

# UPDATED DOSE ESCALATION RESULTS FOR REFOCUS, A FIRST-IN-HUMAN STUDY OF HIGHLY SELECTIVE FGFR2 INHIBITOR, RLY-4008, IN CHOLANGIOCARCINOMA AND OTHER SOLID TUMORS

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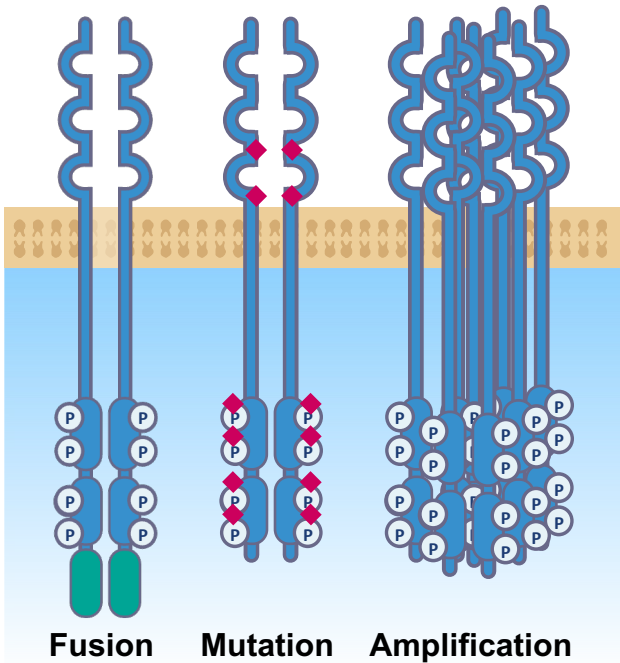
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# Disclosures for Mitesh J. Borad, M.D.

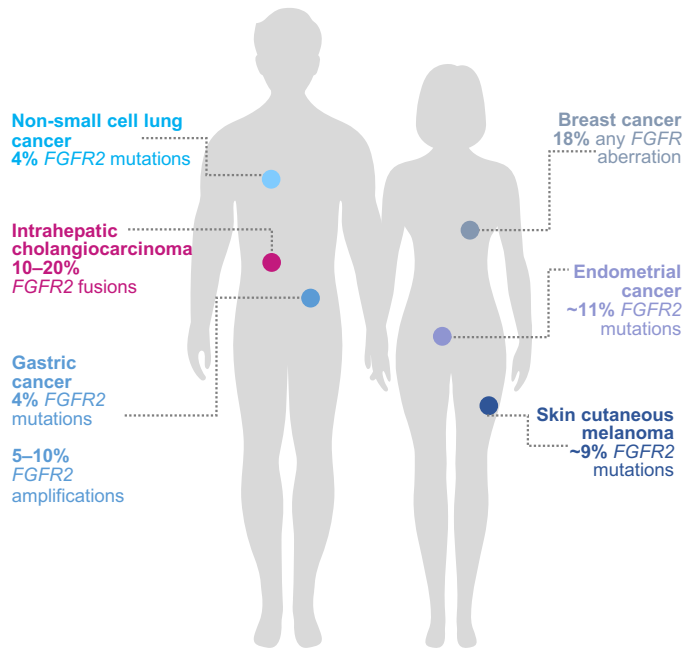
- Research funding from Relay Therapeutics

# Oncogenic Activation of FGFR2 Drives Multiple Cancers, But Selective Targeting of FGFR2 Has Not Been Achieved

FGFR2 is a clinically validated oncogene<sup>1</sup>



FGFR2 alterations drive multiple solid tumor types<sup>2-4</sup>



Approved pan-FGFR inhibitors solid tumor indications

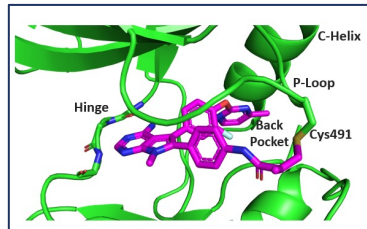
	Phase 2 Response Rate	DoR (mos)	% of patients with... (All grades)	
			Hyperphosphatemia <sup>9</sup>	Diarrhea
Pemigatinib <sup>5</sup>	36% (CCA)	9.1 (CCA)	FGFR1 off-isoform toxicity 94%	FGFR4 off-isoform toxicity 47%
Futibatinib <sup>6</sup>	42% (CCA)	9.7 (CCA)	88%	39%
Erdafitinib <sup>7</sup>	32% (Urothelial Carcinoma)	5.4 (Urothelial Carcinoma)	76%	47%
Infigratinib <sup>8</sup>	23% (CCA)	5.0 (CCA)	90%	24%

Infigratinib withdrawn

1. Babina IS and Turner NC. *Nat Rev Cancer*. 2017;17:318–332; 2. Krook MA, et al. *Br J Cancer* 2021;124:880–892; 3. Helsten T, et al. *Clin Cancer Res*. 2016;22:259–267; 4. Li J et al, *Front Oncol* 2021; 11: DOI=10.3389/fonc.2021.644854 5. PEMAZYRE® (pemigatinib). Highlights of prescribing information; Pemazyre (pemigatinib) [package insert]. Wilmington, DE Incyte; 2020; ESMO 2019; 6. LYTGOBI® (futibatinib). Highlights of prescribing information; Lytgobi (futibatinib) [package insert]. Princeton, NJ Taiho Oncology; 2022 7. BALVERSA (erdafitinib) Highlights of prescribing information; Balversa (erdafitinib) [package insert]. Horsham, PA Janssen. 8. Truseltiq(infigratinib) [package insert]. Brisbane,CA QED Therapeutics; 2021 9. As defined by increased serum phosphate except for infigratinib which is not specified CCA: Cholangiocarcinoma, FGFRi: fibroblast growth factor receptor, FGFRi: fibroblast growth factor receptor inhibitor

# RLY-4008: The First Highly Selective FGFR2 Inhibitor

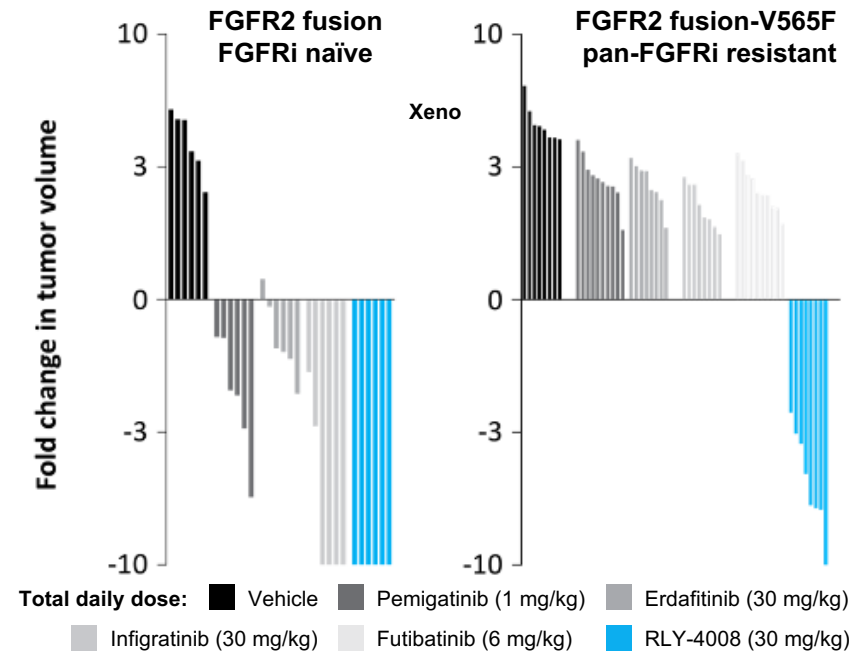
In contrast to pan-FGFRi, RLY-4008 is a potent and selective FGFR2 inhibitor



RLY-4008 selectively inhibits FGFR2 based on unique conformational dynamics<sup>1</sup>

Inhibitor	Mechanism of Action	Biochemical IC <sub>50</sub> (nM) <sup>2-5</sup>			
		FGFR1	FGFR2	FGFR3	FGFR4
RLY-4008	Irreversible FGFR2 selective	864.3	3.1	274.1	17,633
Infgratinib	Reversible Pan-FGFRi	1.1	1	2	61
Pemigatinib	Reversible Pan-FGFRi	0.39	0.46	1.2	30
Futibatinib	Irreversible Pan-FGFRi	1.8	1.4	1.6	3.7

Potent in-vivo activity against FGFRi-sensitive and resistant cholangiocarcinoma<sup>2</sup>



1. Schönherr H. et al. Presented at MedChem GRC meeting; August 7-12, 2022. 2. Goyal L. et al. Presented at AACR Annual Meeting; April-9-14; 2021. 3. Truseltiq (infgratinib) [package insert]. Brisbane, CA QED Therapeutics; 2021. 4. Pemazyre (pemigatinib) [NDA]. Wilmington, DE; 2019. [www.accessdata.fda.gov/drugsatfda\\_docs/nda/2020/213736Orig1s000ChemR.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/nda/2020/213736Orig1s000ChemR.pdf) Accessed August 25, 2022. 5. Sootome H. et al. *Cancer Res.* 2020;80(22):4986-4997. FGFRi: fibroblast growth factor receptor inhibitor

# ReFocus: A Phase 1 / 2 Open Label Study (NCT04526106)

## Focus for today

**Phase 1: Dose Escalation\***  
*Dose Optimization and Proof-of-Mechanism*  
(completed)

RP2D

Safety

PK/PD

Efficacy

*FGFR2*-altered solid tumors

## Ongoing

**Phase 2: Dose Expansion**  
*Definitive Efficacy with registrational intent*  
(initiated Dec 2021)

ORR, DoR, Safety, Quality of Life

Pivotal *FGFR2*-fusion+ Cholangiocarcinoma  
*FGFR2*-altered tumor agnostic cohorts

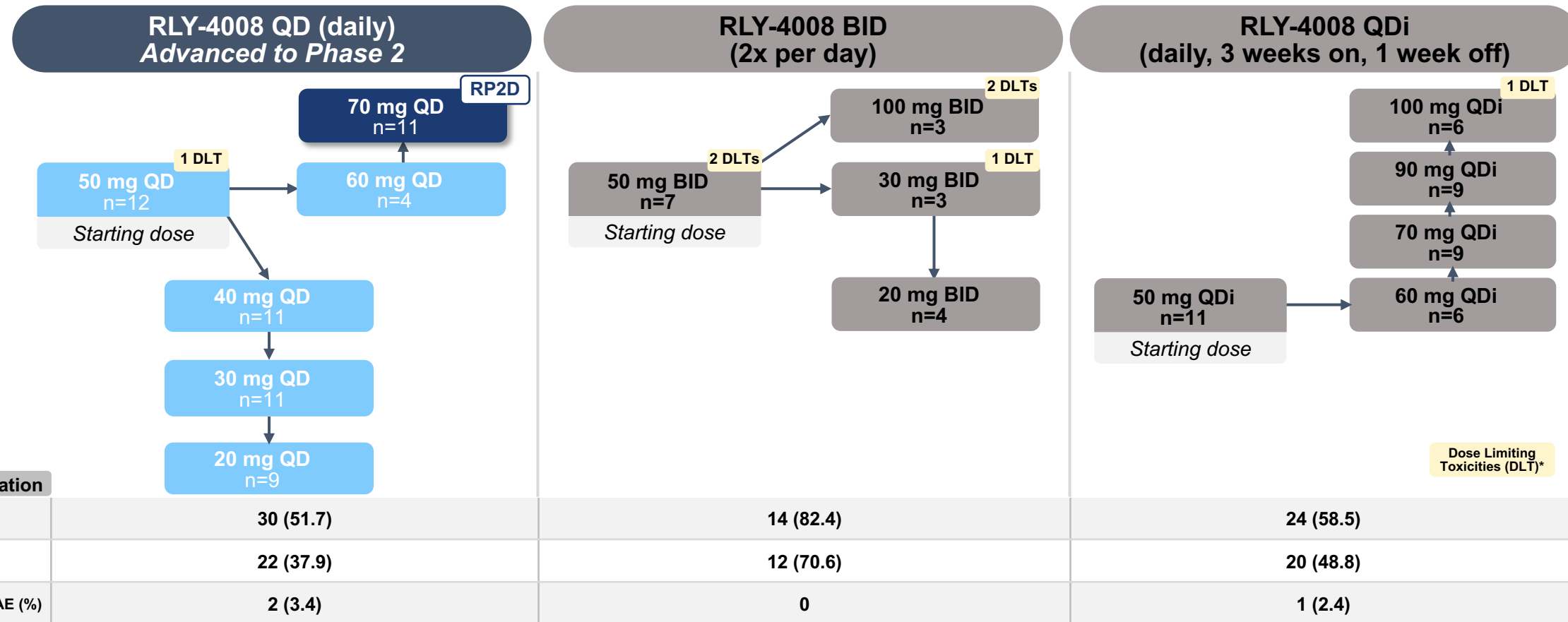
\*Dose escalation followed a BOIN design with enrichment (additional accrual to dose levels declared tolerable); dose modifications including intra-patient dose escalation were permitted per protocol based on tolerability.  
Data for Phase 1 Dose Escalation as of 01/30/2023.

BOIN: Bayesian Optimal Interval, DoR: Duration of Response, ORR: Overall Response Rate, RP2D: Recommended Phase 2 Dose

# ReFocus Phase 1 Demographics and Baseline Characteristics

	Cholangiocarcinoma (CCA)		Other Tumors (N=25)	Overall (N=116)
	Pan-FGFRi Naïve (N=36)	Pan-FGFRi Refractory (N=55)		
Age (years), median (range)	59 (33–78)	56 (23–87)	61 (37–81)	58 (23–87)
Female, %	58%	67%	64%	64%
Ethnicity, %				
White / Asian / Black or African American /Other	75% / 14% / 3% / 8%	78% / 9% / 5% / 7%	64% / 20% / 12% / 4%	74% / 13% / 6% / 7%
ECOG PS, %				
0 / 1 / 2	47% / 53% / 0%	29% / 62% / 9%	48% / 52% / 0%	39% / 57% / 4%
Prior chemotherapy, %	100%	95%	96%	97%
0 / 1 / 2 / 3+ lines	0% / 58% / 19% / 22%	5% / 36% / 33% / 25%	4% / 16% / 36% / 44%	3% / 39% / 29% / 29%
Prior FGFRi, %	0%	100%	12%	50%
0 / 1 / 2 / 3 lines	100% / 0% / 0% / 0%	0% / 71% / 25% / 4%	88% / 12% / 0% / 0%	50% / 36% / 12% / 2%
FGFR2 alteration, %				
Fusion	69%	91%	28%	71%
Mutation	28%	7%	52%	23%
Amplification	3%	2%	16%	5%
No FGFR2 Alteration	0%	0%	4%	1%

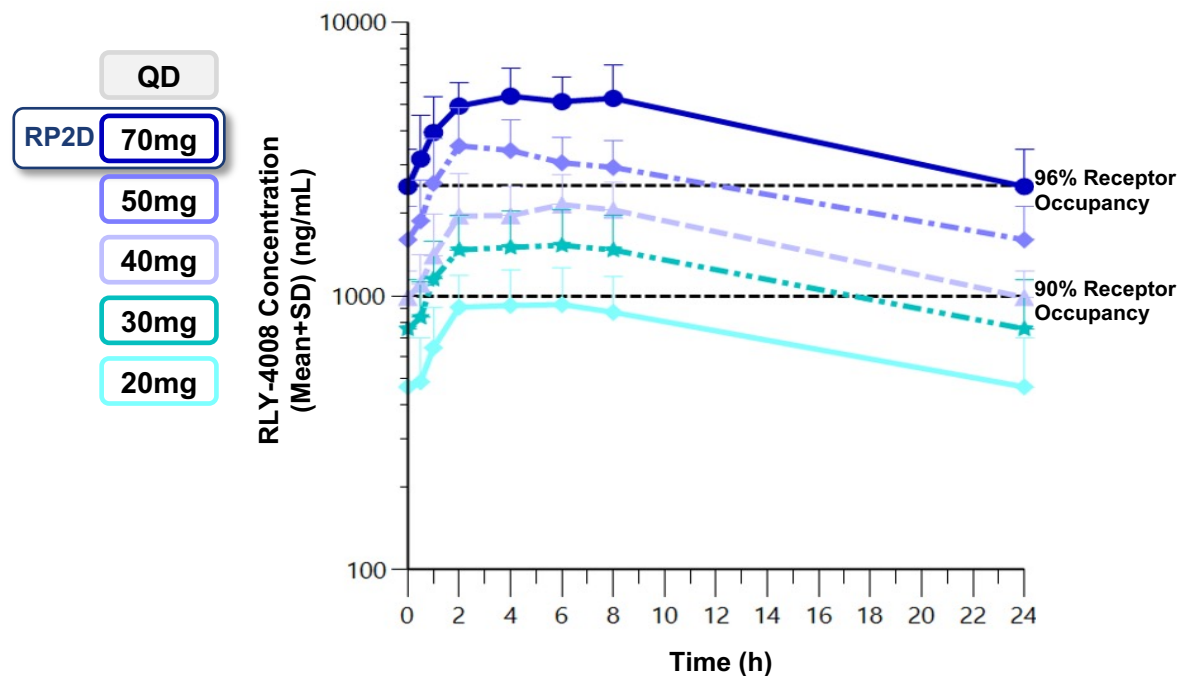
# Phase 1 BOIN Design Defines 70mg QD as RP2D



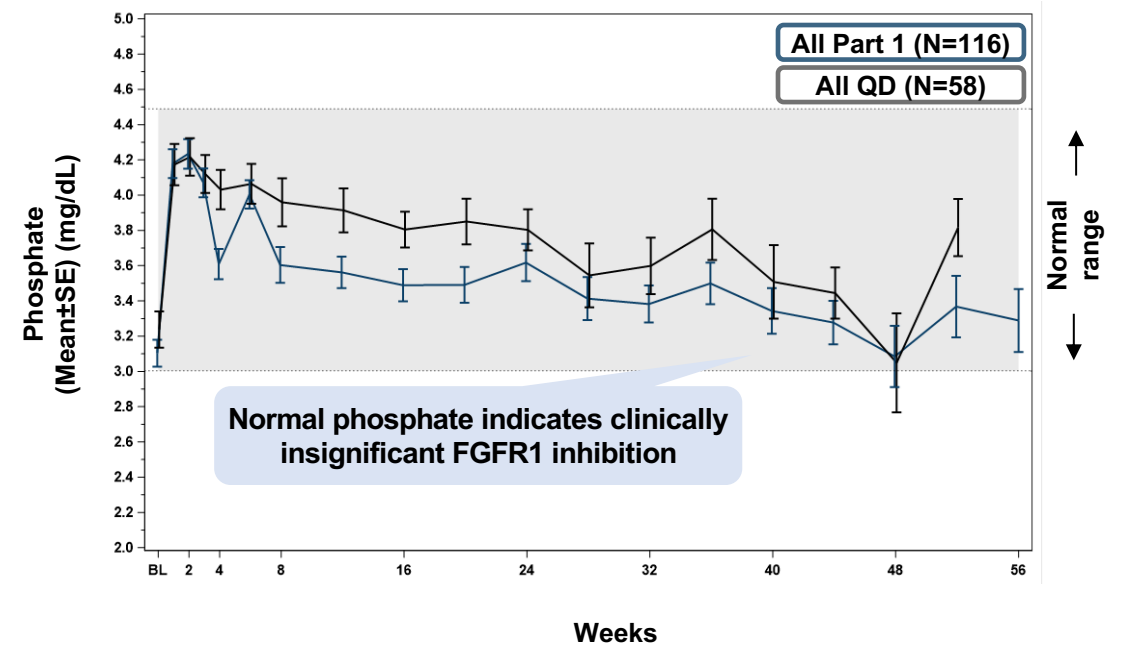
- Maximum Tolerated Dose (MTD) not reached per protocol
- Based on PK, PD, safety & efficacy, 70mg QD selected as RP2D and advanced to pivotal testing

# ReFocus Phase 1 PK/PD Confirms Selective FGFR2 Targeting

## Target Coverage Across *FGFR2* Alterations Cycle 1 Day 15



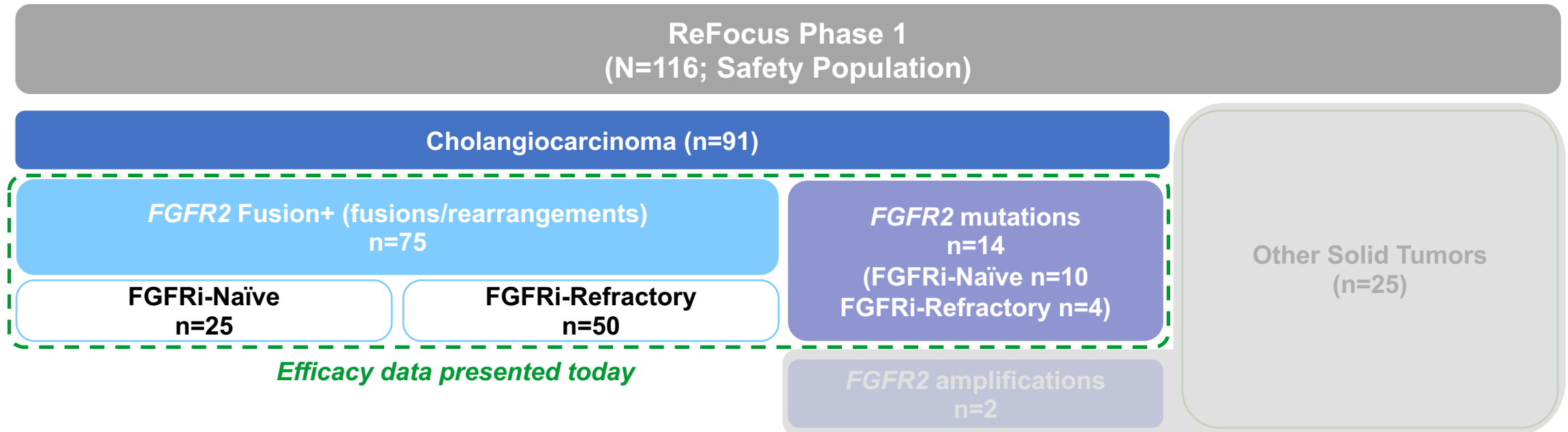
## Serum Phosphate Over Time



≥96% predicted median receptor occupancy at 70mg QD (RP2D)  
Effective half-life ~18-26h supports QD dosing

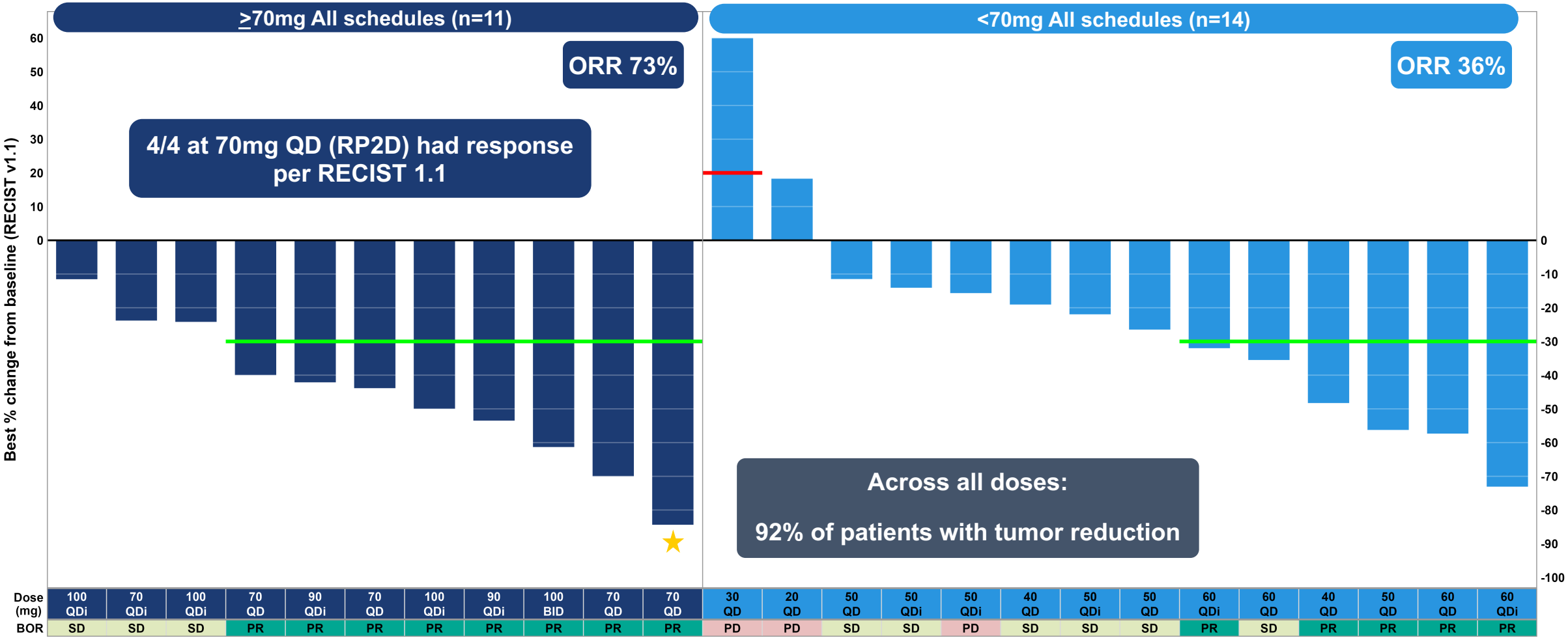


# ReFocus Phase 1 Safety & Efficacy Populations



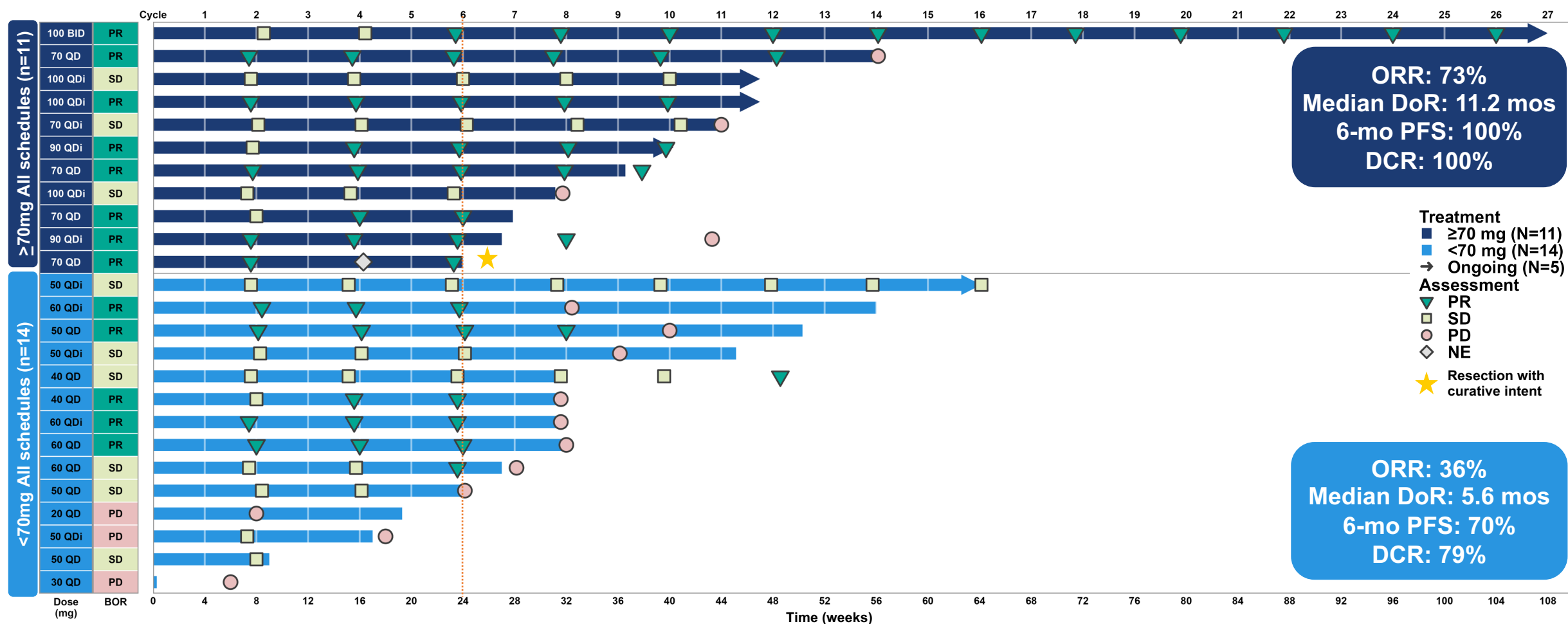
Data for Phase 1 Dose Escalation as of 01/30/2023.

# ReFocus Phase 1 Efficacy - FGFRi-Naïve *FGFR2* Fusion+ Cholangiocarcinoma



★ Resection with curative intent

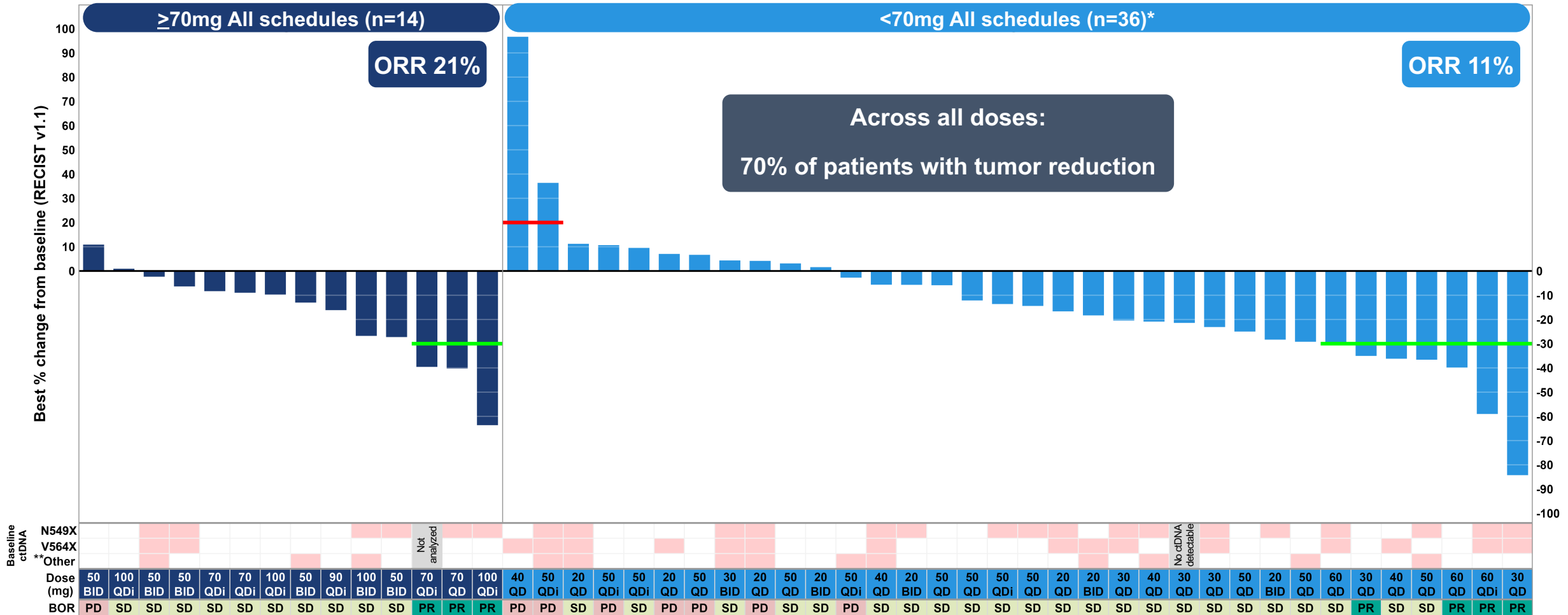
# ReFocus Phase 1 - Duration of Exposure & Responses: FGFRi-Naïve *FGFR2* Fusion+ Cholangiocarcinoma



Across all doses: ORR: 52%; Median DoR, 95%CI: 8.2 mos (5.6, NA); 6-mo PFS, 95%CI: 83.2% (61.1, 93.4); DCR: 88% (22/25); Median Time to Response: 1.8 mos; Median DoE (range): 32 weeks (<1 to 108)

Data for Phase 1 Dose Escalation as of 01/30/2023. BID: Twice daily, DCR: Disease Control Rate, DoR: Duration of Response; NE: not evaluable, ORR: Overall Response Rate, PD: Progressive Disease, PFS: Progression Free Survival; PR: Partial Response; QD: once daily; QDi: once daily, 3 weeks on, 1 week off; SD: Stable Disease

# ReFocus Phase 1 Efficacy - FGFRi-Refractory, *FGFR2* Fusion+ Cholangiocarcinoma



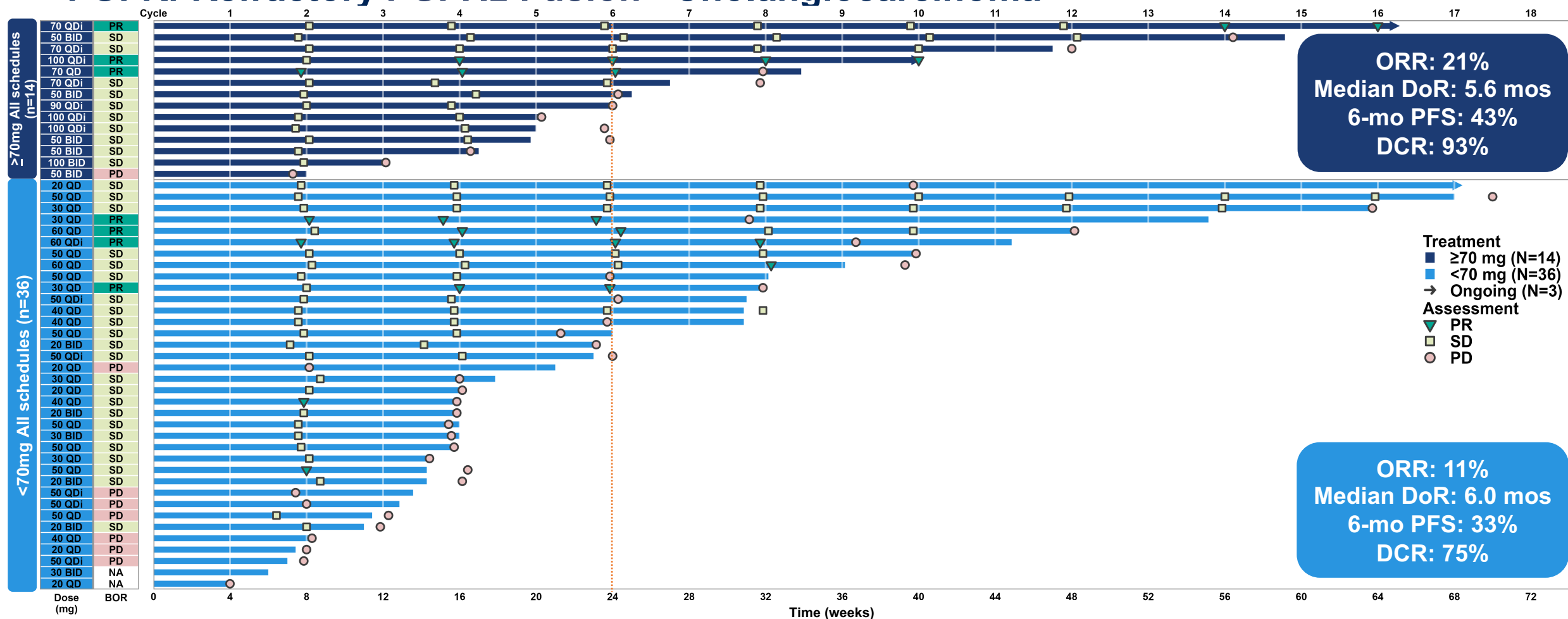
\*Waterfall excludes 2 FGFRi-Refractory patients with clinical progressive disease without post baseline tumor assessment.

N549X and V564X correspond to FGFR2 IIIc isoform; X denotes any amino acid substitution

\*\* Other includes FGFR2 mutations other than N549X and V564X (pink), no detectable FGFR2 mutation (white)

Data for Phase 1 Dose Escalation as of 01/30/2023.

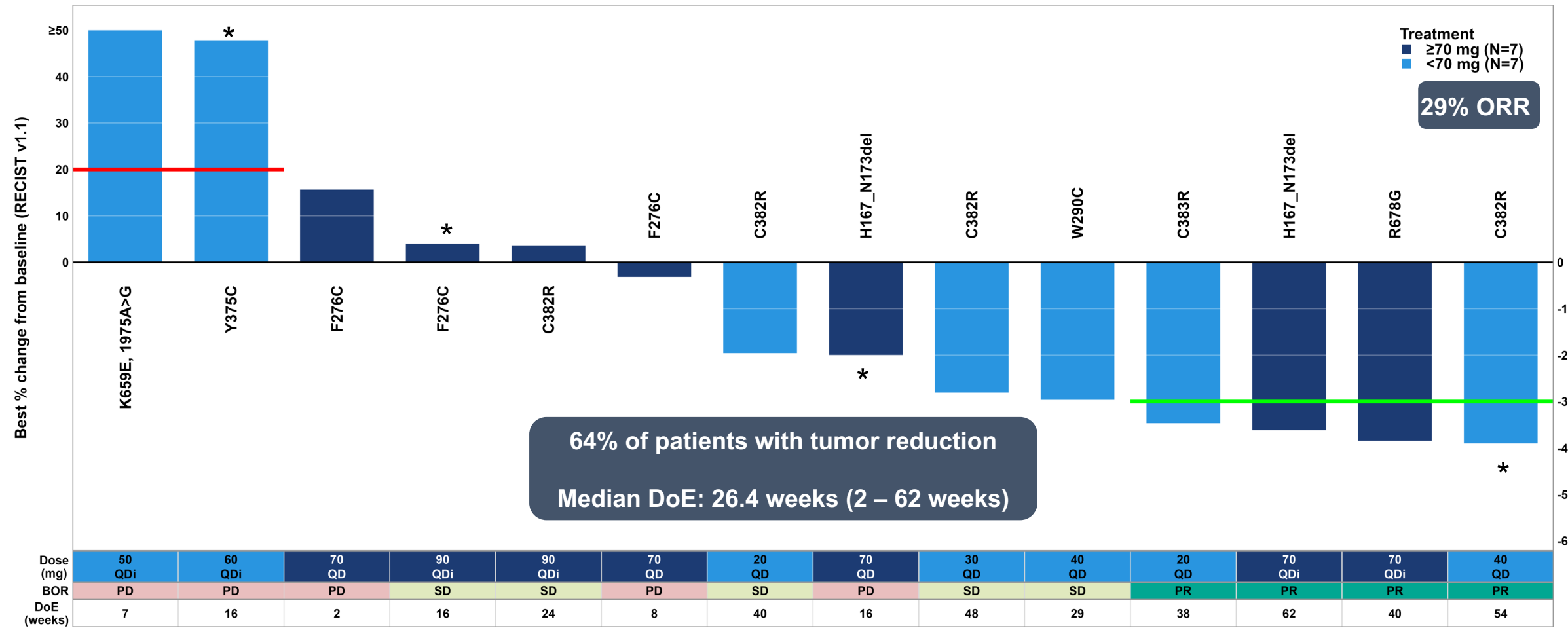
# ReFocus Phase 1 - Duration of Exposure & Responses: FGFRi-Refractory *FGFR2* Fusion+ Cholangiocarcinoma



Across all doses: ORR: 14%; Median DoR, 95%CI: 5.6 mos (3.7, NA); 6-mo PFS, 95%CI: 35.5% (22.4, 48.9); DCR: 80% (40/50); Median Time to Response: 3.7 mos; Median DoE (range): 21 weeks (4 to 68)

Data for Phase 1 Dose Escalation as of 01/30/2023. BID: Twice daily, DCR: Disease Control Rate, DoR: Duration of Response, NA: Not available, ORR: Overall Response Rate, PD: Progressive Disease, PFS: Progression Free Survival; PR: Partial Response; QD: once daily; QDi: once daily, 3 weeks on, 1 week off; SD: Stable Disease

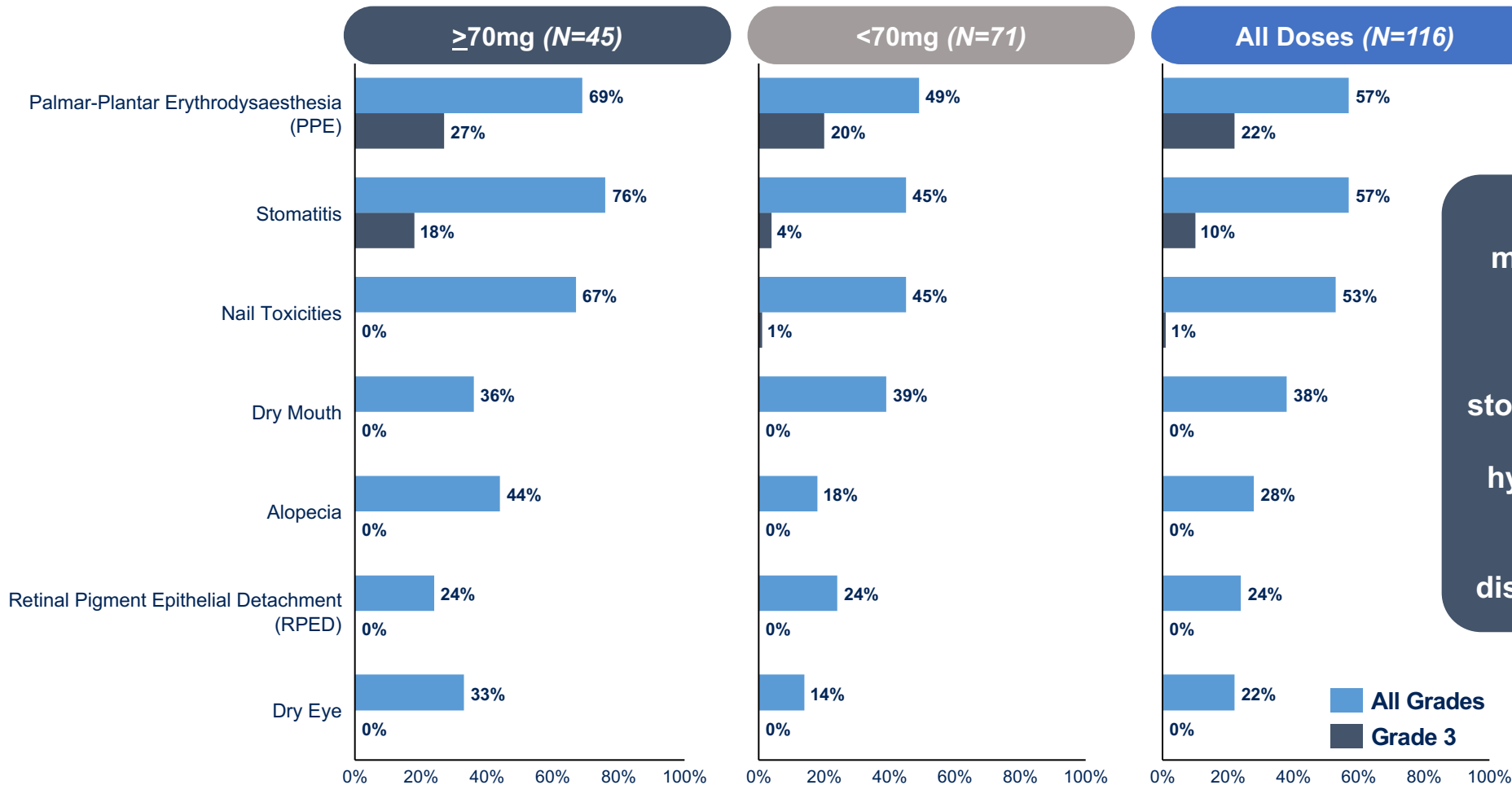
# ReFocus Phase 1 Efficacy - *FGFR2*-Mutated Cholangiocarcinoma



\* FGFRi-pretreated patients

Mutation based on local/central assessment; Data for Phase 1 Dose Escalation as of 01/30/2023. DoE: Duration of Exposure, ORR: Overall Response Rate

# Differentiated Safety Profile Confirms Selective FGFR2 Targeting



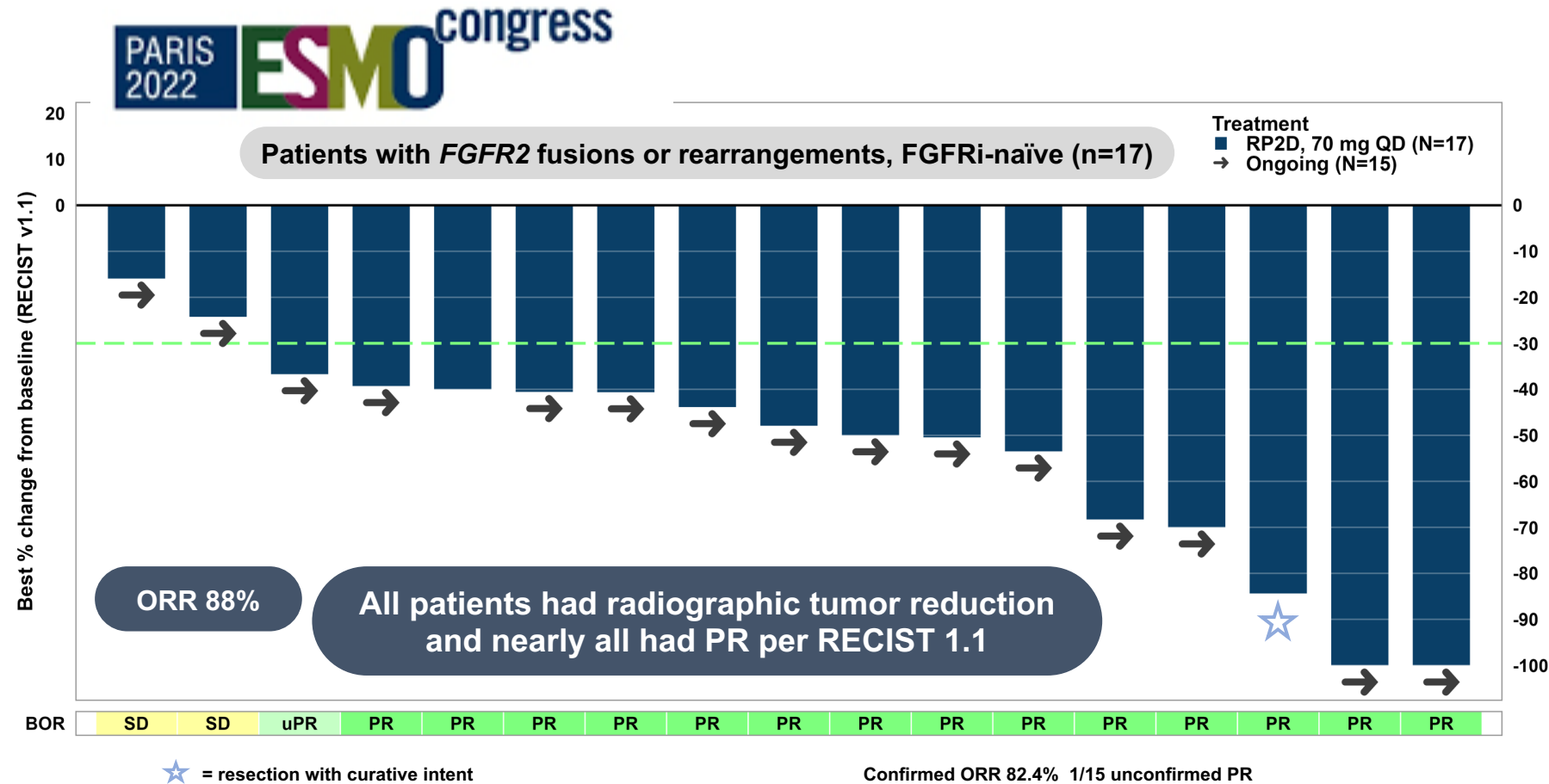
**AEs are on-target events;  
mostly low grade and reversible,  
no Gr 4 or Gr 5**

**Most common TRAEs were  
stomatitis, PPE, dry mouth, and nail  
toxicities; minimal  
hyperphosphatemia and diarrhea**

**Overall, 3/116 (2.6%) patients  
discontinued treatment due to AEs**

Data for Phase 1 Dose Escalation as of 01/30/2023. AE: Adverse Event; TRAE: Treatment-related Adverse Event

# ReFocus Next Steps: Phase 2 Pivotal Cholangiocarcinoma Ongoing



Pivotal enrollment  
anticipated  
completion:  
2H 2023

Hollebecque et al. Efficacy of RLY-4008, a highly selective FGFR2 inhibitor in patients (pts) with a FGFR2-fusion or rearrangement (f/r), FGFR inhibitor (FGFRi)-naïve cholangiocarcinoma (CCA): ReFocus trial. Oral Presentation. European Society for Molecular Oncology 2022, Paris, 9-13 October 2022. Data cut-off for ESMO 2022 as of 08/01/2022. ORR: Overall Response Rate, QD: once daily, PR: partial response, uPR: unconfirmed partial response, SD: Stable Disease



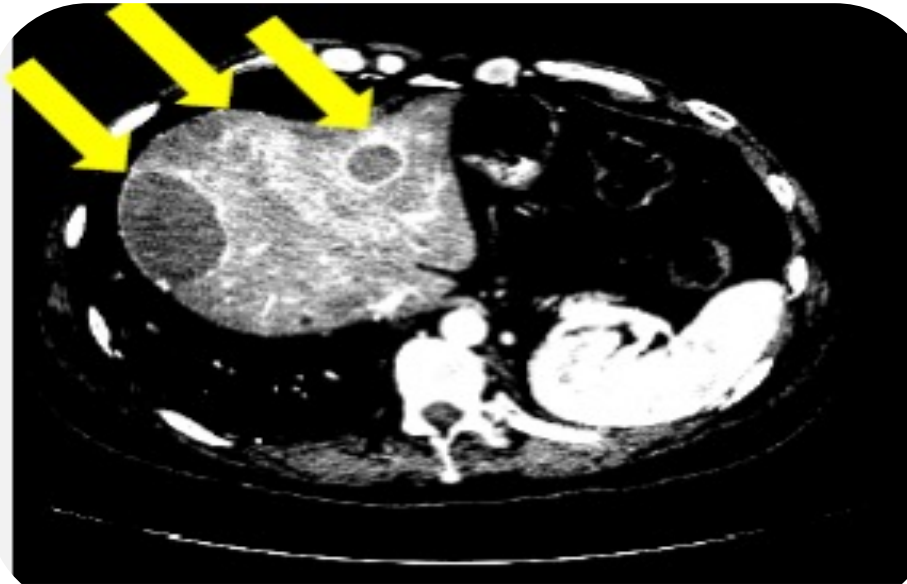
# ReFocus Next Steps: Phase 2 Tumor Agnostic Enrollment Ongoing

Partial response per RECIST 1.1 (-67%)

Baseline

First Assessment (8 weeks)

Liver



Data anticipated  
2H 2023

46-year-old male; *FGFR2* Y375C metastatic salivary gland carcinoma  
Previously treated with carboplatin/paclitaxel, lenvatinib  
RLY-4008 70mg QD (RP2D)

Subbiah et al, *Cancer Disc* 2023; in press. DOI: 10.1158/2159-8290.CD-23-0475; QD: once daily, RP2D: Recommended Phase 2 Dose

# Conclusions

**ReFocus dose escalation data validate RLY-4008 as the first highly selective FGFR2 inhibitor that targets driver alterations and FGFRi resistance mutations**

**Promising initial efficacy and durability confirm highly potent FGFR2 targeting**

- **73% ORR with mDoR 11.2 months in FGFRi-naïve, *FGFR2* f/r cholangiocarcinoma patients treated  $\geq 70$ mg**
- **21% ORR, 93% DCR and 43% 6-month PFS in FGFRi-refractory *FGFR2* f/r cholangiocarcinoma patients treated  $\geq 70$ mg**
- **70% DCR including 3 durable PR in FGFRi-naïve, *FGFR2*-mutated cholangiocarcinoma**

**PK/PD and differentiated safety profile confirm highly selective FGFR2 inhibition**

- **Favorable PK/PD provides continuous target inhibition  $\geq 96\%$  at the 70mg QD RP2D**
- **Most AEs are low grade, largely reversible on-target AEs**

**Pivotal testing continues in Phase 2 of ReFocus; anticipating tumor-agnostic data 2H 2023**

Data for Phase 1 Dose Escalation as of 01/30/2023. AE: Adverse Event; DCR: Disease Control Rate, FGFR2 f/r: fibroblast growth factor receptor inhibitor 2, fusions or rearrangements, FGFRi: fibroblast growth factor receptor inhibitor, mDoR: median Duration of Response, ORR: Overall Response Rate, PFS: Progression-free Survival, QD: once daily, RP2D: Recommended Phase 2 Dose

# Foundational preclinical and translational research published in *Cancer Discovery* today

## CANCER DISCOVERY

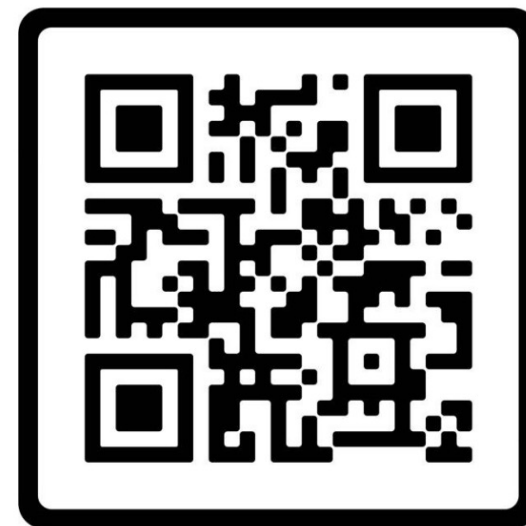
### RLY-4008, THE FIRST HIGHLY SELECTIVE FGFR2 INHIBITOR WITH ACTIVITY ACROSS FGFR2 ALTERATIONS AND RESISTANCE MUTATIONS

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†Research conducted while employed by this institution



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<https://doi.org/10.1158/2159-8290.CD-23-0475>

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