEs ≥15% in Breast Cancer Patients[1]

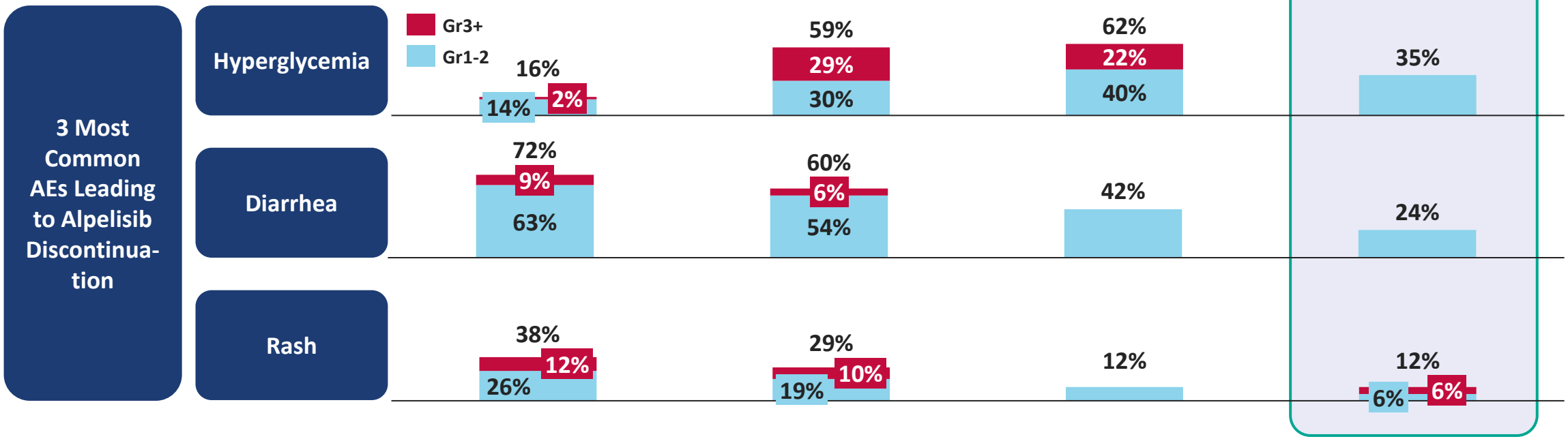


1. TEAEs that occurred in >=15% of the Breast Cancer Safety Set (N=43) are shown for both populations; 2. Hyperglycemia includes the MedDRA v26.0 Preferred Terms (PT): Hyperglycemia and Blood Glucose Increased, Fatigue includes the PTs: Fatigue and Asthenia.

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.

Doublet Combination Regimens		Capivasertib + fulvestrant CAPItello-291 *(N=355)*[1]	Alpelisib + fulvestrant BYLieve *(N=127)*[2]	Inavolisib + fulvestrant Ph1b Arm D *(N=60)*[3]	RLY-2608 + fulvestrant ReDiscover *(N=17 at 600mg BID)*
HbA1C Enrollment Criteria		<8.0%	≤6.4%	<7%	<7%
Disease Pre-Treatment	% prior CDK4/6	70%	100%	97%	*100%*
	% prior fulv	0%	0%	47%	*~50%*
	% prior chemo / ADC	18%	6%	42%	*~20%*



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.

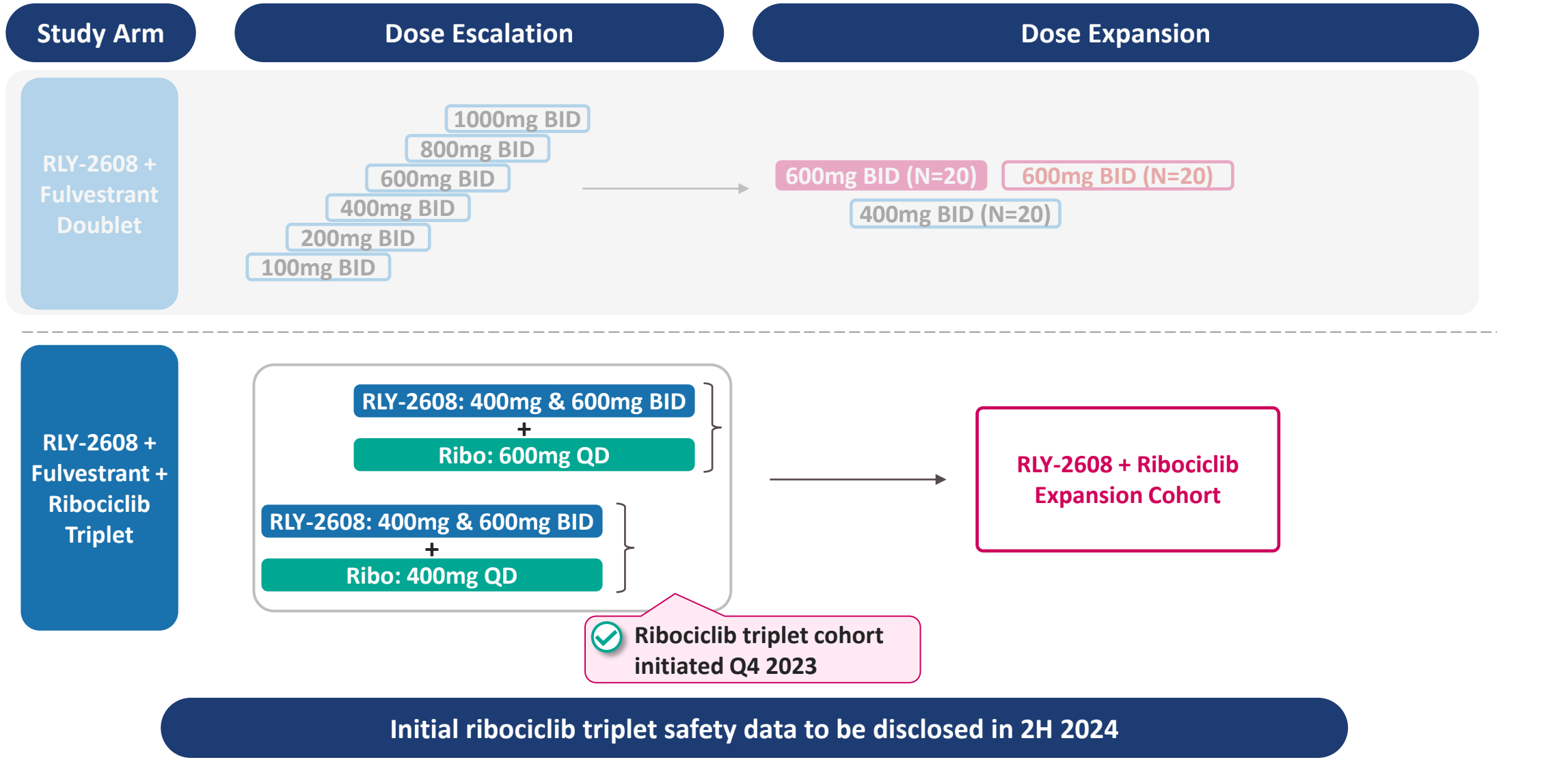
RLY-2608 – ReDiscover Combination Trial Design

Study Arm	Dose Escalation	Dose Expansion
RLY-2608 + Fulvestrant Doublet	1000mg BID 800mg BID 600mg BID (N=17) 400mg BID 200mg BID 100mg BID	Expansion cohort (opened July 2023): 600mg BID (N=20); 400mg BID (N=20) Add'l Expansion Cohort (4Q 2023): 600mg BID (N=20)

- 400 mg expansion cohort initiated in Q4 2023
- 600 mg expansion cohort initiated in July 2023
- Initial cohort fully enrolled, additional cohort opened

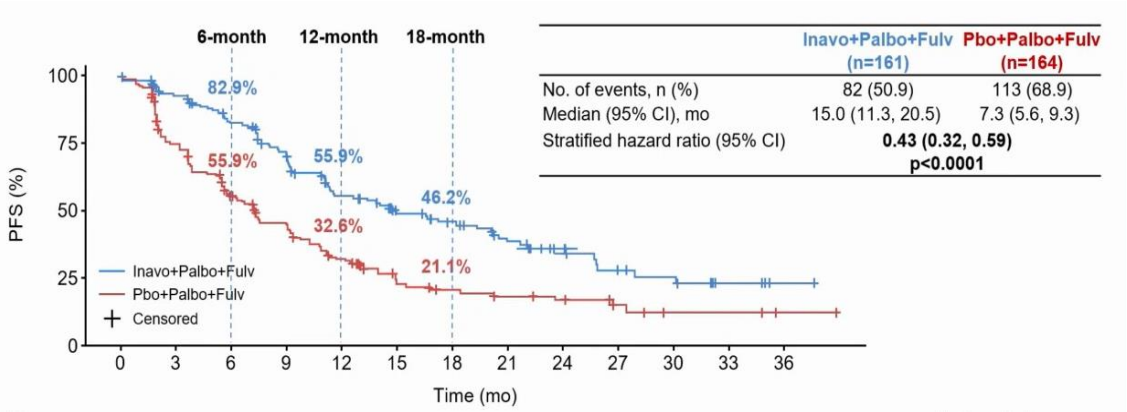
Next RLY-2608 doublet data to be disclosed in 2H 2024 after further data maturation

RLY-2608 – ReDiscover Combination Trial Design



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

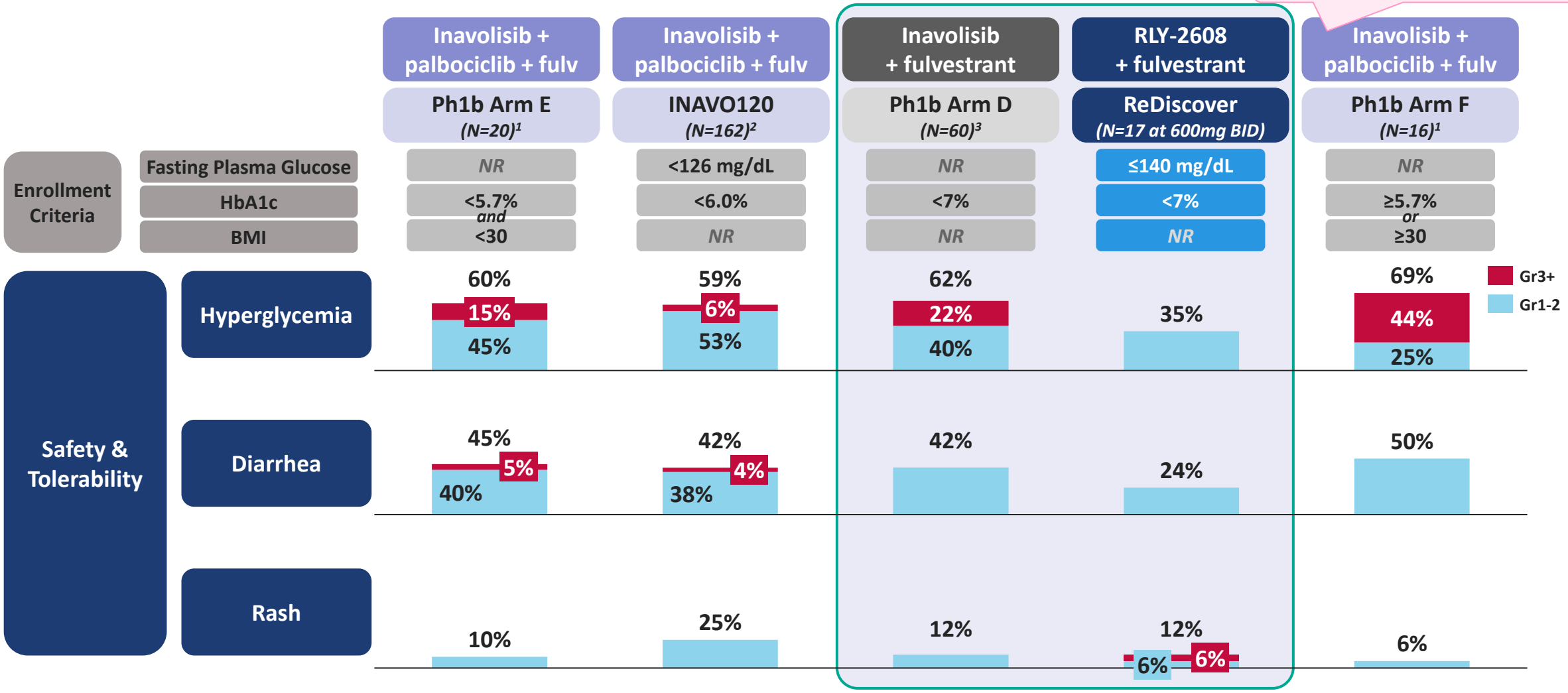
Source: SABCS 2023 GS03-13

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



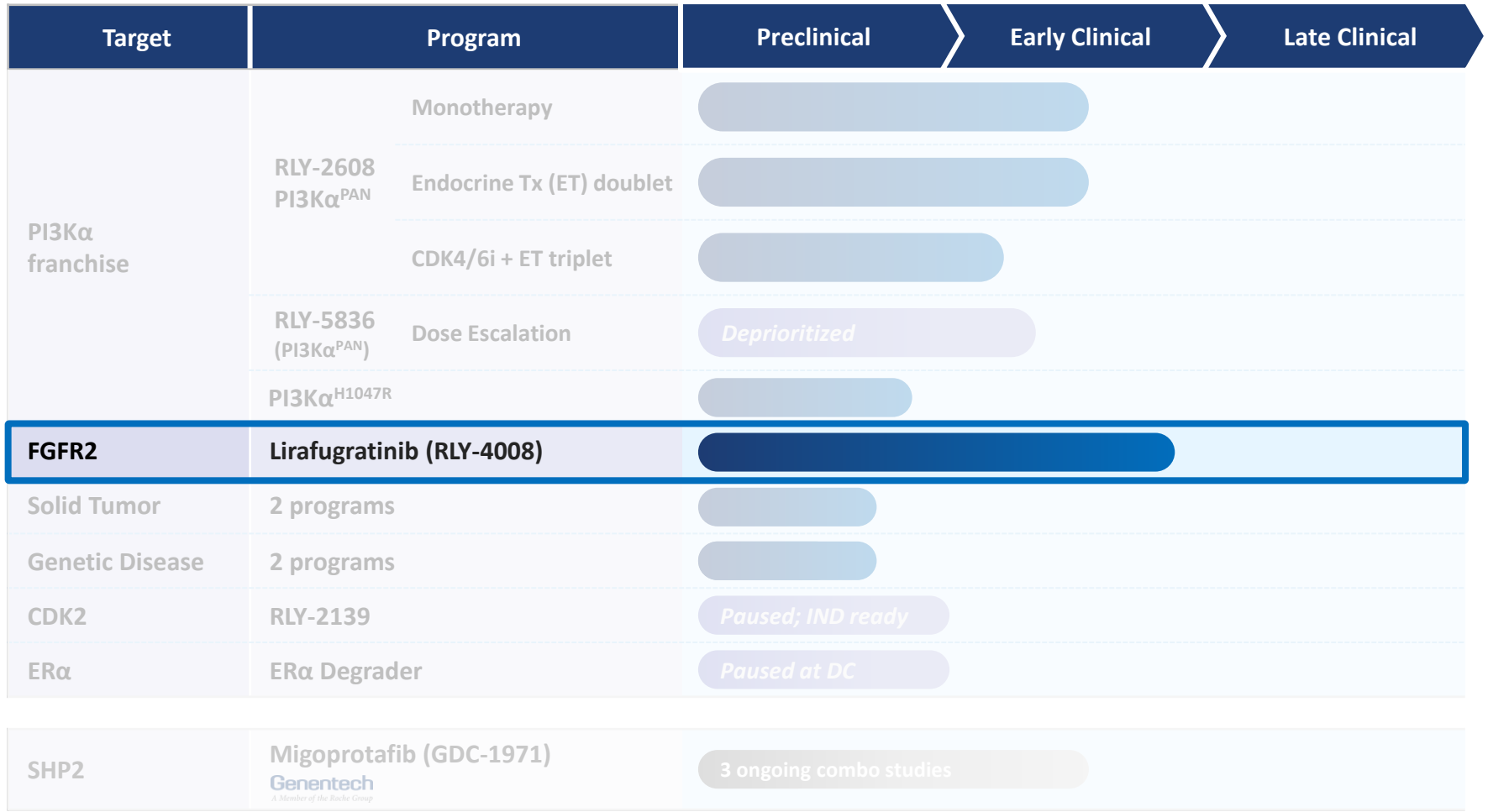
Sources: 1. SABCS 2020 #PS-11-11; 2. SABCS 2023 GS03-13; 3. SABCS 2021 #P5-17-05

RLY-2608 – ReDiscover 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 • Safety data in 2H 2024

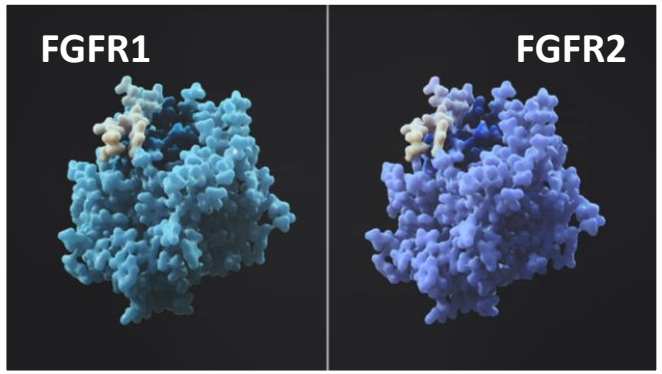
Next RLY-2608 data update in 2H 2024

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)

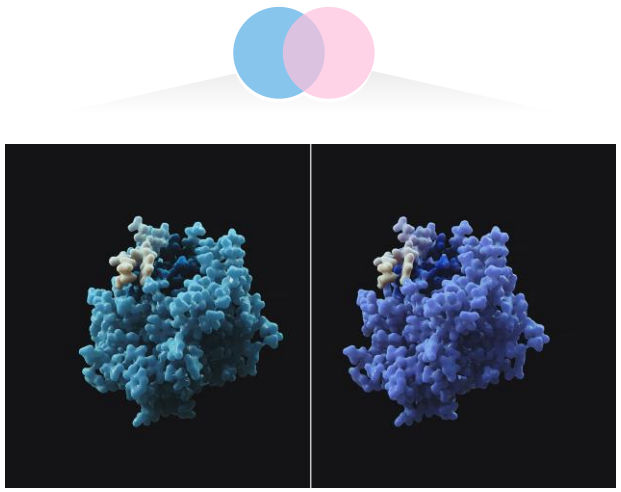
mPFS 1-5mo in non-CCA solid tumors

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

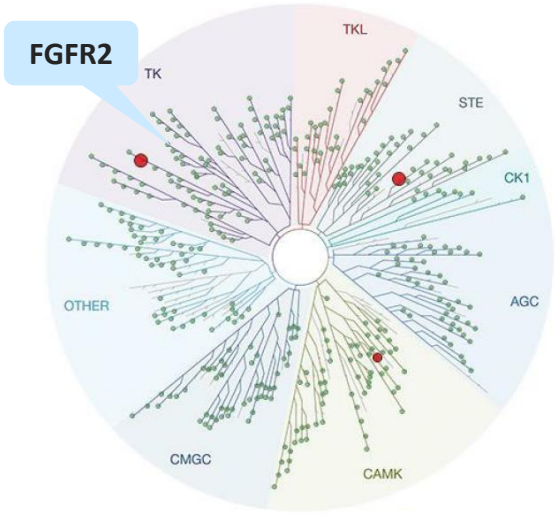
Lirafugratinib (RLY-4008) – Embodies The Power of Our R&D Engine

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

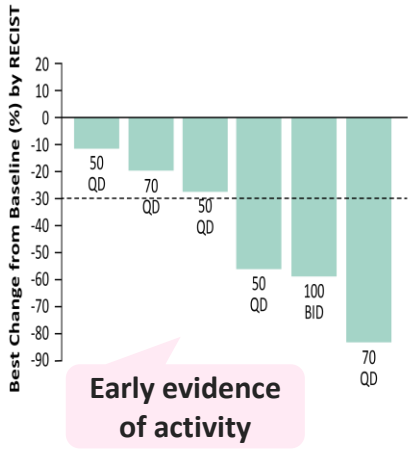
Oct 2023 — Pivotal Cohort Fully Enrolled

~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

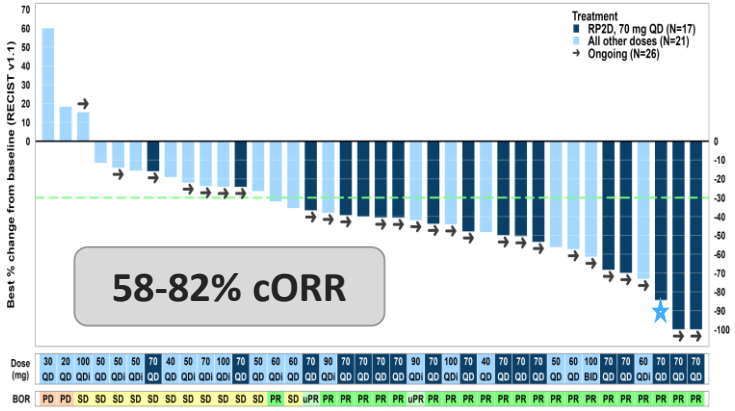
2021 – Initial Clinical Activity Demonstrated[1]



Early evidence of activity

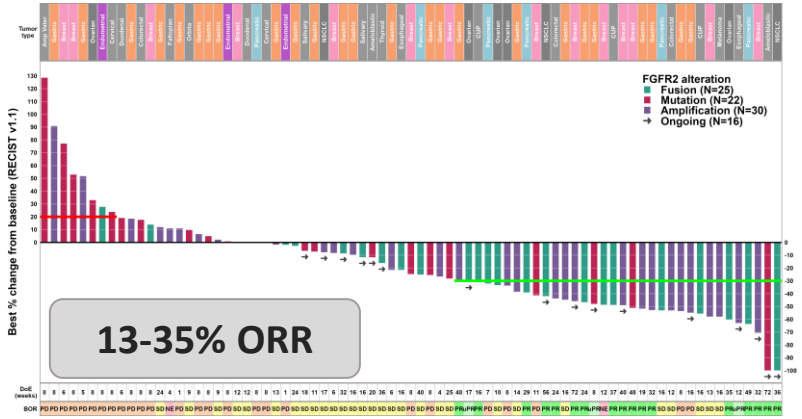
N = 49
(All solid tumors)

2022 – Interim Efficacy in CCA Fusion[2]



N = 38
(fusion+, FGFRi-naïve CCA)

2023 – Interim Tumor Agnostic Efficacy[3]



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)

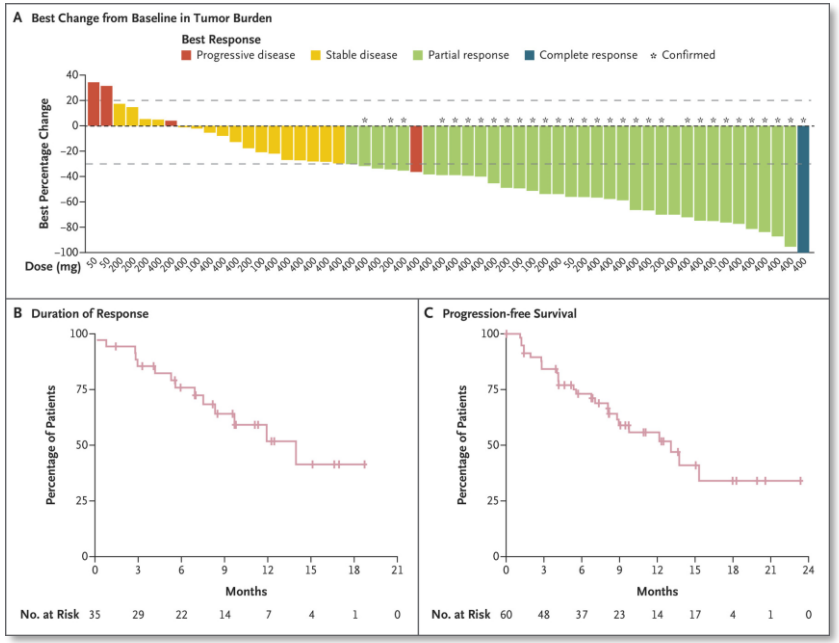
Three ongoing trials with migoprotafib

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 in 2L NSCLC



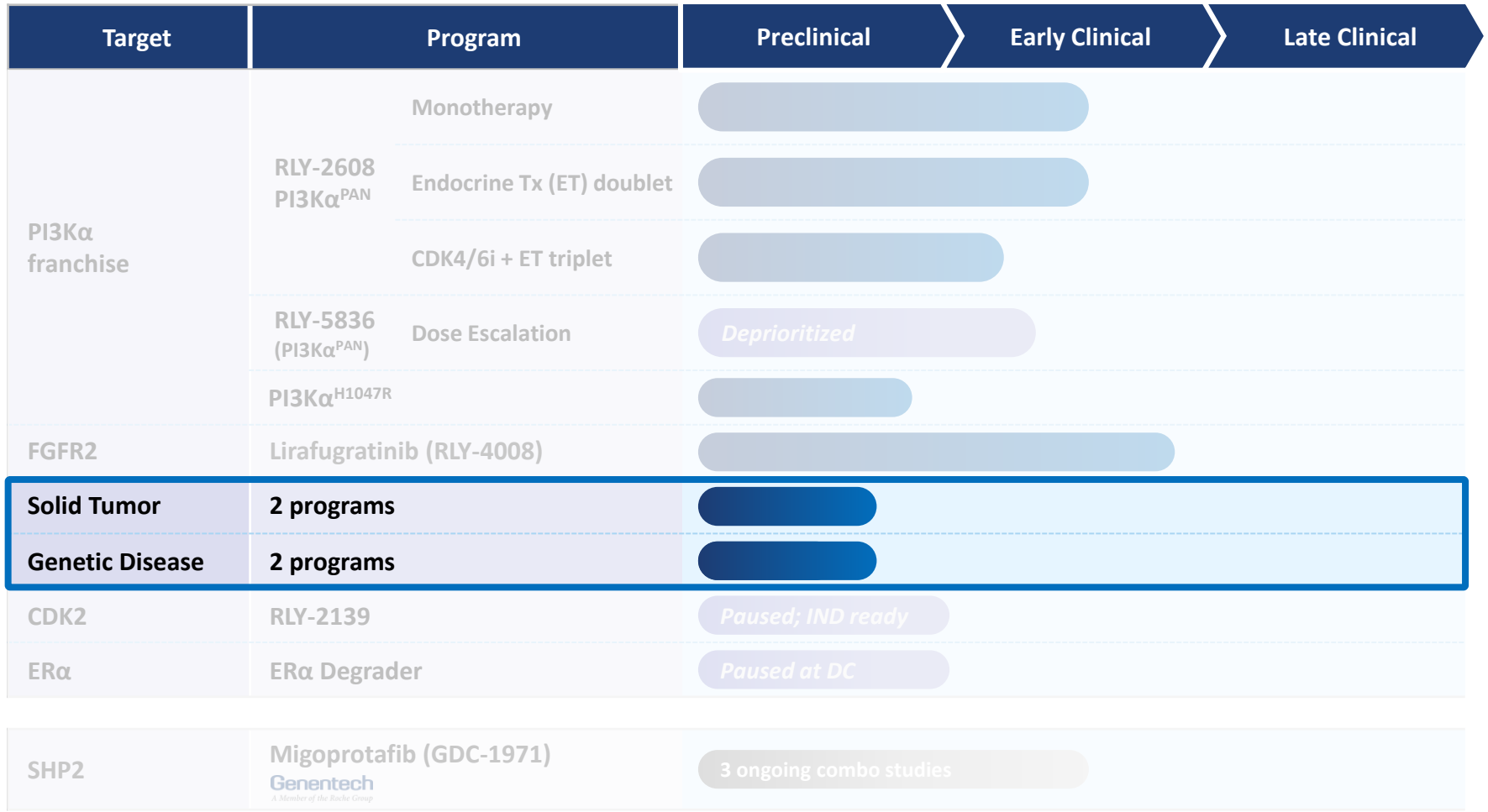
ORR: 61% (35/58 patients, across doses, 53% cORR)
mPFS: 13.7mo, mDoR: 11.9mo (39 pts at 400mg)

Collaboration provides meaningful economics to Relay Tx[1]

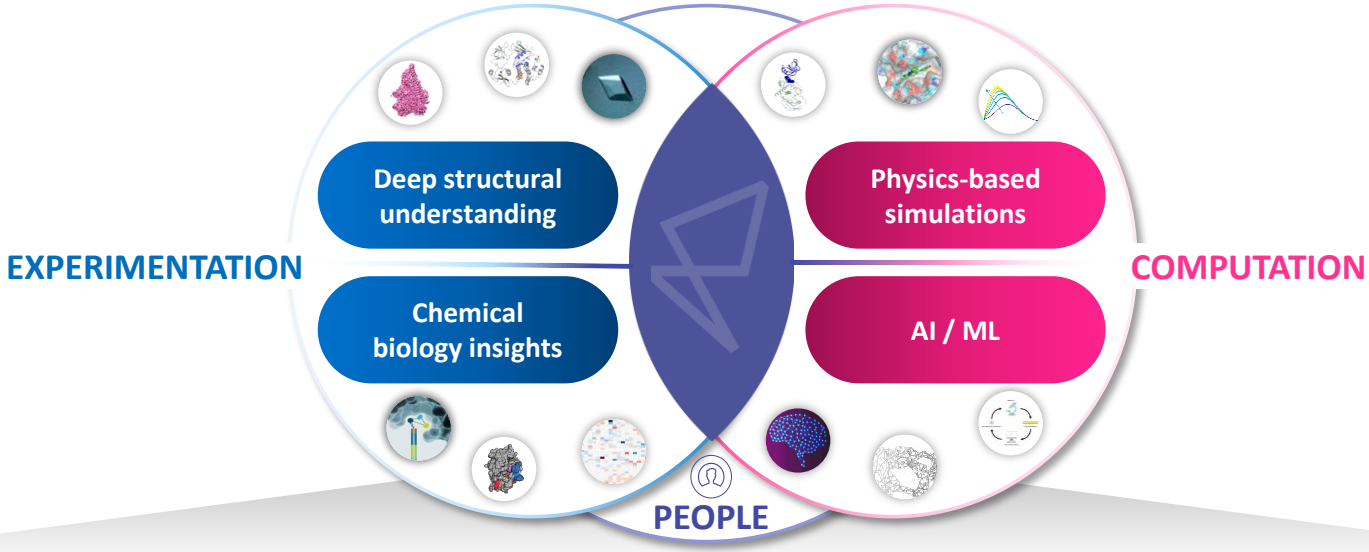
Source: Sacher 2023 N Engl J Med 389:710

1. As of the date of this presentation: $120 million in upfront & milestone payments received, and eligible to receive up to $675M 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



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)	IND 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

1. GDC-1971; 2. RLY-4008

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 – 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

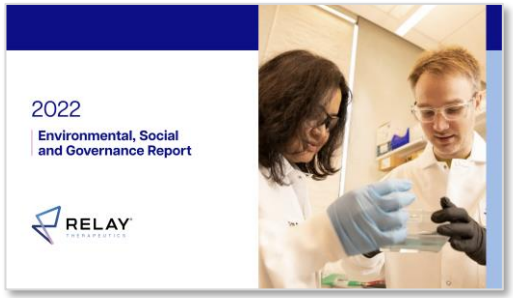
~$750M

Cash, cash equivalents and investments as of the end of 4Q 2023

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

Relay Tx 2022 ESG Report – Continuing Our ESG Journey

Relay Tx's 2nd ESG Annual Report



VALUE REPORTING FOUNDATION
SASB STANDARDS

SUSTAINABLE DEVELOPMENT GOALS

Patients

- 4 clinical programs
- Committed to clinical trial patient safety
- Committed to product safety and quality

Note: Relay Tx is a development stage company

Community

- Our patients / future patients
- Our community in Cambridge and the broader Boston area
- The next generation of scientists

People

- 93% of employee respondents "would recommend Relay Tx as a great place to work"
- Turnover below industry average rates
- Diversity & inclusion advisory group
- Training and development opportunities
- Equitable compensation

Environment

- Responsible energy consumption*
- Reducing water consumption
- Hazardous and lab waste management
- Non-hazardous waste management

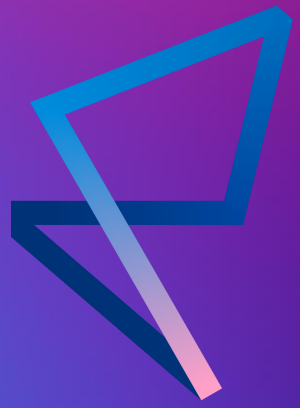
*Efforts to reduce energy consumption lend to our ambitions to limit carbon emissions

Governance

- 8 Directors Total*
- The Nom/Gov and Audit Committees oversee ESG efforts, with the full BOD getting ~quarterly updates

38% Racial/Ethnic Diversity	38% Women
5yrs Average Tenure	88% Independence (Separate CEO and Chair Role)

*As of December 2022



RELAY®

THERAPEUTICS