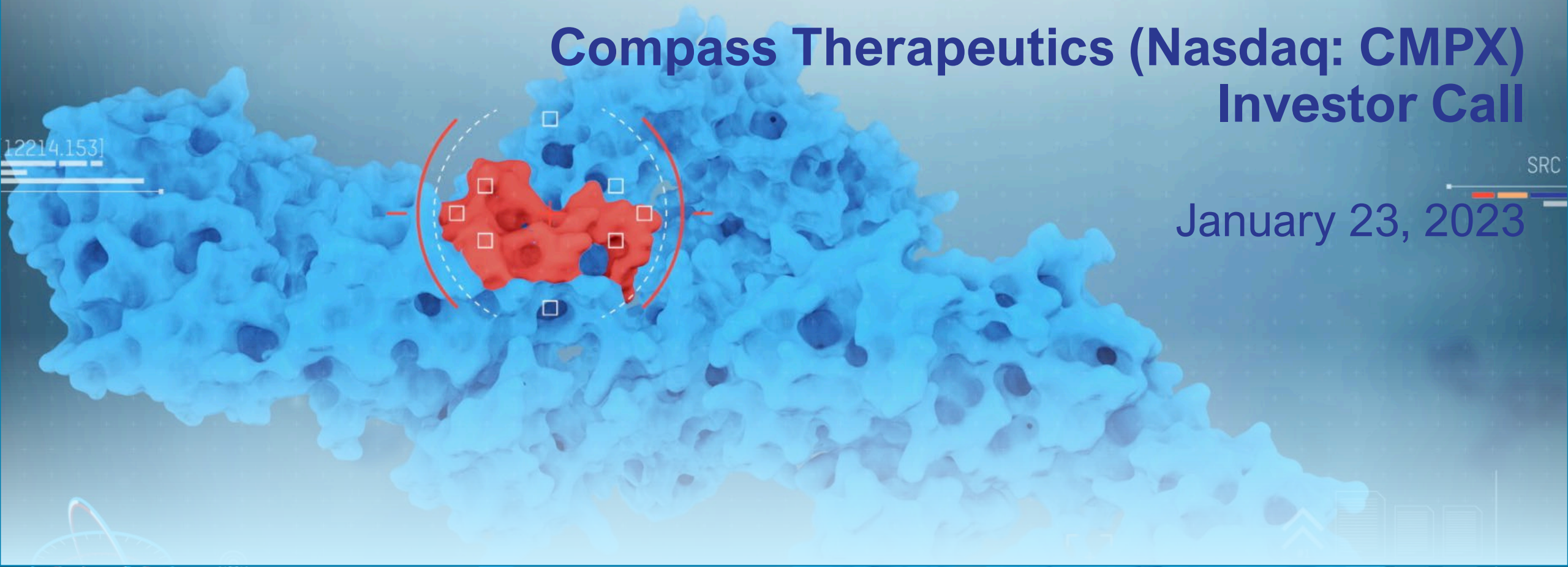
Compass Therapeutics (Nasdaq: CMPX) Investor Call

January 23, 2023



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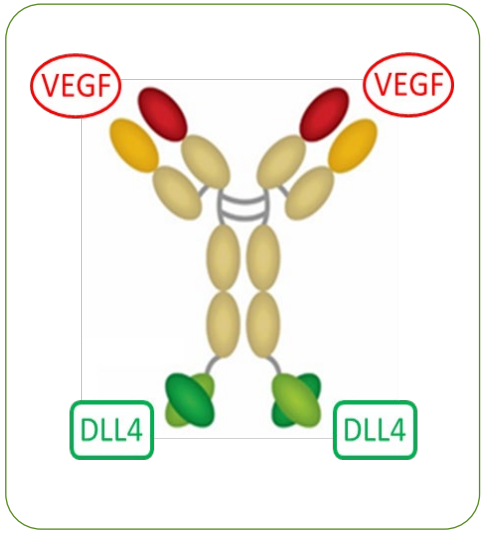
This presentation includes forward-looking statements regarding our drug candidates, the timing of the start and conclusion of ongoing or planned clinical trials, including the potential impact of the ongoing COVID-19 pandemic on our business, the timing and outcome of regulatory decisions, future availability of clinical trial data, our collaborations for our product candidates and the maintenance of those collaborations, business and results from operations, and other matters. Actual results could differ materially from those contained in any forward-looking statements as a result of various factors, including without limitation: that our drug candidates do not advance in development or result in approved products on a timely or cost effective basis or at all; the cost, timing and results of clinical trials; our ability to manage and mitigate the impact of the ongoing COVID-19 pandemic; that many drug candidates that have completed early-stage trials do not become approved drugs on a timely or cost effective basis or at all; the ability to enroll patients in clinical trials; possible safety and efficacy concerns; regulatory developments; our ability to protect our intellectual property rights, and unexpected costs, charges or expenses that reduce cash runway. Our pipeline programs are in various stages of pre-clinical and clinical development, and the process by which such pre-clinical or clinical therapeutic candidates could potentially lead to an approved therapeutic is long and subject to significant risks and uncertainties. These and other risks and uncertainties that we face are described in our most recent Annual Report on Form 10-K, and in other filings that we make with the Securities and Exchange Commission from time to time. We undertake no obligation to update forward-looking statements as a result of new information or otherwise.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions, and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

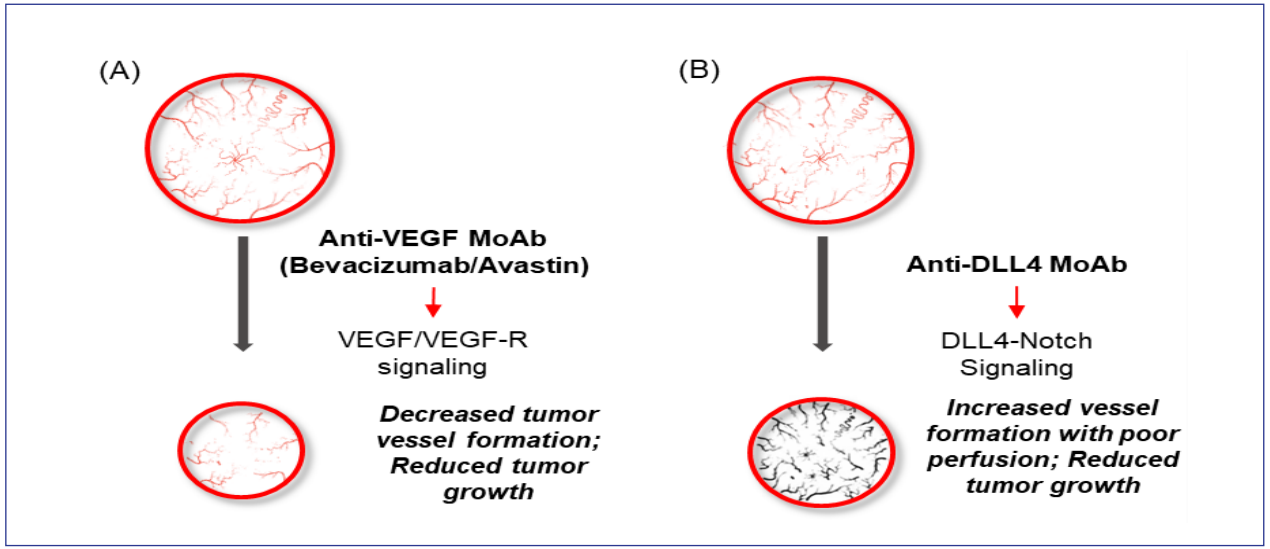
This presentation concerns drugs that are under clinical investigation, and which have not yet been approved for marketing by the U.S. Food and Drug Administration (FDA). It is currently limited by Federal law to investigational use, and no representation is made as to its safety or effectiveness for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

Overview of CTX-009

- Bispecific antibody blocking VEGF-A (soluble ligand) and DLL4 (Notch-1 ligand)
- Does not lead to ADCC, Fc inactive
- Binds to its targets with 2:2 valency
- At 10 mg/Kg, CTX-009 has approximately the same VEGF-A capturing ability as bevacizumab (Avastin)
- The only VEGF X DLL4 bispecific that demonstrated monotherapy activity in the clinic in colorectal and gastric cancer
- Durable responses in patients with cholangiocarcinoma seen in Phase 1b study of CTX-009 in combination with paclitaxel



Dual blockade of VEGF and DLL4 overcomes VEGF resistance



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Phase 2 CTX-009 Combination Study (S. Korea)

Patients with biliary tract cancers after one or two prior therapies

Simon 2 Stage adaptive design

Stage 1

CTX-009 at 10 mg/kg biweekly
Paclitaxel 80 mg/m^2 weekly 3 of 4 weeks

N = 21

3 or more PRs

Stage 2

CTX-009 at 10 mg/kg biweekly
Paclitaxel 80 mg/m^2 weekly 3 of 4 weeks

N = 45 additional patients

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Phase 2 CTX-009 Combination Study – Patient Demographics

	24 Total Patients
Age	
Median (years)	61.5
Gender, n(%)	
Male	14 (58%)
Female	10 (42%)
ECOG performance status, n(%)	
0	13 (54%)
1	11 (46%)

	24 Total Patients
Prior systemic therapies, n(%)	
1	11 (46%)
2	13 (54%)
Prior Gem/Cis regimen	23 (96%)
BTC subtype, n (%)	
Intrahepatic cholangiocarcinoma	9 (38%)
Extrahepatic cholangiocarcinoma	3 (13%)
Gallbladder cancer	7 (29%)
Ampullary cancer	5 (21%)

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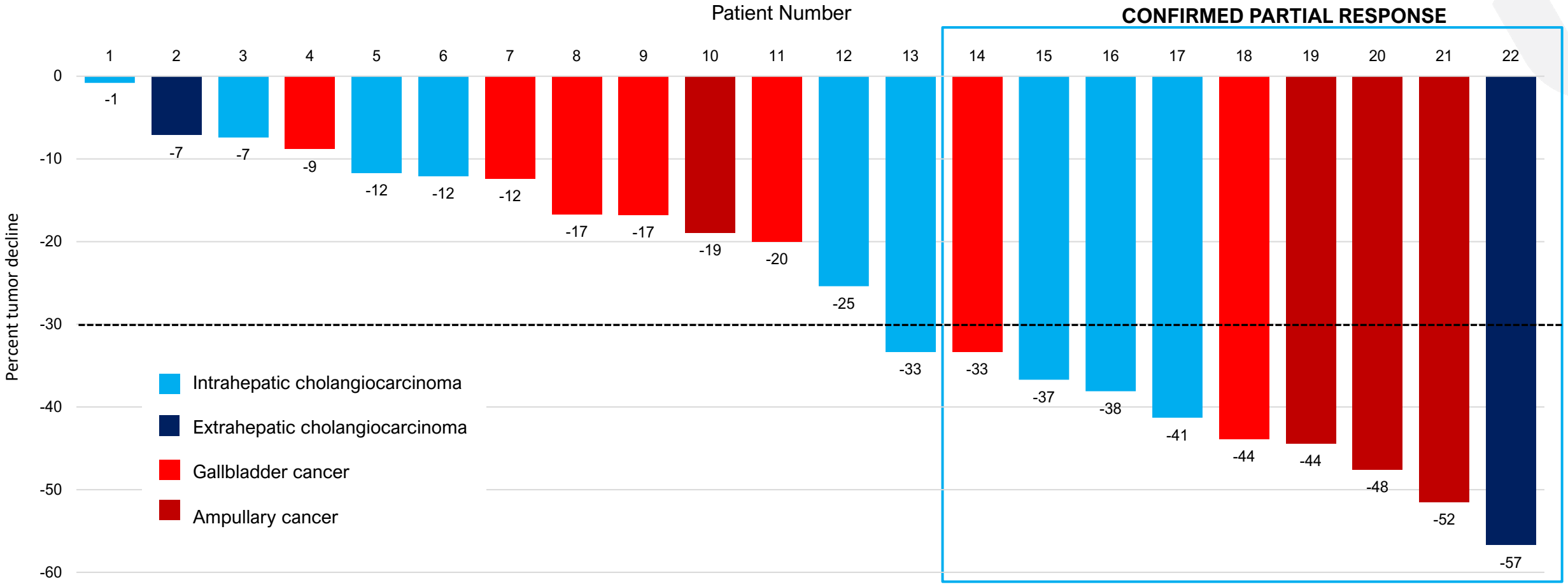
Phase 2 CTX-009 Data

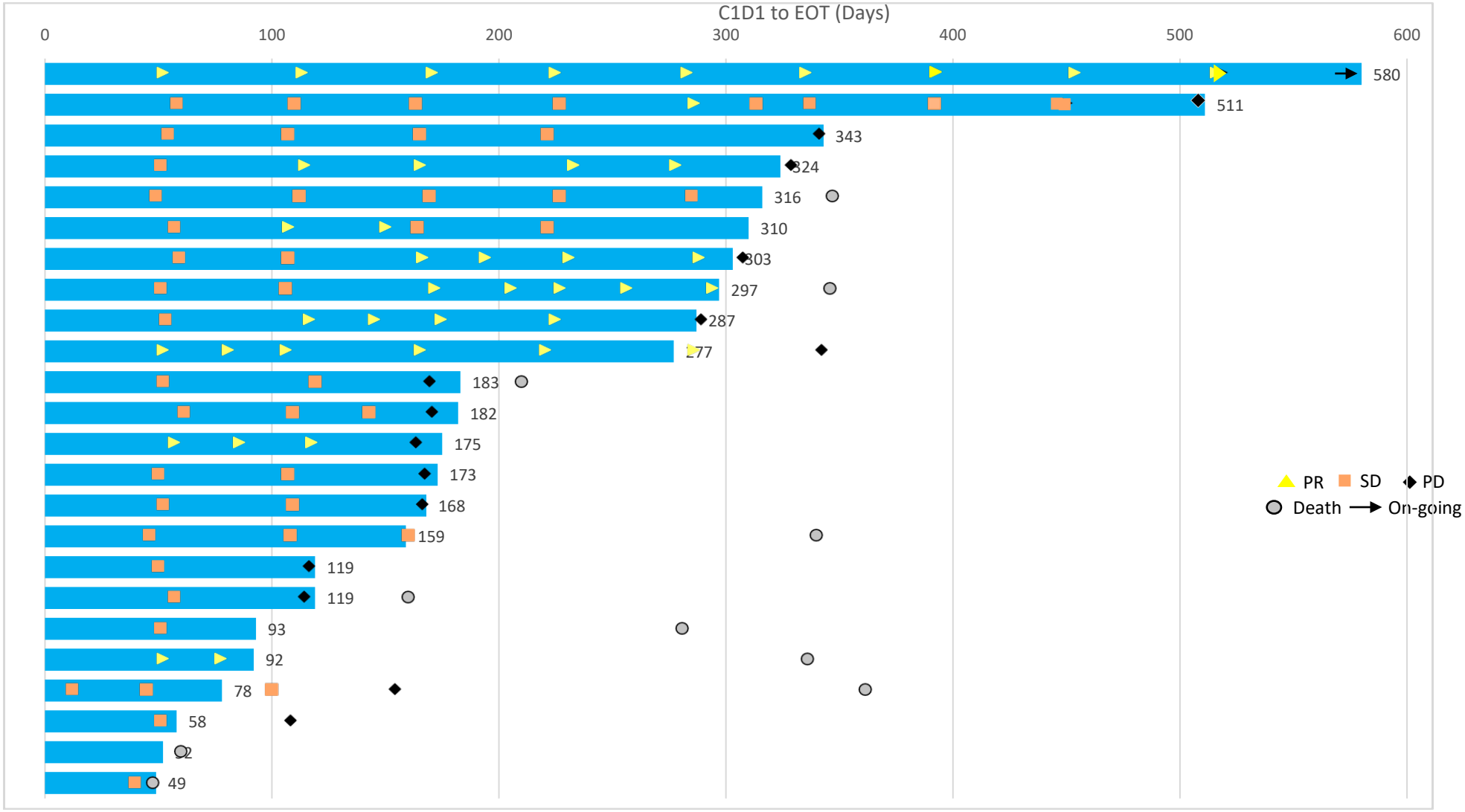
Responses achieved across multiple BTC subclasses. Data as of November 9, 2022

ORR = 37.5%
CBR = 91.5%



2 patients were not evaluable (one missing post baseline scan; one had a scan outside of protocol window)

Swimmer Plot (November 9, 2022 data cut off)



CTX-009 Phase 2 Results (Median follow-up of 12.1 months)

- 24 patients enrolled and dosed
- 1 patient remains on study

Endpoint	Value (95% CI)
Overall Response Rate (ORR)	**37.5%**
Stable Disease (SD)	**54.2%**
Progression Free Survival (PFS)	**9.4 m** (5.4 – 11.1)
Overall Survival (OS)	**12.5 m** (10.9 – NA)
Duration of Response	**6.9 m** (3.5 – NA)

Number of previous systemic therapies	ORR
Pts treated in the 2L [n=11]	**7/11 (63.6%)**
Pts treated in the 3L [n=13]	2/13 (15.4%)

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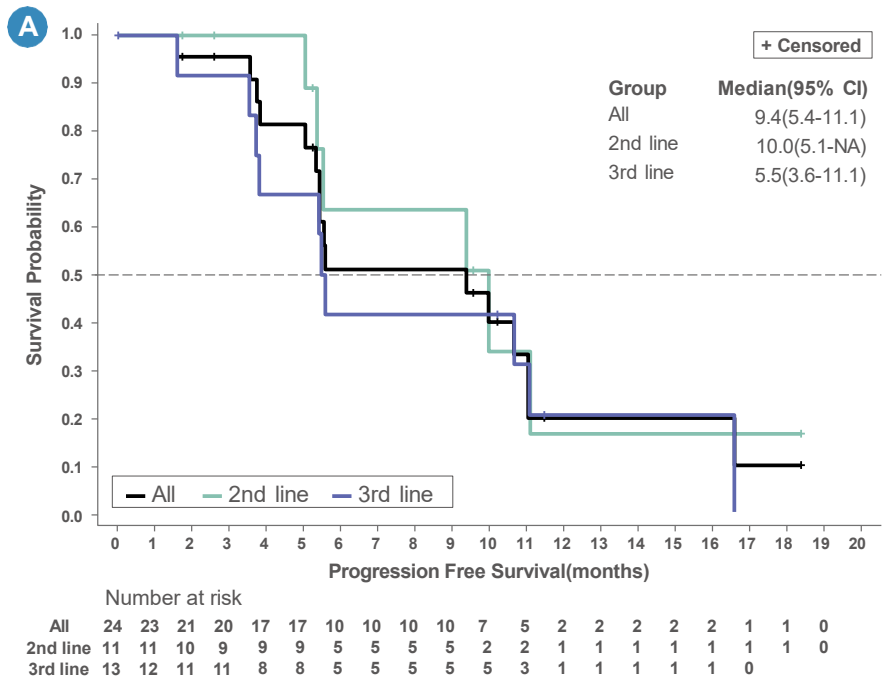
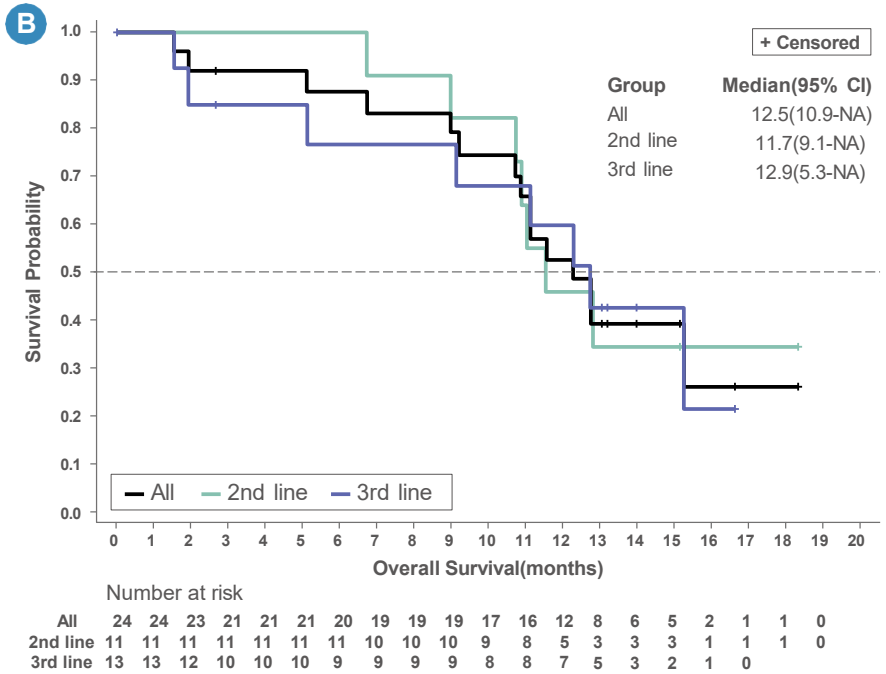
Secondary Endpoints: PFS and OS (as of Nov 9, 2022)

- **Median PFS: 9.40 m (5.4-11.1)**



- **Median OS: NA (12.5-NA)**



Treatment-Emergent ≥ Grade 3 Adverse Events (>10% of patients)

Phase 2 BTC study of CTX-009 plus paclitaxel

Event	24 total Patients N (%)
Neutropenia	20 (83.3%)
Anemia	5 (20.8%)
Hypertension	4 (16.7%)
Thrombocytopenia	3 (12.5%)

TEAE leading to discontinuation: confusion, embolism, pneumonia (grade 5), biliary fistula, large intestine perforation, blood creatinine increased, and blood urea nitrogen increased

Bevacizumab and paclitaxel label information

Event	Bevacizumab (label)	Paclitaxel (label)
Neutropenia		52%
Hypertension	5-18%	
Anemia		16%
Thrombocytopenia		7%
	Additional events: GI perforation, wound healing complications, Proteinuria, hemorrhage	Additional events: Hypersensitivity reactions, infections, bleeding, neuropathy

CTX-009 Interim Phase 2 Study Summary

24 patients with BTC have been enrolled and dosed

10 partial responses (PRs) for a 37.5% ORR in patients treated in the second- and third-line settings (**64% ORR** of patients treated in the 2nd line setting)

Median PFS 9.4 months

Median OS 12.5 months

Adverse event profile similar to Phase 1 studies

Other regimens in BTC

FOLFOX (NCCN guidelines):

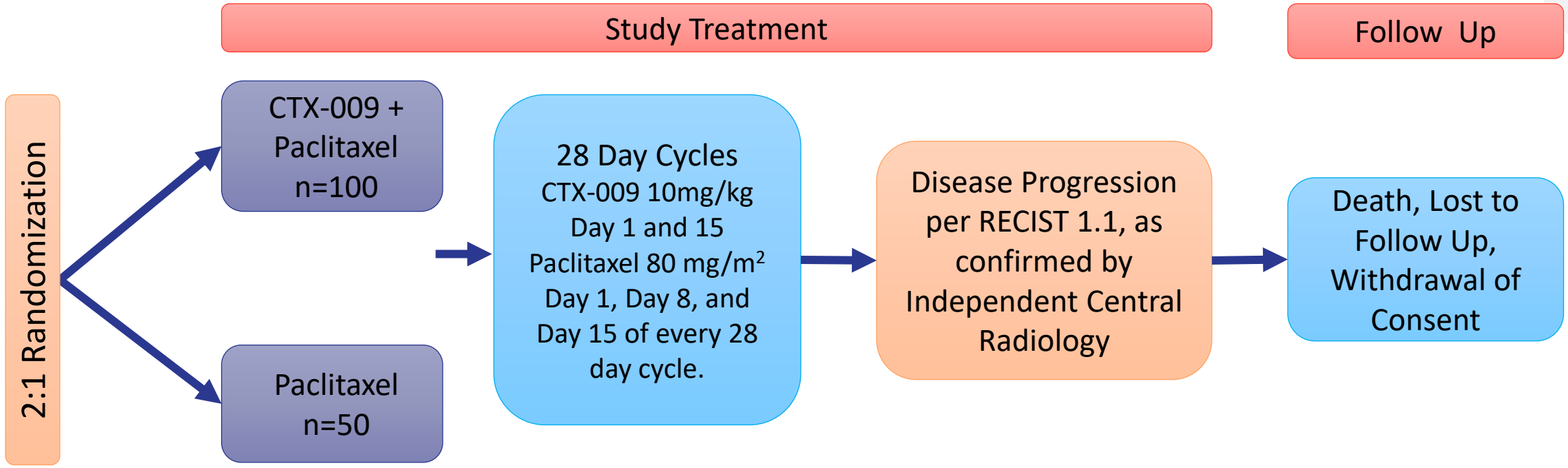
- 5% ORR in the second-line setting
- 4.0 month median PFS
- 6.2 month median OS

TOPAZ-1 (Phase 3 study):

- 26.7% ORR for Gem/Cis/Durvalumab (anti PD-L1) in the first-line setting

Phase 2/3 U.S. BTC Study Design

Patients who have received one prior line of therapy



CTX-009: *BTC* Patient Demographics and Current Treatments

	US	EU5	Japan	Worldwide
Incident Cases	18,400[1]	21,800[2]	14,329[2]	>200,000[3]

1L Treatment

Doublet chemo of gemcitabine + cisplatin (ABC-02 study)
Or
Gemcitabine/cisplatin + durvalumab (recently approved for 1L)

2L Treatment

FOLFOX
5% ORR
0.9 Mos OS Δ

FGFR2 mutation
Pemigatinib
(10-15% of CCA)

IDH1 mutation
Ivosidenib
(1-3% of BTC)

MSI-H tumors
PD-1 Inhibitor
(<1% of BTC)

Clinical trial

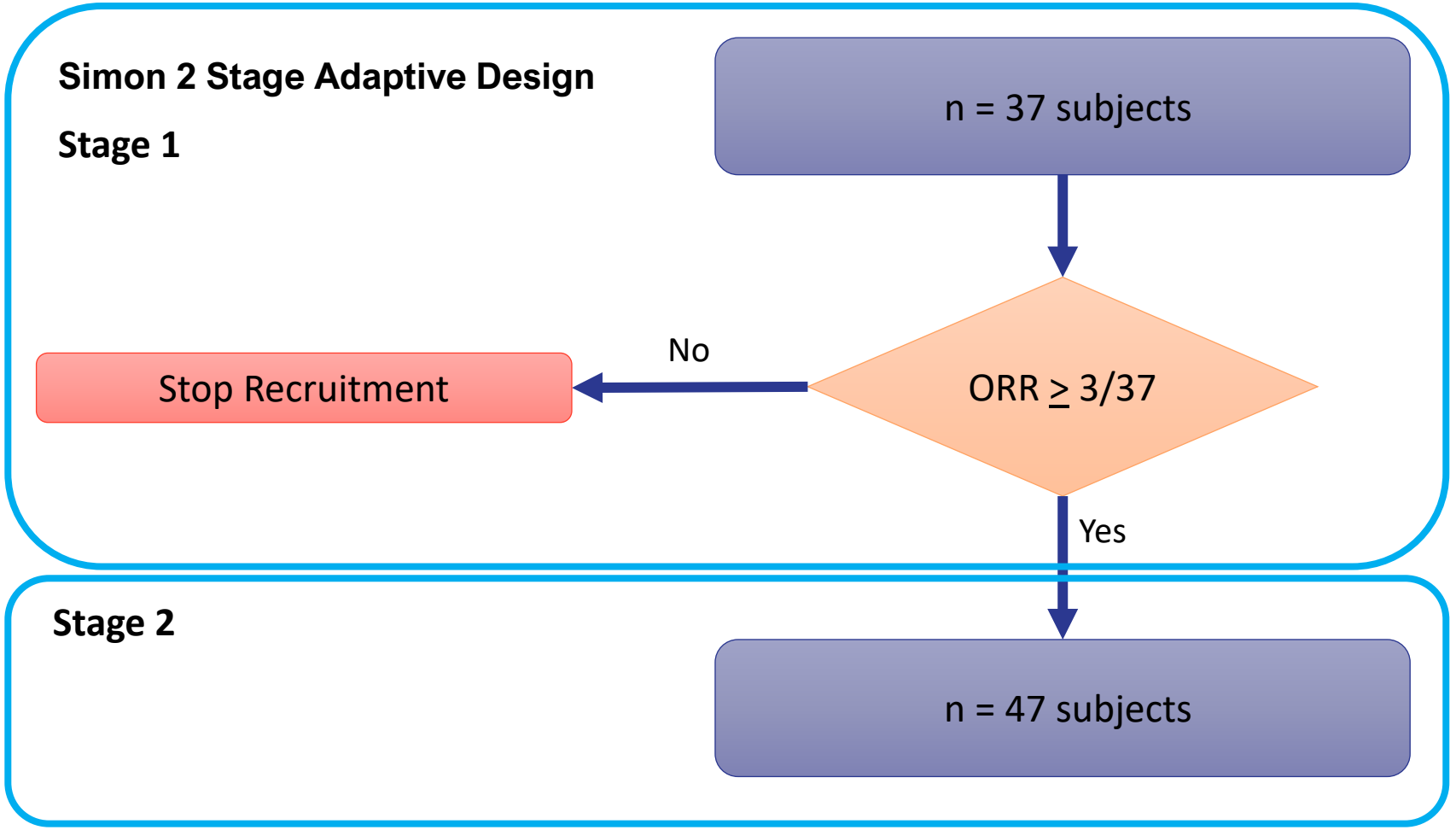
1. NCI Surveillance, Epidemiology, and End Results (SEER) program
2. Delveinsight/company estimates
3. International Agency for Research on Cancer/GLOBOCAN

Phase 1a CTX-009 Monotherapy Data

Clinical activity at RP2D dosages (10 and 12.5 mg/kg)

	Prior VEGF Targeted Therapy	Partial Response (PR)	Stable Disease (SD)	Clinical Benefit Rate (PR + SD)	Median Time to Progression (TTP) (Months)
All patients (n=16)	75%	**19%**	50%	69%	**3.9**
Colorectal Cancer (n=6)	100%	**33%**	33%	67%	**6.7**
Gastric Cancer (n=8)	63%	**13%**	63%	75%	**3.9**

Phase 2 U.S. CRC Study Design



CTX-009: *CRC* Patient Demographics and Current Treatments

	US	EU5	Japan	Worldwide
Incident Cases	153,020[1]	246,734[2]	148,505[2]	1,931,590[2]
~50% Metastatic[3] 50-70% reach 3L[4]	38,000-53,000 patients			

1L Treatment

Chemotherapy FOLFOX/FOLFIRI

Bevacizumab or EGFR inhibitor + chemotherapy

Anti-PD-1 with MSI-H/dMMR mutation

~5% of CRC

2L Treatment

Bevacizumab or EGFR + chemo

BRAF/EGFR with V600E mutation

5-8% of CRC

3L Treatment

Regorafenib

ORR 1%, Median PFS 2.0 months

Trifluridine/ tipiracil

ORR 1-2% Median PFS ~2 months

1. NCI Surveillance, Epidemiology, and End Results (SEER) program
2. International Agency for Research on Cancer/GLOBOCAN
3. L Biller, D Schrag , JAMA 2021 Feb 16
4. Bekaii-Saab, Clin advances in Hem and Onc, Supp Jan 2021

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CTX-009 Development Plans

Evaluating additional indications for CTX-009 both as a monotherapy and in combination with chemotherapy

Dr. Richard M. Goldberg

Professor and Director Emeritus

The West Virginia University Cancer Institute

How Does CTX-009 Data Compared to Other BTC Studies?

Parameter	CTX-009 Mixed 2L and 3L N=24	FOLFOX (ABC-06) [1] Only 2L N=81	Gem/Cis [2] 1L N=204	Gem/Cis + Durv [3] Only 1L N=341
ORR	37.5% [64% 2L; 15% 3L]	5%	26%	26.7%
OS	12.5 m	6.2 m	11.7 m	12.9 m
PFS	9.4 m	4.0 m	8.0 m	7.2 m
Any AE	100%	99%	55%	99.4%
Gr 3/4 AEs	92%	60%	71%	74%
Deaths (as Gr 5)	1 (4%)	10 (12%)	17 (8%)	13 (4%)
AEs leading to discontinuation	25%	~ 12%	10%	13%

1. Lamarca D, *Lancet Oncol* 2021; March 30
2. Valle, J. et al., *N ENGL J MED*, 362; 14 Apr 8, 2010, p. 1273
3. Oh, D. et al., *ESMO Poster 56P 2022*

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Q & A