

A man in a yellow jacket is standing on a wooden ladder, reaching up to harvest oranges from a large, leafy tree. The tree is covered in green leaves and many ripe, orange-colored fruits. The background shows more of the tree and some yellowing leaves, suggesting an autumn setting.

ADVANCED  
ORPHAN  
ONCOLOGY

Ticker symbol: ACE  
Nasdaq Stockholm  
[www.ascelia.com](http://www.ascelia.com)

Ascelia Pharma

September 2025

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## At Ascelia Pharma,

we identify, develop and commercialize novel  
drugs that address unmet needs  
of people with rare cancer conditions

## Global outlook and Nordic roots

Based in Malmö (Sweden), US entity in New Jersey (US)  
Listed on NASDAQ Stockholm (Ticker: ACE)

# ADVANCED ORPHAN ONCOLOGY PIPELINE

Drug candidate	Indication	Phase 1	Phase 2	Phase 3	Registration	Market
 ORVIGLANCE	<b>Improved detection and visualization of focal liver lesions</b> <ul style="list-style-type: none"><li>▪ First-in-class contrast agent for use in liver MRI in patients with severely impaired kidney function</li><li>▪ FDA Orphan Drug Designation</li><li>▪ Global addressable market of USD 800 million</li></ul>	Completed			Ongoing NDA submitted 3 Sept	
 ONCORAL	<b>Improved efficacy and safety</b> <ul style="list-style-type: none"><li>▪ Daily, oral irinotecan chemotherapy</li><li>▪ Clinical collaboration with Taiho Oncology</li><li>▪ Opportunity in gastric cancer and other solid tumors</li></ul>	Completed	Ready			

# SUBSTANTIAL ORVIGLANCE VALUE CREATION OPPORTUNITIES

	Advance Orviglance to approval	Secure partnering and commercialization readiness
Objectives	<b>Timely approval</b> by the US FDA as an orphan drug for the use in liver MRI for patients with severe renal impairment or when gadolinium may otherwise be medically inadvisable	<b>Focused launch</b> for well-defined patient population with 800 MUSD annual addressable market <b>Partner</b> driven global commercialization
Looking ahead	<ul style="list-style-type: none"><li>✓ NDA submission September 2025</li><li>▪ FDA communication of PDUFA date November 2025</li><li>▪ FDA approval following 10 months review July 2026</li></ul>	<ul style="list-style-type: none"><li>▪ Advance <b>launch</b> readiness</li><li>▪ Establish commercialization <b>partnership(s)</b></li></ul>



**ORVIGLANCE®**

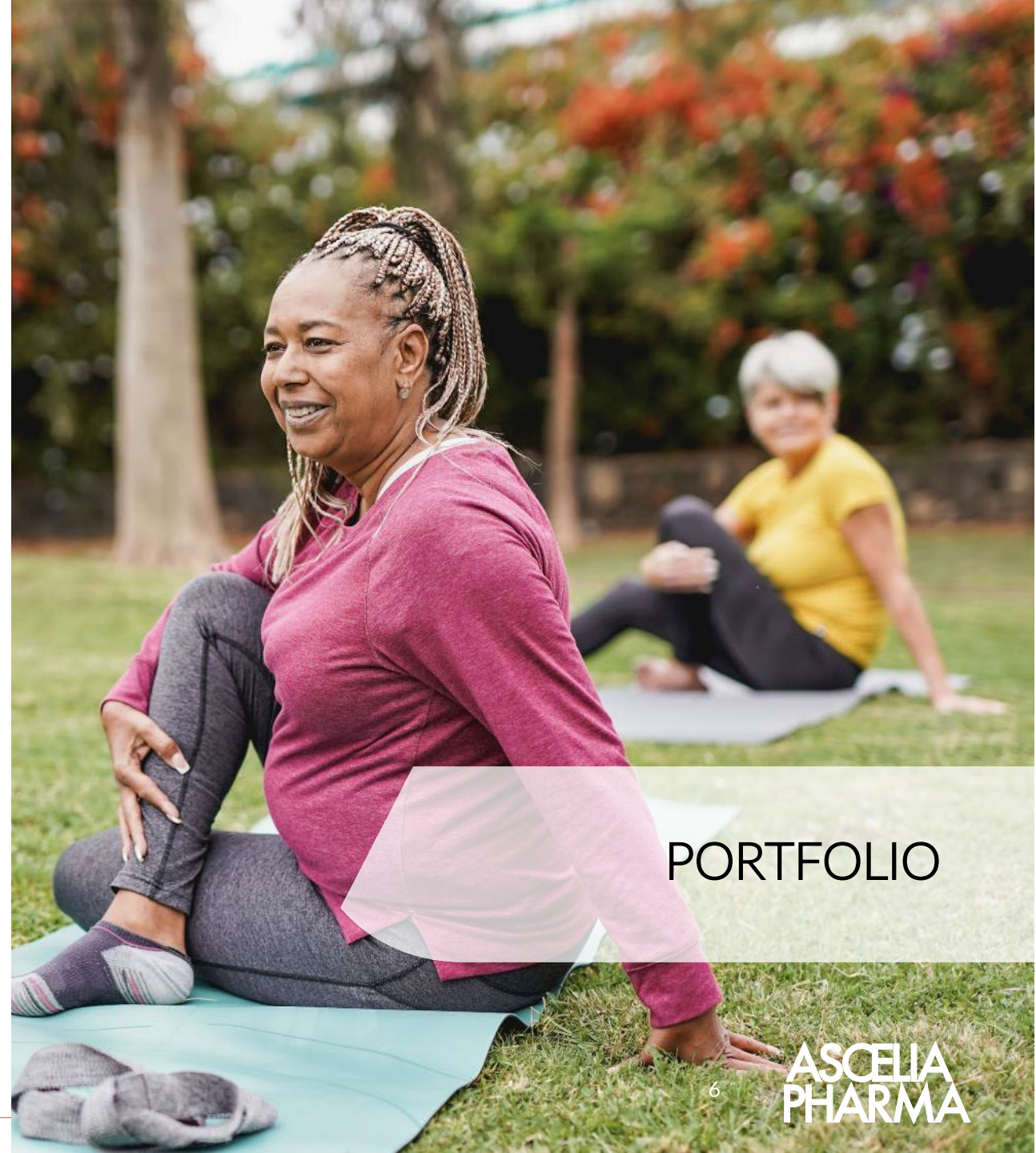
**Liver diagnostic imaging drug**

**ONCORAL**

**Daily, oral chemotherapy**

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# ATTRACTIVE ORVIGLANCE OPPORTUNITY

- A **well-defined unmet need** for liver imaging in cancer patients with impaired kidney function
- A global addressable market opportunity of **USD 800 million**
- Commercial scale **manufacturing**
- Clinical development completed with 9 studies and strong phase 3 results
- NDA submitted to the FDA
- Commercialization with **partner**



# ORVIGLANCE – FILLING AN UNMET NEED IN LIVER MRI

## Patient Landscape

Liver metastases are critical in cancer care



Liver metastases are common in many cancer types and often the cause of mortality<sup>1-3</sup>

- Colorectal cancer, metastatic breast cancer, gastric cancer

## Treatments

Contrast enhanced MRI is the gold standard

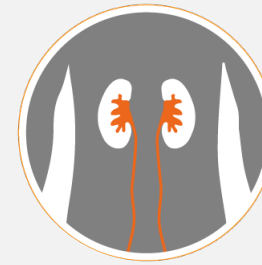


Contrast enhanced MRI

- Detection and visualization
- Surgery & drug treatment plan
- Post-treatment surveillance

## Unmet Need

A role for ORVIGLANCE in patients with severe kidney impairment



Patients with healthy kidneys

- Receive MRI with gadolinium-based contrast agent (GBCA)

Patients with severe kidney impairment

- Black Box warning for gadolinium contrast agents
- Risk of severe side effects, incl. Nephrogenic Systemic Fibrosis (NSF)

## ORVIGLANCE

Aims to be the imaging option without gadolinium-related safety risks in patients with severe kidney impairment

- Manganese based
- Liver specific

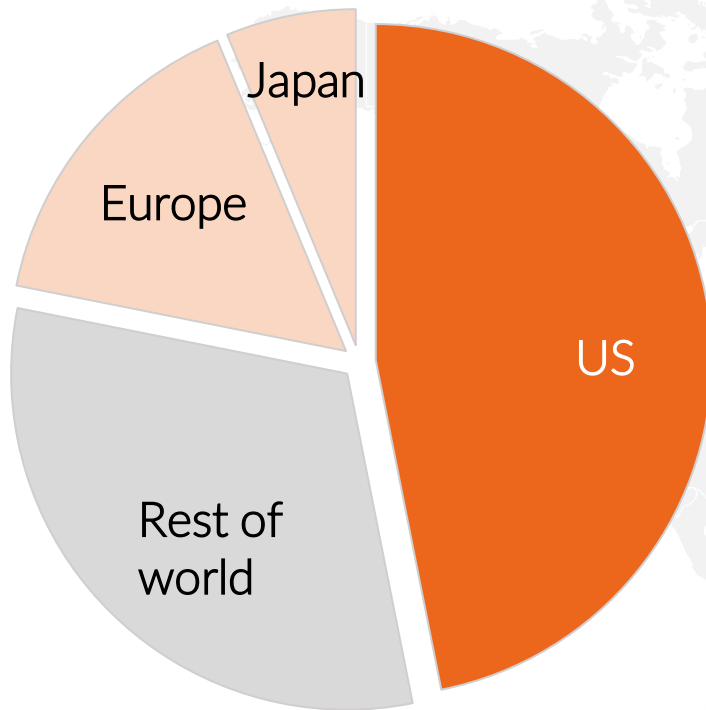
1) Riihimäki, M. *et al.* Patterns of metastasis in colon and rectal cancer. *Sci. Rep.* 6, 29765; doi: 10.1038/srep29765 (2016); *Journal of Pathology*, 2014, 232:23-31

2) Guy diSibio and Samuel W. French (2008) Metastatic Patterns of Cancers: Results From a Large Autopsy Study. *Archives of Pathology & Laboratory Medicine*: June 2008, Vol. 132, No. 6, pp. 931-939

3) Rahbari *et al.* Metastatic Spread Emerging From Liver Metastases of Colorectal Cancer: Does the Seed Leave the Soil Again? *Annals of Surgery*: February 2016 - Volume 263 - Issue 2 - p 345-352



# ADDRESSABLE MARKET OF USD 800 MILLION ANNUALLY



Global addressable market of USD 800 million, half of this in the US

**Focused launch** for well-defined patient population in liver imaging in cancer patients with severe kidney impairment

Global commercialization through partners

Sources:

Ascelia Pharma market research on real-world volumes with Decision Resources Group, 2020.. Ascelia Pharma market access research and analyses with Revenue Reimbursement Solutions and Charles River Associates (2020), Triangle (2022) and Trinity (2022), incl. 75 stakeholder and expoert interactions. 1) Final pricing strategy is subject to Phase 3 data, payer evidence, negotiations, discounts and access strategy



# ATTRACTIVE US OPPORTUNITY

Abdominal imaging procedures in cancer patients  
with severe kidney impairment  
based on epidemiology and real-world data<sup>1</sup>

Around 400 healthcare provider accounts serve  
75% of kidney impaired patients<sup>4</sup>

Pricing range benchmarks based on innovative  
diagnostics, payer and expert input and price testing<sup>2, 3</sup>

~100,000  
procedures annually

~400 accounts

\$3,000-4,500

Sources:

- 1) Ascelia Pharma market research with Decision Resources Group, 2020. Literature on prevalence and epidemiology of kidney disease, cancer and liver metastases.
- 2) Ascelia Pharma market access research and analyses with Revenue Reimbursement Solutions and Charles River Associates (2020), Triangle (2022) and Trinity (2022)
- 3) Final pricing strategy is subject to Phase 3 data, payer evidence, negotiations, discounts and access strategy
- 4) Ascelia Pharma analysis based on market research with Decision Resources Group, 2020



# UNMET NEED RECOGNIZED IN CLINICAL PRACTICE

**NSF\* risk**  
with warnings for target population

“Those of us who have seen NSF are frightened by it... you’ll get **buy-in from a lot of nephrologists...**”  
- Head of Renal section at US university hospital  
(from Ascelia Pharma Advisory Board meeting)

**+90%**



of HCPs are concerned by issues  
relating to GBCAs (including NSF)

**+16%**



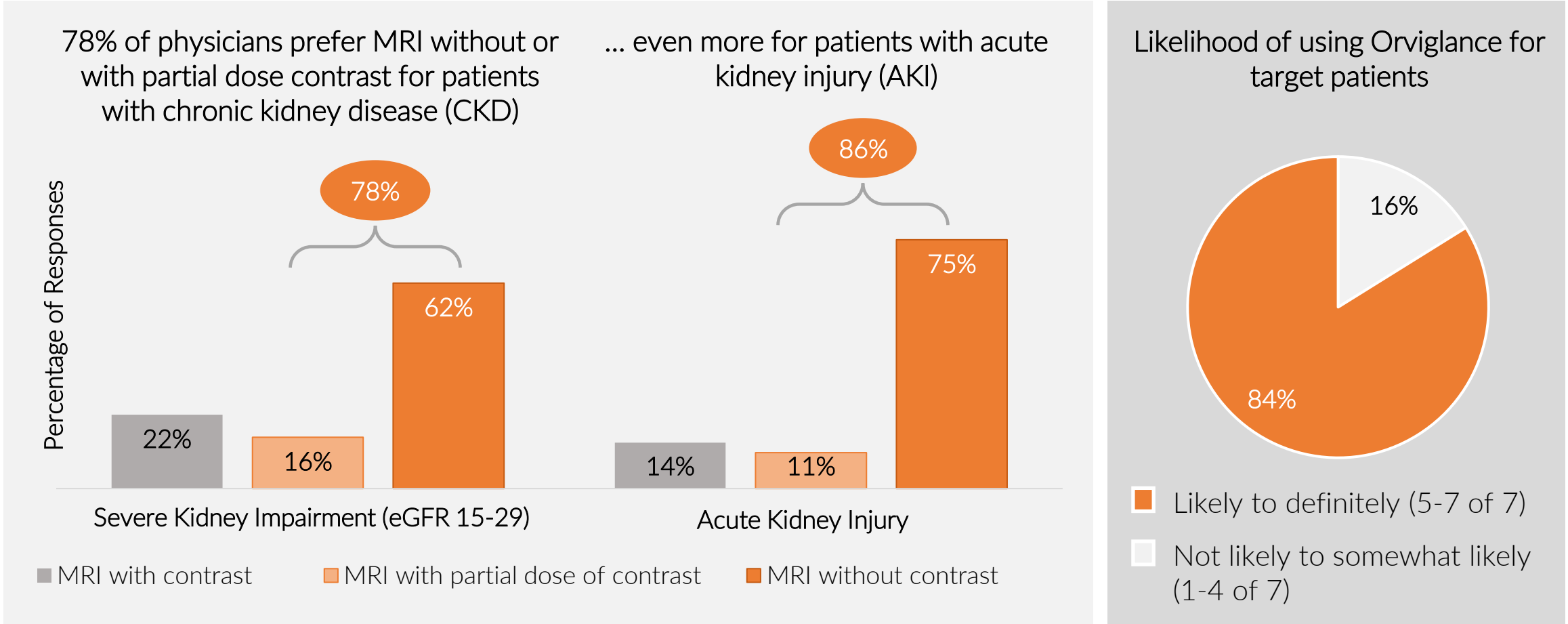
of providers have experienced  
GBCA-induced NSF

““The college [American College of Radiology]...have a **growing sense of responsibility and accountability** about using these agents in high-risk patients.... our perception of which agents are “safe” has changed... this is another place where practice needed to evolve”  
- SPARKLE Investigator and Head of Radiology at US university hospital

\*nephrogenic systemic fibrosis



# UNENHANCED MRI PREFERRED TODAY; 84% OF US PHYSICIANS LIKELY TO USE ORVIGLANCE



Likelihood of using Orviglance for target patients

Likelihood	Percentage
Likely to definitely (5-7 of 7)	84%
Not likely to somewhat likely (1-4 of 7)	16%

84%

16%

■ Likely to definitely (5-7 of 7)

■ Not likely to somewhat likely (1-4 of 7)

Source: Independent research by Two Labs Pharma Services for Ascelia Pharma in the USA conducted in Q4 2021/Q1 2022 included 16 in depth interviews and a survey of 254 healthcare professionals (HCPs), including 154 radiologists N =103 oncologist, nephrologist, and radiologist responses. Q: Please assign priority to the imaging tests in the sequence or order in which you would recommend or perform them



# MOMENTUM FOR CHANGE ALSO BEYOND RENAL IMPAIRMENT

## Black-box warning for use in renally impaired patients

Risk of potentially fatal side effects of gadolinium, incl. nephrogenic systemic fibrosis, in patients with severe renal impairment

## Deposition in brain & organs concerns around safety for all patients

New category for Symptoms Associated with Gadolinium Exposure (SAGE, Am. College of Rad., 2022)

Multiple-GBCA effect on movement and mental skills study requested by the FDA (ODYSSEY, 2020)

## Water contamination scrutiny of environmental impact

Gadolinium excreted in urine is discharged into our environment and drinking water

## A future with less gadolinium

### Manganese

First in class oral manganese agent targeting patients with severe renal impairment (Ascelia Pharma)

Completion of Phase 1 of full-body IV manganese-based contrast agent (GE HealthCare)

### Gadolinium

Low dose full-body gadolinium contrast agents pursued by GBCA players with one approved by the FDA (Guerbet/Bracco) and another in regulatory review (Bayer)

1) Brünjes R. et al. Anthropogenic gadolinium in freshwater and drinking water systems, Water Research, Volume 182, 2020.  
Other sources include:  
Macke et al. Fast and automated monitoring of gadolinium-based contrast agents in surface waters, Water Research, Volume 207, 2021.  
Oluwasola et al, Gadolinium based contrast agents (GBCAs): Uniqueness, aquatic toxicity concerns, and prospective remediation. Journal of Contaminant Hydrology, Volume 250, 2022.  
M. Nicholl. Seeking alternatives to gadolinium-based contrast agents. Healthcareineurope.com. July 22022  
Bang G. Gadolinium Deposition in Brain: Current Scientific Evidence and Future Perspectives. Mol. Neurosci., 20 September 2018.

# OPTIMAL COMMERCIALIZATION THROUGH PARTNERS

## Partner led commercialization

Maximizes overall value of Orviglance by leveraging established capabilities

Optimizes capital requirements vs. future revenues

## Attractive partner opportunity

De-risked asset in registration phase

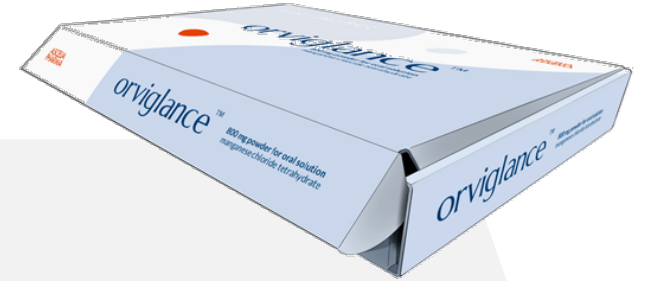
Unmet need with high value for payers – high value per patient

Clear decision maker value - patients, physicians and payers

Focused launch efforts for hospital/imaging units

Wide synergy potential within e.g. radiology/nephrology/oncology or high-value/orphan drug

Dialogue with potential partners progressing





Reimagine  
imaging for  
people with  
poor kidney  
function

**A New Approach to Imaging Focal Liver Lesions in Patients With Reduced Kidney Function**

Current magnetic resonance imaging (MRI) methods used to identify liver cancer are inadequate in identifying a potentially fatal side effect in patients with poor kidney function – nephrogenic systemic fibrosis (NSF). Alternative imaging techniques are being developed to address this clinical need.

**Chief Speaker at Ascelia Pharma**

The early detection and localization of focal liver lesions is critical for optimal management of patients with liver cancer or a range of cancers that metastasize to the liver, including colorectal, breast, and gastric cancer. The gold standard method for detecting focal liver lesions is contrast-enhanced MRI. However, in patients with poor kidney function, all gadolinium-based contrast agents (GBCAs) have regulatory black box warnings, as they put those patients at risk of the severe and sometimes fatal – side effect, NSF.

As patients with poor kidney function may not be able to tolerate these contrast agents, the imaging methods currently used – unenhanced MRI or non liver specific lower risk GBCAs – significantly reduce the ability of clinicians to find and treat focal liver lesions, ultimately impacting the patient's chance of survival. This patient population, which is estimated to account for around 25% of all patients requiring a liver MRI, is in dire need

of an alternative solution that provides similar imaging insights to those who undergo contrast drug enhanced MRI.

**The Risk of NSF**

Although a rare condition, NSF is serious and potentially life threatening. It causes sclerotic transformation and hardening of the skin, and can lead to joint contractures, and muscle and facial fibrosis, which may lead to severe immobility. It can also affect the inner organs. NSF worsens over time and can cause death, which typically results from multi system failure. The FDA database has registered 3000+ cases of NSF since 2006, of which 24% were fatal and the severity of illness, time to disease manifestation, and GBCA dosing exposure vary individually. (1, 2). It should be noted that not all global cases of NSF are reported to the FDA, however.

Regulatory agencies, including the FDA and EMA, have issued warnings about the use of GBCAs, and clinical guidelines restrict use to patients with severe kidney impairment. The American College of Radiology guidelines for GBCA administration advise against administration of group I and group II agents (see **Table 1**) in those on dialysis or with chronic kidney disease stage four or five to

Group	Classification
I	Gadoterate, gadopentetate dimeglumine
II	Gadobenate dimeglumine, gadobutrol, gadoterate acid, gadoteridol
III	Gadovist

Table 1 American College of Radiology 2019 classification of gadolinium-based contrast agents (GBCAs) (1, 2, 3, 4)

International Clinical Trials | February 2022

REVIEW ARTICLE

OPEN

**Oral Manganese Chloride Tetrahydrate: A Novel Magnetic Resonance Liver Imaging Agent for Patients With Renal Impairment Efficacy, Safety, and Clinical Implication**

Torkel B. Brismar, MD, PhD, Dominik Geisel, MD, Nikolaos Kartalis, MD, PhD, Beatrice I. Hanna Persson Hedman, PhD, and Andreas Norlin, PhD

BioSpace®

ORIGINAL ARTICLE

**Lesion Visualization of an Oral Manganese Contrast Agent Compared to Unenhanced MRI and Gadobenate Dimeglumine in Patients Undergoing Liver Magnetic Resonance Imaging for Evaluation of Colorectal Cancer Metastases Centralized Assessment of a Randomized, Crossover, Phase II Study**

Torkel B. Brismar, MD, PhD, Nikolaos Kartalis, MD, PhD, Nadilka Hettiarachige, MD, and Andreas Norlin, PhD

Ascelia Pharma Successfully Meets Primary Endpoint with Strong Headline Results in Orviglance Phase 3 Study

Published: May 02, 2024

ASCELIA PHARMA AB (PUBL) (TICKER: ACE), A BIOTECH FOCUSED ON IMPROVING THE

Orviglance data accepted for 4 oral and 5 poster presentations at major conferences since Phase 3

orviglance®  
800 mg powder for oral solution  
manganese chloride tetrahydrate

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# ORVIGLANCE NDA SUBMITTED TO THE FDA

## Obtain approval for Orviglance

as a liver MRI contrast agent for patients with severe kidney impairment or when gadolinium may be otherwise medically inadvisable

## NDA submitted 3 September 2025

- Attractive benefit-risk profile
- Established commercial-scale manufacturing
- Orphan Drug Designation granted, offering regulatory and commercial benefits



# NDA SUPPORTED BY ROBUST CLINICAL PROGRAM



Nine studies with consistent positive efficacy and safety results<sup>1-8</sup>

286 patients and healthy volunteers

## Superior efficacy compared to unenhanced imaging

- Superior visualization of focal liver lesions
- More lesions detected, in particular small lesions (< 1cm)
- Consistent improvement of visualization across main patient groups
- Efficacy further supported by secondary endpoints across studies

## Favorable safety profile

- Robust safety data from nonclinical and clinical studies with no concerning findings
- Minimal systemic exposure of manganese
- Mild GI-related adverse reactions most frequently reported
- No serious drug-related reactions

1) Thomsen HS et al, Acad Radiol 2004; 11: 630-636

2) Thomsen HS et al, Eur Radiol 2007; 17: 273-278

3) Rief M et al, Invest Radiol. 2010; 45: 565-71

4) Brismar TB et al., Eur Radiol 2012; 22:633-41

5) Albiin N et al. MAGMA. 2012; 25:361-368

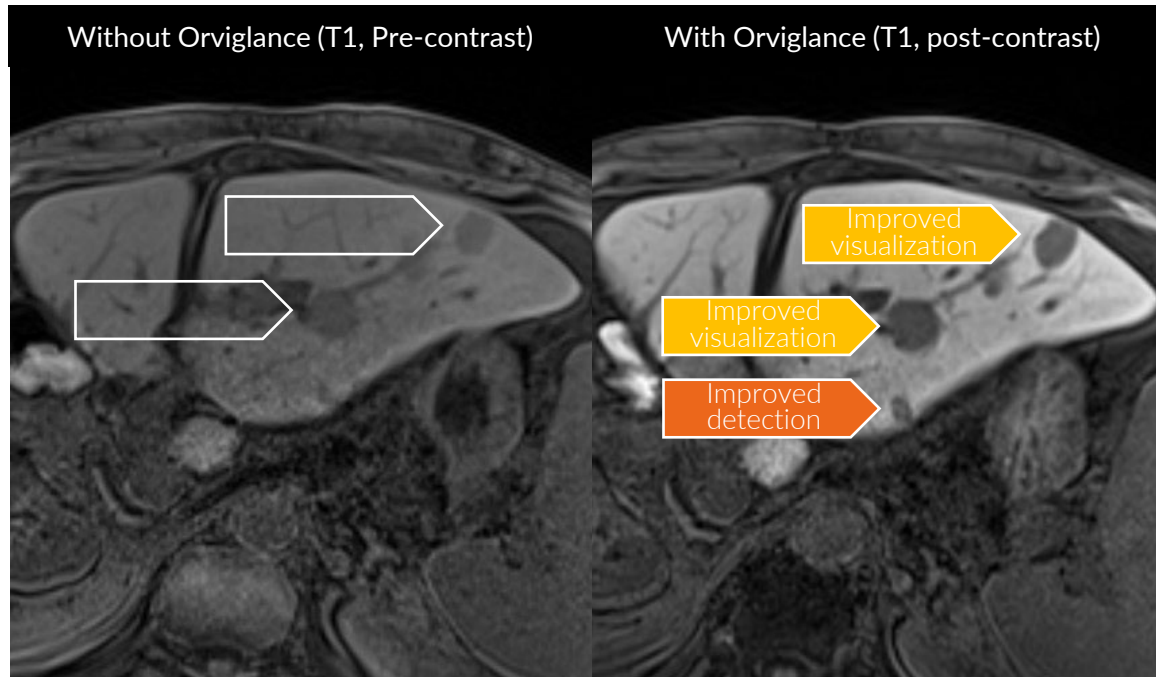
6) Brismar TB, et al., Invest Radiol 2025: Apr 8. doi: 10.1097/RLI.0000000000001184. Online ahead of print.

7) Study CMC-P005, primary objective to study of Orvigance for imaging of bile ducts (not published)

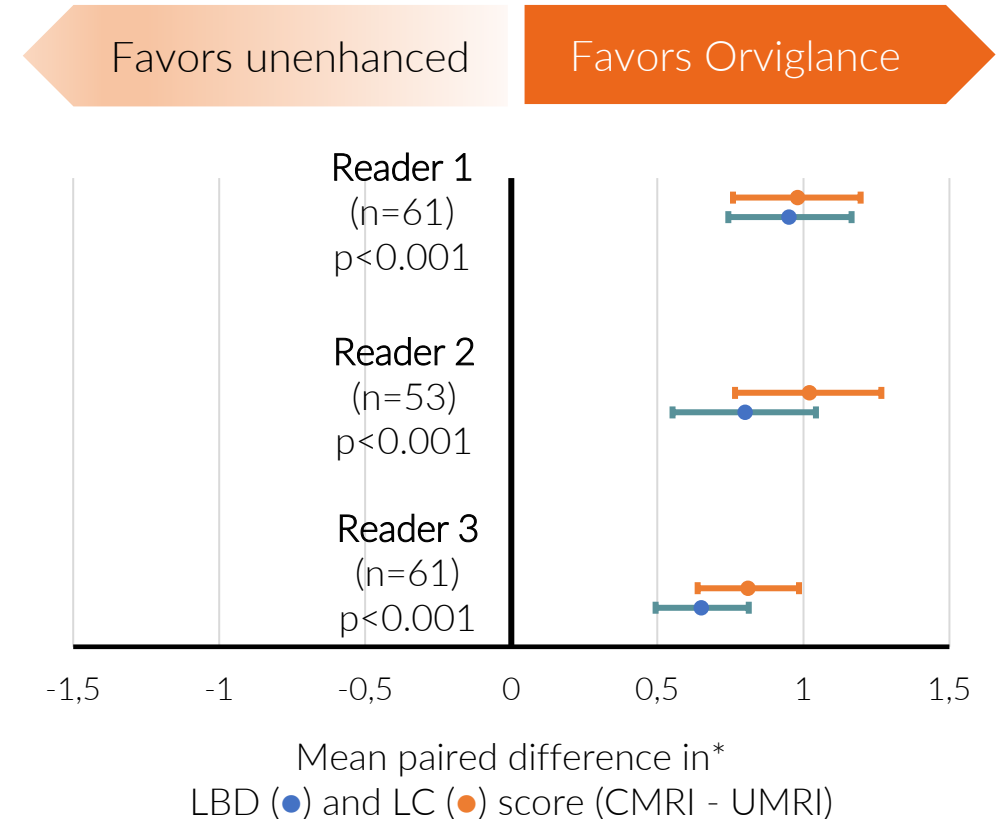
8) Results from Phase 1 and 2 and Food Effect and Hepatic Impairment Studies presented at RSNA and ESGAR conferences between 2022 and 2023

# SUPERIORITY OF ORVIGLANCE DEMONSTRATED IN PHASE 3

## Improved visualization of focal liver lesions with Orviglance



Example from a patient with metastases in the SPARKLE Phase 3 study



\*Visualization assessed by 3 independent readers as the improvement of Lesion border delineation (LBD) and Lesion contrast (LC) on combined Orviglance-enhanced + unenhanced (CMRI) images compared to unenhanced (UMRI) images for all matched lesions, using a 4-point scale (from 1 ("poor") to 4 ("excellent")).

Data presented as mean paired differences for matched lesions per patient for CMRI and UMRI with 95% Confidence Intervals. One-sided paired t-test ( $\alpha=0.025$ ).

Total N=85, n=number of patients with matched lesions (per reader).

# ORVIGLANCE TOWARDS US APPROVAL IN 2026



**Current priority:** Timely approval by the US FDA as an orphan drug for the use in liver MRI for patients with severe renal impairment or when gadolinium may otherwise be medically inadvisable

**Milestones:**

3 Sept 2025: NDA submission

November 2025: Day 74 (PDUFA announced)

July 2026: Approval

**Future opportunities:** Apply for marketing approval in EU and other ex-US regions



ORVIGLANCE®

Liver diagnostic imaging drug

ONCORAL

Daily, oral chemotherapy



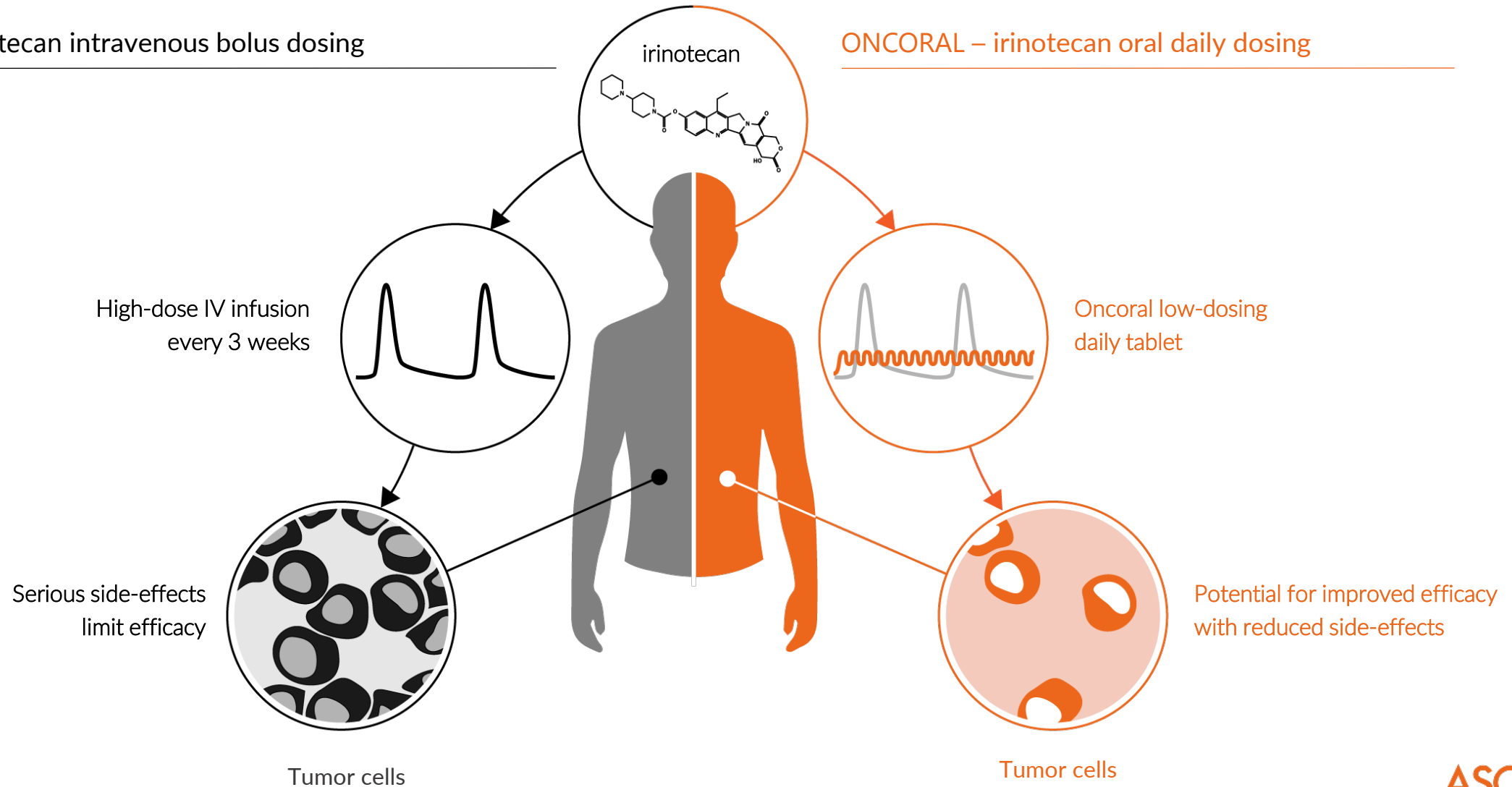
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# IMPROVING IRINOTECAN EFFICACY and TOLERABILITY

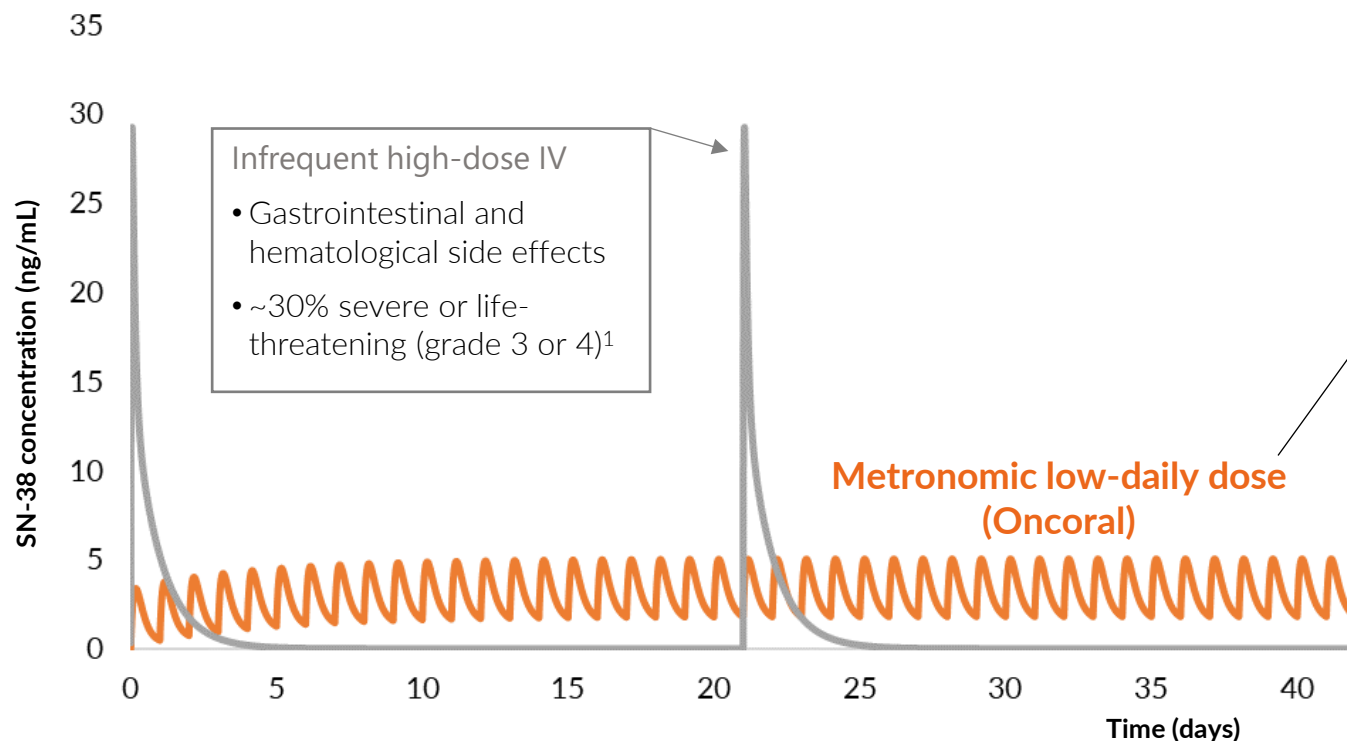
Irinotecan intravenous bolus dosing

ONCORAL – irinotecan oral daily dosing



# ENCOURAGING SAFETY PROFILE

## PLASMA LEVELS OF IRINOTECAN



Source: Simulation of Oncoral vs. IV Camptosar

### Frequent (metronomic) low-dose irinotecan

- Several studies show improved tolerability<sup>2,3</sup>
- Daily dosing – adjust quickly if acute toxicity

### Oncoral Phase 1 results

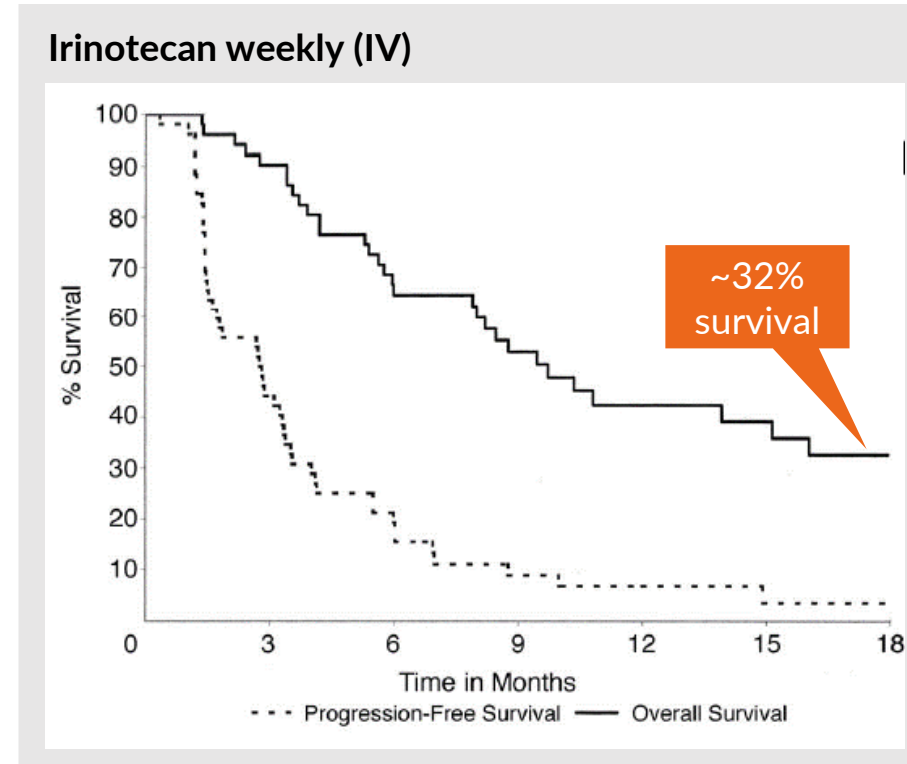
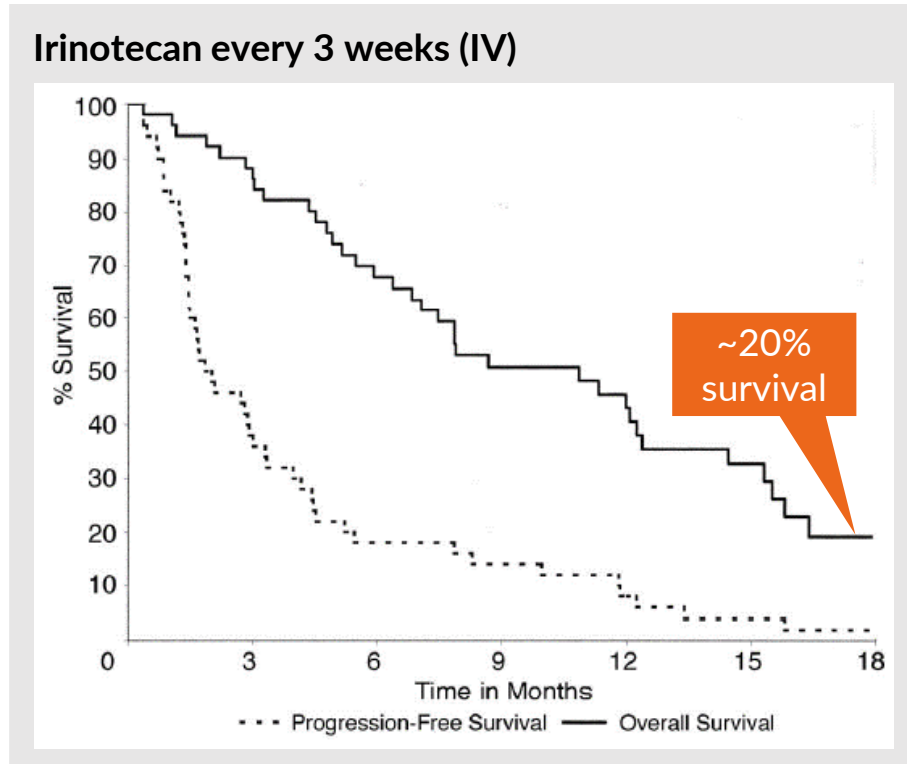
- Well tolerated, no unexpected side-effects
- Hematological toxicities mild-moderate (grade 1 or 2)<sup>4</sup>
- Efficacy: Stable disease even in patients previously treated with IV irinotecan

1) Camptosar prescribing information 2) Furman et al 1999 3) Perez et al 2004 4) Kumler et al 2018



# IMPROVING IRINOTECAN EFFICACY BY FREQUENT LOW DOSING

Overall survival: Improved from 20% (dosing every third week) to 32% (weekly dosing)<sup>1</sup>



*Study in patients with metastatic refractory breast cancer, N=103*

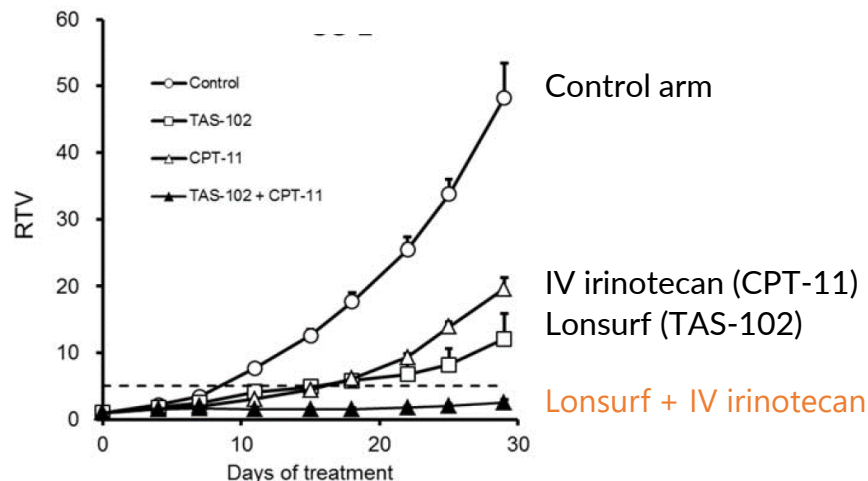
1) Perez et al. J Clin Oncol 2004: Randomized Phase II Study of Two Irinotecan Schedules for Patients With Metastatic Breast Cancer Refractory to an Anthracycline, a Taxane, or Both

# ONCORAL PHASE 2 IN GASTRIC CANCER

## STRONG RATIONALE FOR GASTRIC CANCER

- High unmet need and clinically demonstrated
- Potential for synergistic effect between Lonsurf and irinotecan

Efficacy study in an animal model of gastric cancer<sup>1</sup>  
(Relative Tumor Volume, RTV)



## LONSURF AND IRINOTECAN COMBINATION

### RANDOMIZED CONTROLLED PHASE 2 STUDY

- ~100 patients with metastatic gastric cancer
- Study arms: Oncoral + Lonsurf vs. Lonsurf
- Endpoints: Progression Free Survival (Primary), Response Rate, PK, Safety (Secondary) and Overall Survival (follow-up)
- IND approved in the US
- To focus all resources on Orvigance, patient enrollment is not initiated until it can be done effectively

Clinical collaboration with



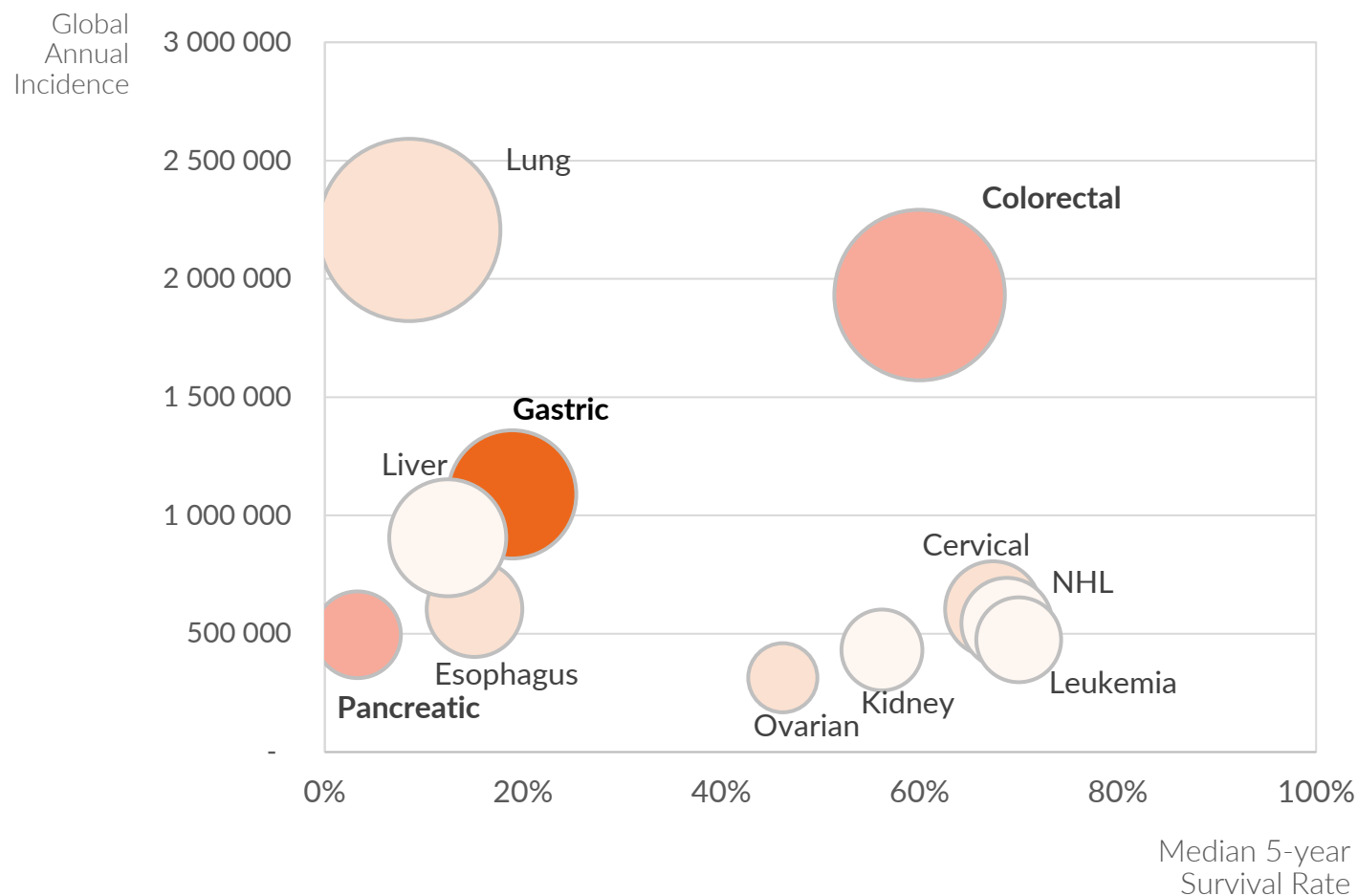
TAIHO ONCOLOGY

LONSURF is approved for treatment of metastatic gastric cancer and metastatic colorectal cancer

1) Nukatsuka et al: Combination Chemotherapy Using TAS-102 and Irinotecan Hydrochloride, ANTICANCER RESEARCH 35: 1437-1446 (2015)

# HIGH VALUE OPPORTUNITY IN GASTRIC CANCER AND EXPANSION

## POTENTIAL FOR ORAL, DAILY DOSING OF IRINOTECAN<sup>3</sup>



**A WELL-ESTABLISHED CHEMOTHERAPY**  
with recognized anti-tumor effect in solid tumors

- **Current focus: Gastric cancer**
  - Clinically demonstrated
  - Guidelines recognized
  - 3<sup>rd</sup> highest cancer deaths<sup>1</sup>
  - Orphan disease (US and EU)
  - \$3-4bn market<sup>2</sup>
- **Approved indications for IV irinotecan**
- **Indications where IV irinotecan are clinically demonstrated & guidelines recognized**
- **Indications where IV irinotecan are clinically demonstrated**

1) International Agency for Research on Cancer (IARC, 2021)

2) GlobalData - Gastric and Gastroesophageal Junction Adenocarcinoma - Global Drug Forecast and Market Analysis to 2024

3) Globocan 2020, WHO, Cancer Research UK





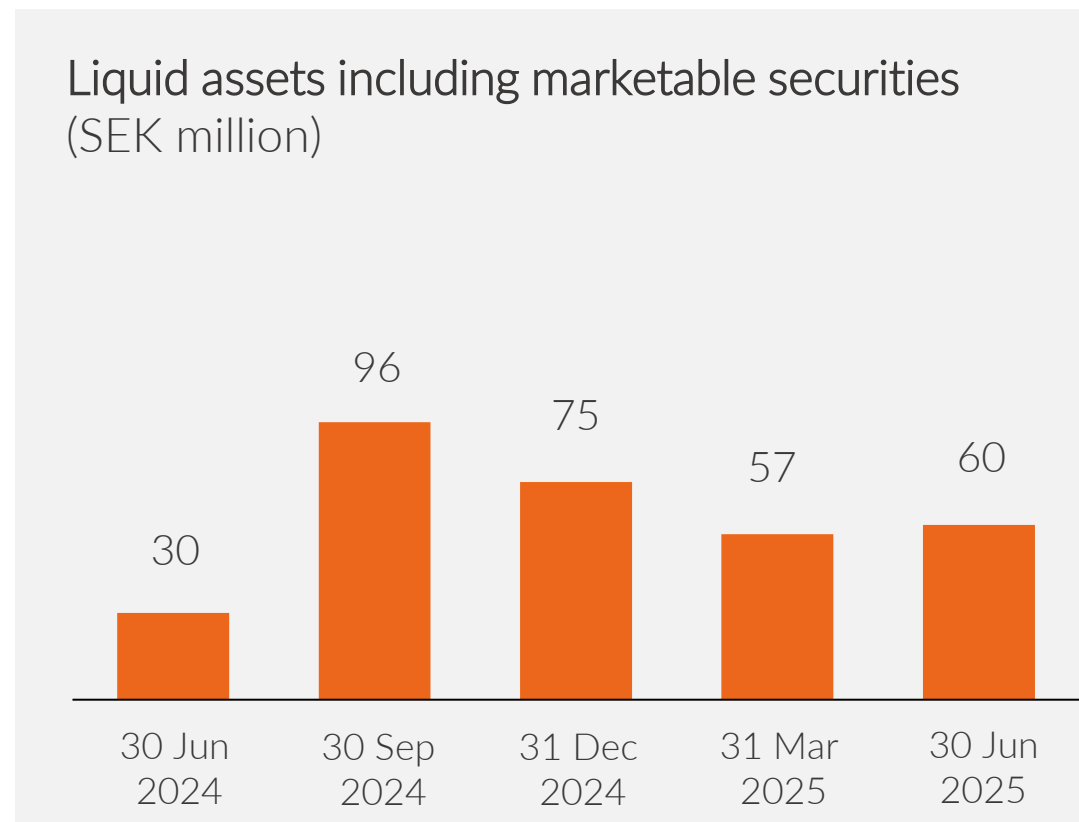
## FINANCIALS & OUTLOOK

# LIQUIDITY - CASH RUNWAY TO AT LEAST END 2025

Liquid assets of SEK 60 million (30 Jun 2025)

- No outstanding debt following conversion of 7.5 MSEK loan from Fenja (Sept 2025)

Cash runway into Q2 2025 with focus on Orviglance NDA review



# SUBSTANTIAL ORVIGLANCE VALUE CREATION OPPORTUNITIES



Objectives

Advance Orviglance to approval

Secure partnering and commercialization readiness

**Timely approval** by the US FDA as an orphan drug for the use in liver MRI for patients with severe renal impairment or when gadolinium may otherwise be medically inadvisable

**Focused launch** for well-defined patient population with 800 MUSD annual addressable market  
**Partner** driven global commercialization

Looking ahead

- ✓ NDA submission September 2025
- FDA communication of PDUFA date November 2025
- FDA approval following 10 months review July 2026

- Advance **launch** readiness
- Establish commercialization **partnership(s)**



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