

# PCI Biotech



Enabling intracellular delivery

EUROPEAN BIOTECH INVESTOR DAYS 2021

April 8, 2021

Per Walday, CEO

# PCI BIOTECH










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# PCI BIOTECH – ENABLING INTRACELLULAR DELIVERY

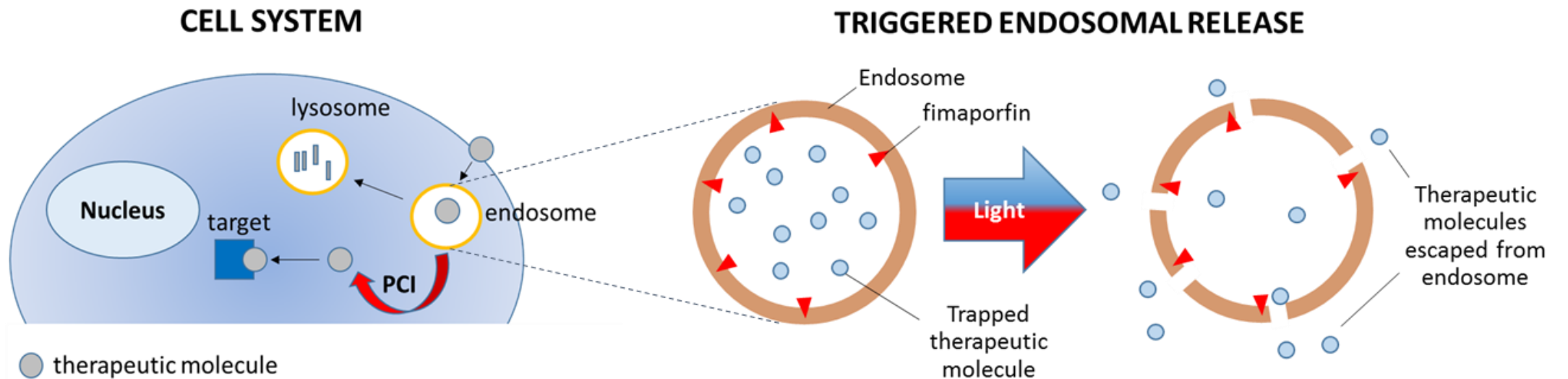
- ▶ A biotech company with an oncology focused pipeline
  - A listed (PCIB:NO) cancer-focused biotech company
  - Solid cash position (approx. 190 mill NOK), partly placed in Euro
  - Photochemical internalisation (“PCI”) technology
  - One platform technology with three well differentiated assets

Programme	Indications/Therapeutics	Preclinical	Phase I	Phase II	Pivotal
 <b>fimaCHEM</b>	 <i>Bile duct cancer / gemcitabine</i>				
 <b>fimaVACC</b>	 <i>Therapeutic cancer vaccines</i>				
 <b>fimaNAC</b>	 <i>Nucleic acid therapeutics</i>				

Photochemical internalisation (PCI) is a platform technology with three programmes targeting an attractive and growing oncology market

# PCI TECHNOLOGY – MODE OF ACTION

- ▶ Enabling drugs to reach intracellular therapeutic targets



- ▶ Small molecules (chemotherapeutics – **fimaCHEM**)
- ▶ Antigens (peptides/proteins – **fimaVACC**)
- ▶ Nucleic acids (mRNA, RNAi – **fimaNAC**)

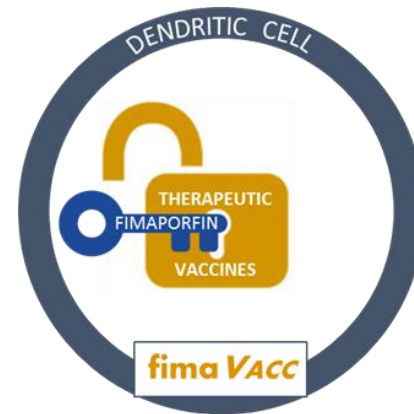
# PCI TECHNOLOGY

- ▶ Enabling drugs to reach intracellular therapeutic targets

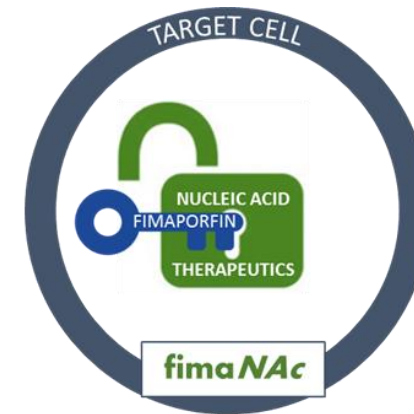
***PCI – the solution to a key challenge for several modalities***



Enabling approved drugs to fulfil unmet local treatment need



Enhancing cellular immune responses important for therapeutic effect

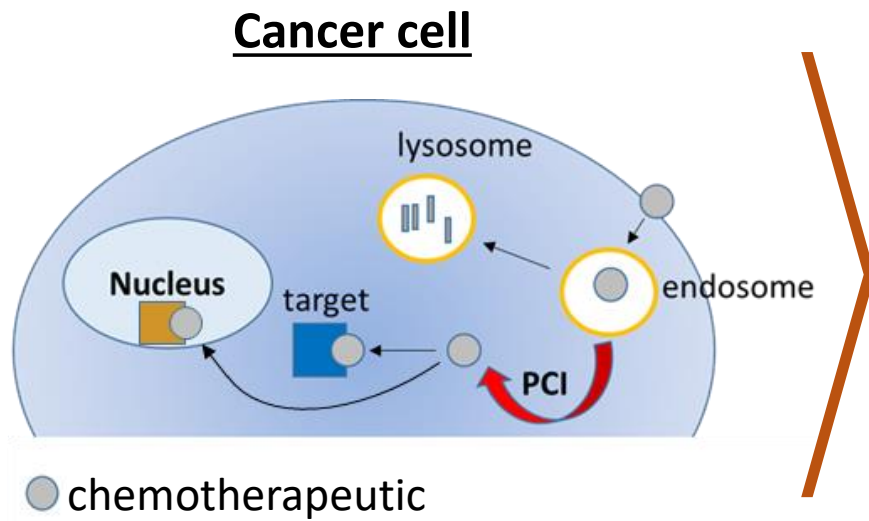


Providing a delivery solution for nucleic acid therapeutics

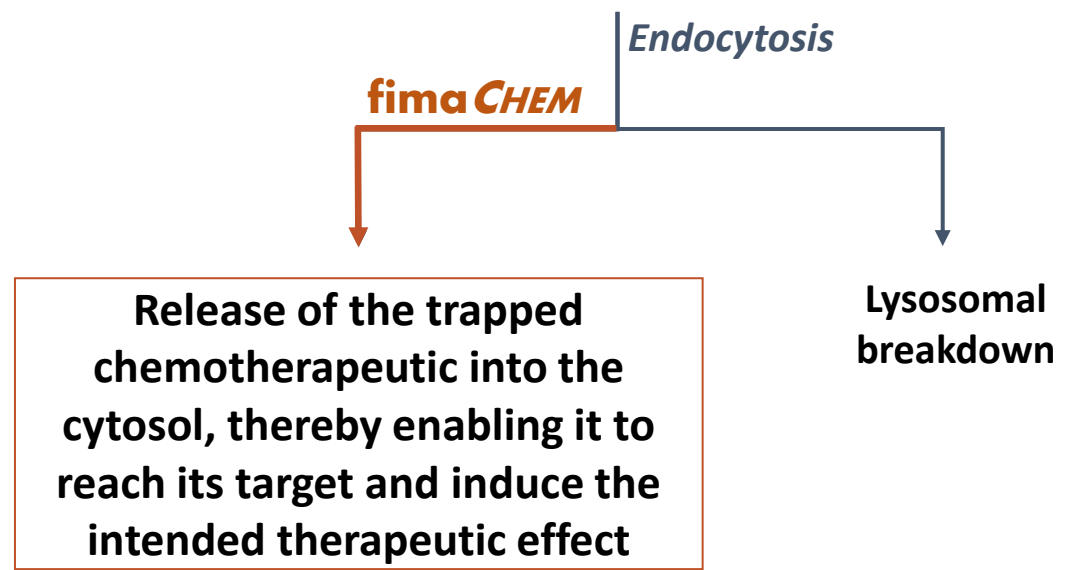


# PCI TECHNOLOGY

- ▶ **fima CHEM** – mode of action

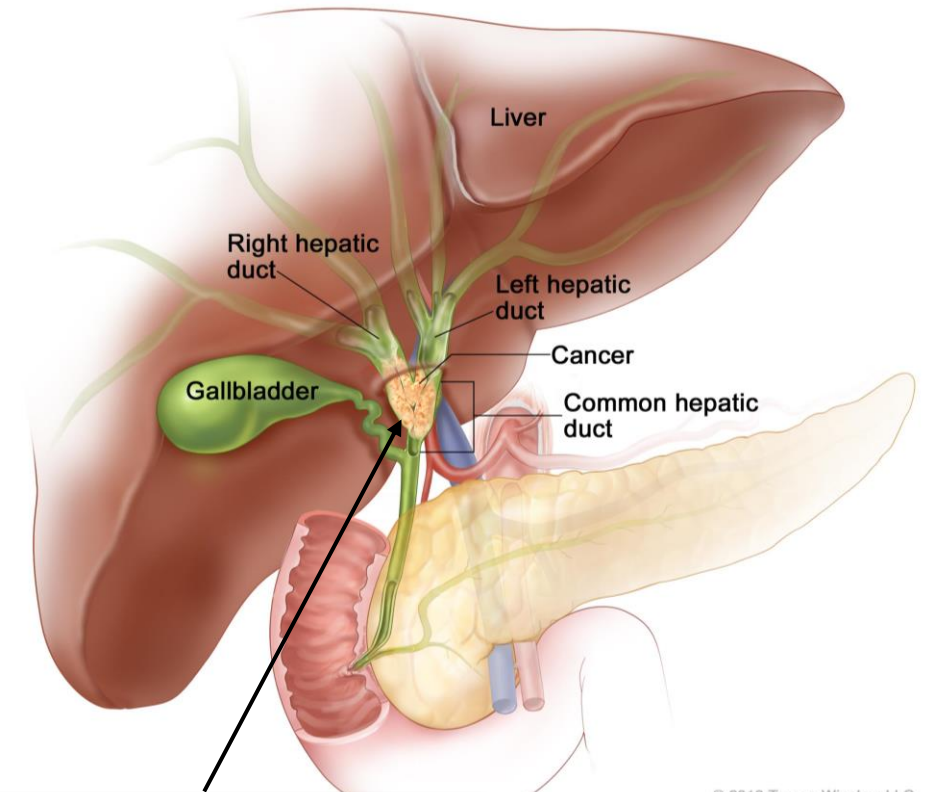


## Chemotherapeutics



# BILE DUCT CANCER

- ▶ Incidence, location and classification
  - ▶ Rare disease: 1-2/100,000 in Western world
  - ▶ Often referred to as cholangiocarcinoma
  - ▶ The cancer cells originates from the cells inside the bile duct (called cholangiocytes)
  - ▶ Cholangiocarcinoma includes:
    - Intrahepatic tumours (10%<sup>1</sup>)
    - Perihilar tumours (60-70%<sup>1</sup>)
    - Distal tumours (20-30%<sup>1</sup>)
    - Different incidence, pathobiology and management



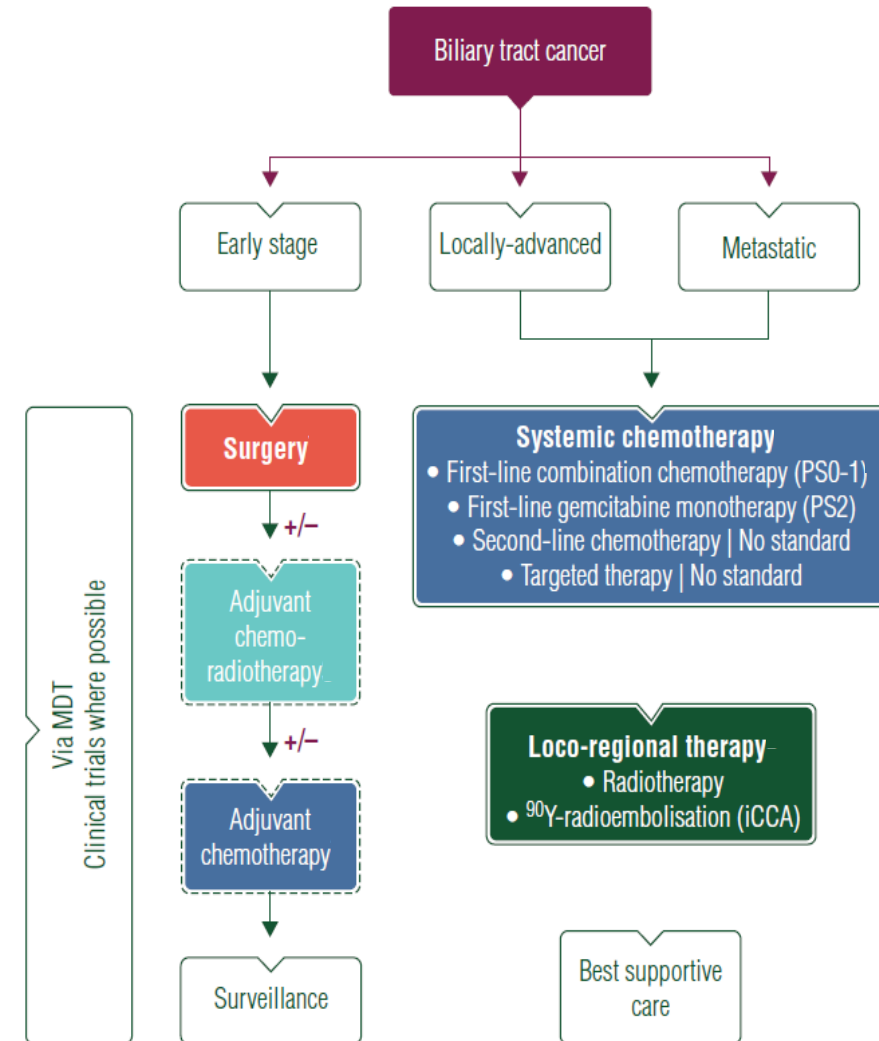
*Perihilar bile duct cancer is the main target for PCI treatment*

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1) Bile duct cancer, American Cancer Society, 30 October 2013

# fimaCHEM AND BILE DUCT CANCER

- ▶ Excellent fit with medical need and existing treatments
- ▶ **Efficacy:** mOS<sup>1</sup> of **22.8 months** at selected dose (cohort IV) in Phase I dose-escalation (vs. **11-12 months**<sup>2</sup> with SoC for inoperable CCA treatments)
- ▶ **Easy to use:** Illumination through standard endoscopic methods compatible with endoscopic stenting for palliative biliary drainage
- ▶ **Positioning:** Enhances recommended first-line chemotherapy for inoperable patients (> 2/3 are inoperable) and boosts effect locally, where most needed
- ▶ **Protection:** Granted Orphan Drug designation in EU and US, offering 7 to 10 years exclusivity
- ▶ **Competition:** Precision/gene/small molecules in clinical development are mainly intrahepatic CCA targeted or second line
- ▶ **Premium price:** Mean price for OD in the US is \$K150 (median \$K109)<sup>3</sup>
- ▶ **Estimated eligible population**<sup>4</sup>: US & Europe: approx. 3,000 patients/year; Asia: >4,000 patients/year





## BILE DUCT CANCER – PHASE I DOSE-ESCALATION STUDY

- ▶ Positive early signs of efficacy – median Overall Survival of 22.8 months at selected dose

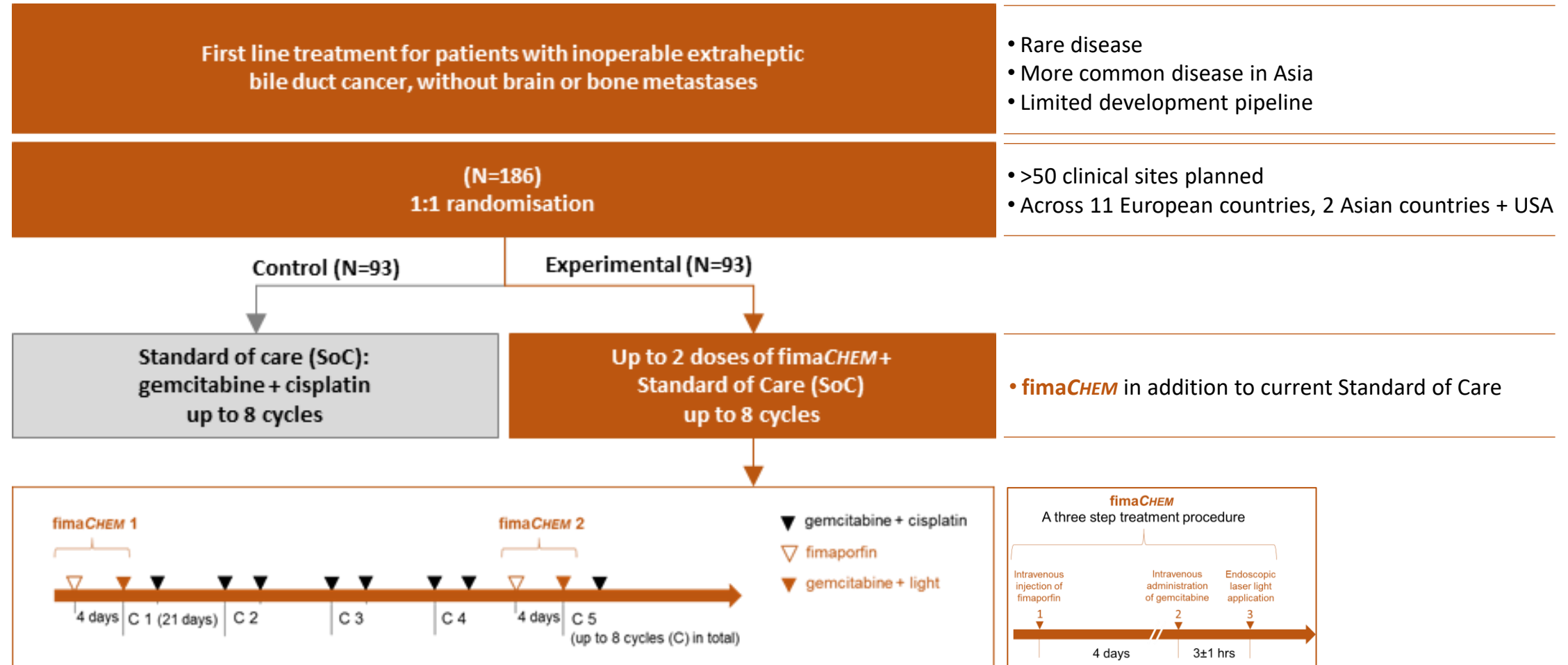
Parameters	Cohort IV (N=6)	Phase I – all dose-escalation cohorts (N=16)
Objective Response Rate (ORR)	3/5 patients (2 PR; 1 CR)	4/12 patients (2 PR; 2 CR)
Median Overall Survival (mOS)	22.8 months	16.1 months

- Encouraging tumour response and survival in Cohort IV, with a single **fimaCHEM** treatment
- Half of the patients in Cohort IV survived >30 months
- Cohort IV dose has been selected for the pivotal RELEASE study
- Safety of two **fimaCHEM** treatments provided in a Phase I Extension
- Results paved the way for a study with interim analysis for potential accelerated approval
- Phase I case reports published in peer-reviewed medical journal (open access)\*

\*Endoscopy International Open, December 2020; 08: E1878–E1883 (DOI 10.1055/a-1276-6366)

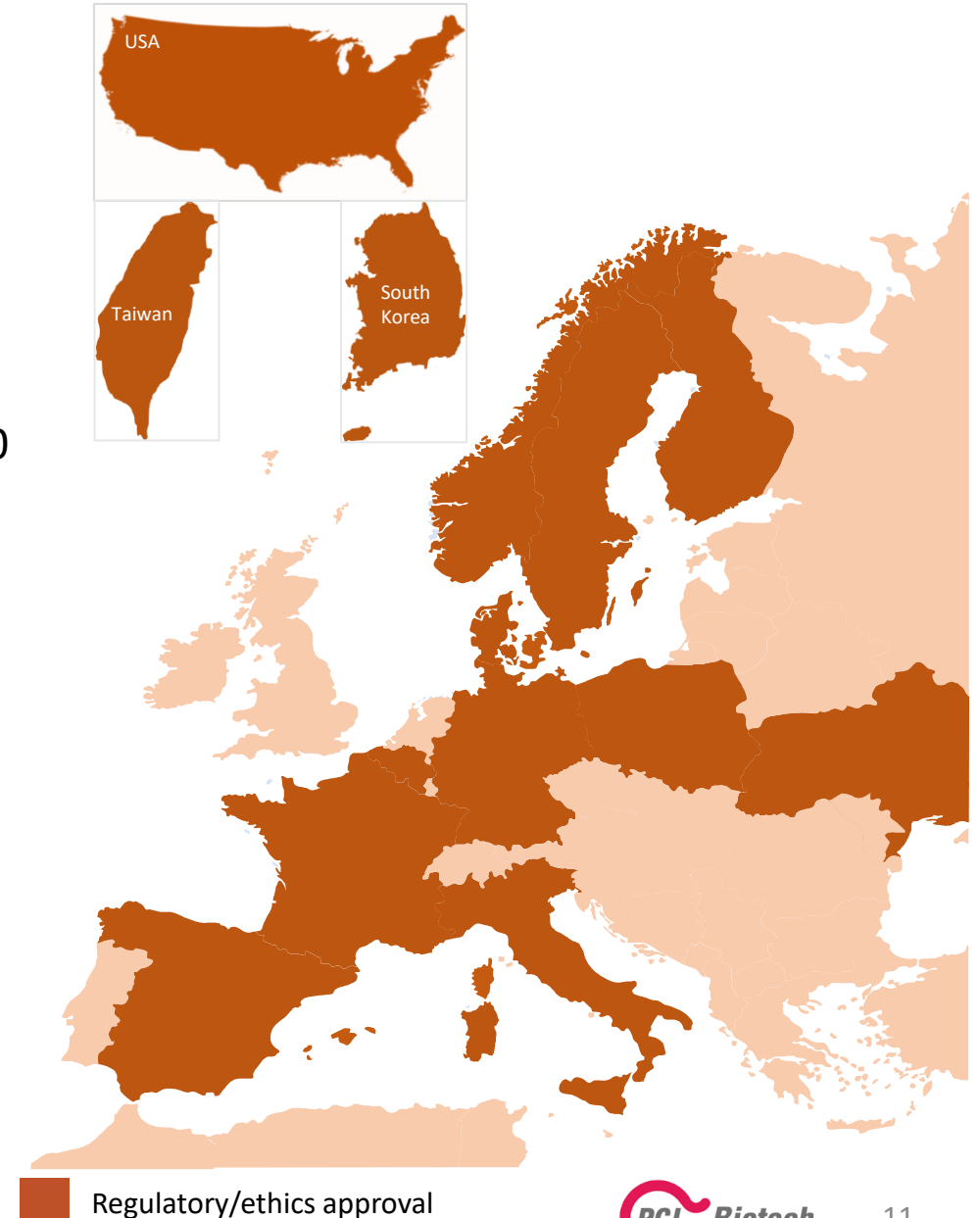
# BILE DUCT CANCER – RELEASE STUDY

- ▶ Pivotal study with potential accelerated/conditional approval on interim analysis



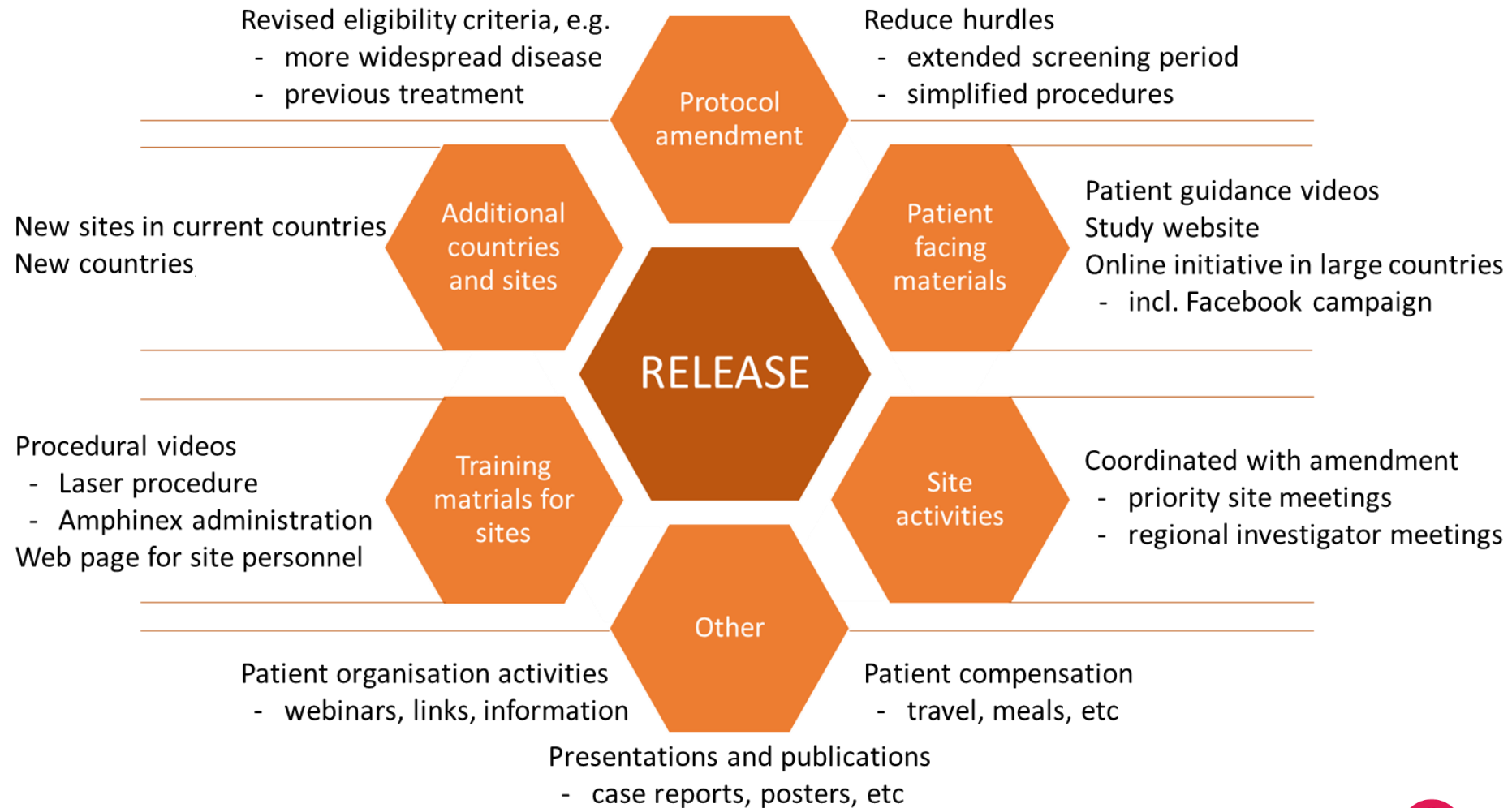
## BILE DUCT CANCER – RELEASE STUDY

- ▶ Pivotal study status
  - ▶ Open sites in South Korea, Taiwan, USA and 11 European countries
  - ▶ 47 sites open globally by Q4 2020 report – plan to open >50
  - ▶ 9 sites open in Asia – first Asian patient enrolled Oct'20
  - ▶ 6 sites open in the US – awaiting first US patient
  - ▶ Screening in the RELEASE study has been affected by the COVID-19 pandemic
  - ▶ Several initiatives implemented with the aim to recoup the COVID-19 caused delay



# BILE DUCT CANCER – RELEASE STUDY

## ► Initiatives to enhance recruitment – based on KOL and site feedback



## BILE DUCT CANCER – RELEASE STUDY DESIGN

- ▶ Randomised study with interim analysis for potential accelerated/conditional approval

- ▶ **Orphan designation granted in both the US and EU**

- ▶ **Fastest way to market determined through regulatory interactions with authorities**

- ▶ Formal interim analysis of ORR when 120 patients are enrolled

- ▶ Interim read for potential accelerated approval expected 2H 2022 / 1H 2023

- ▶ Primary endpoint: PFS<sup>a</sup>, with OS<sup>b</sup> as key secondary

- ▶ Interim analysis primary endpoint: ORR<sup>c</sup>

- ▶ **First patient included in EU May 2019 and in Asia October 2020**

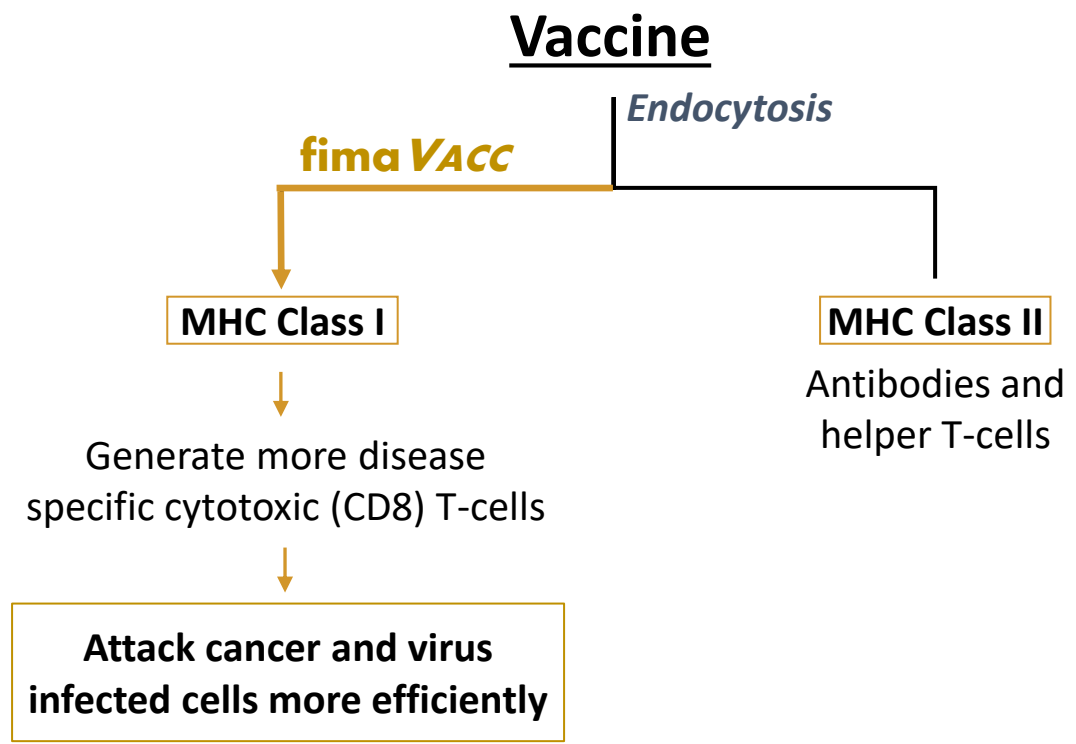
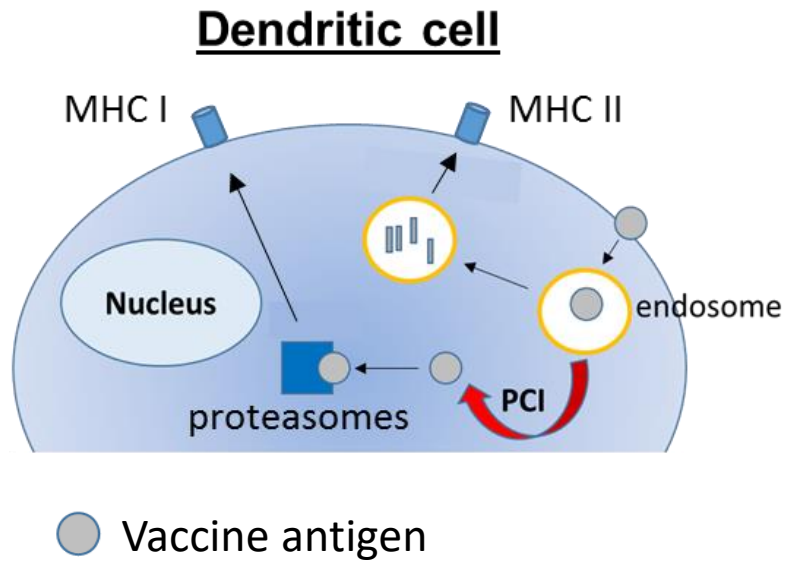
- ▶ **Several initiatives to enhance recruitment implemented and study expanded to Asia autumn 2020**

- ▶ **Indications of increased screening and enrolment after implementation, but the full effect of these measures is not expected until the COVID-19 situation improves**



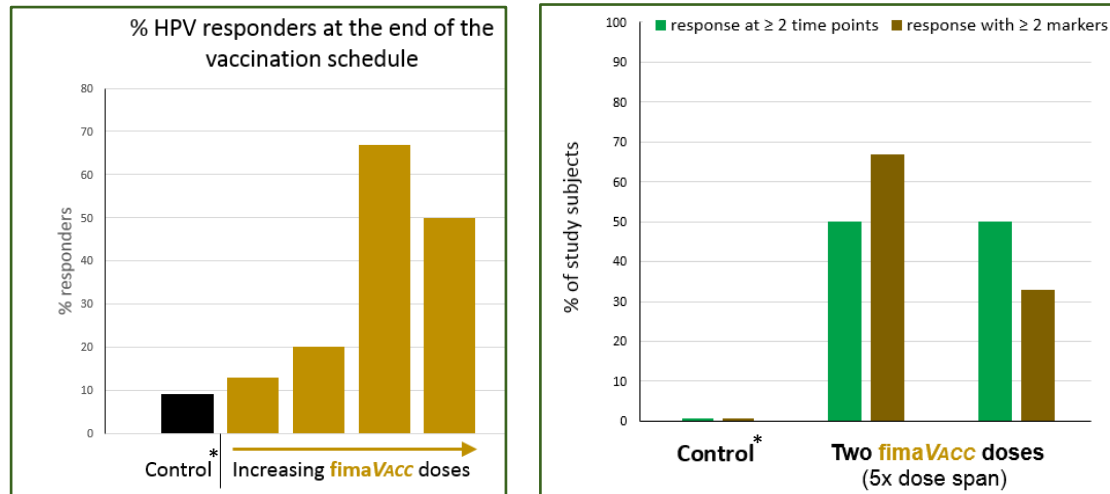
# PCI TECHNOLOGY

- ▶ **fima VACC** – aiming to enhance immunogenicity of vaccines for immunotherapy field



# SUCCESSFUL CLINICAL PROOF-OF-CONCEPT IN HEALTHY VOLUNTEERS

- ▶ Phase I study shows enhanced immune responses compared to a state-of-the-art adjuvant



**fimaVACC** provides:

- ✓ *Increased number of responders*
- ✓ *Enhanced T-cell responses*
- ✓ *Improved T-cell functionality*

- ▶ Results show that the addition of **fimaVACC** induces:

- Substantial increase in number of T-cell responders to HPV E7 peptides
- Clearly enhanced overall T-cell responses
- More robust CD8 T-cell responses, which are notoriously difficult to induce with E7
- Increased functionality of the induced CD8 T-cells

- ▶ **Highly sought-after features – especially for therapeutic vaccination**

\*Control group with the Poly-IC adjuvant Hiltonol

## PROGRESS OF THE **fimaVACC** PROGRAMME

- ▶ Growing robust evidence, with Phase I study published
  - ▶ Positive clinical study results presented at ESMO Immuno-Oncology Congress in December 2019
  - ▶ The full study results were published early January 2021 in *Frontiers in Immunology*<sup>\*</sup>, a high impact immunology journal
  - ▶ Next step: moving to Phase II with a partner or by ourselves (proof-of-concept in a disease setting)



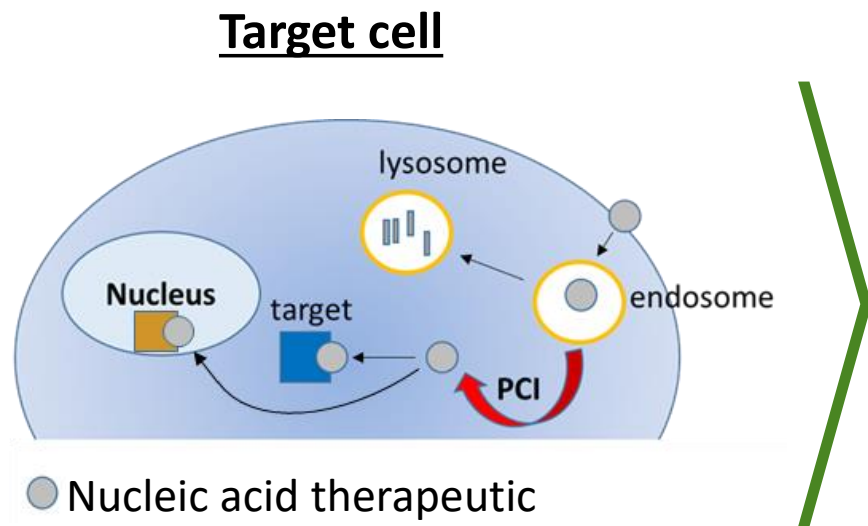
*Patented disposable "band-aid-like" device for user-friendly illumination of the vaccination site*

<sup>\*</sup>Front. Immunol., 08 January 2021 | <https://doi.org/10.3389/fimmu.2020.576756>

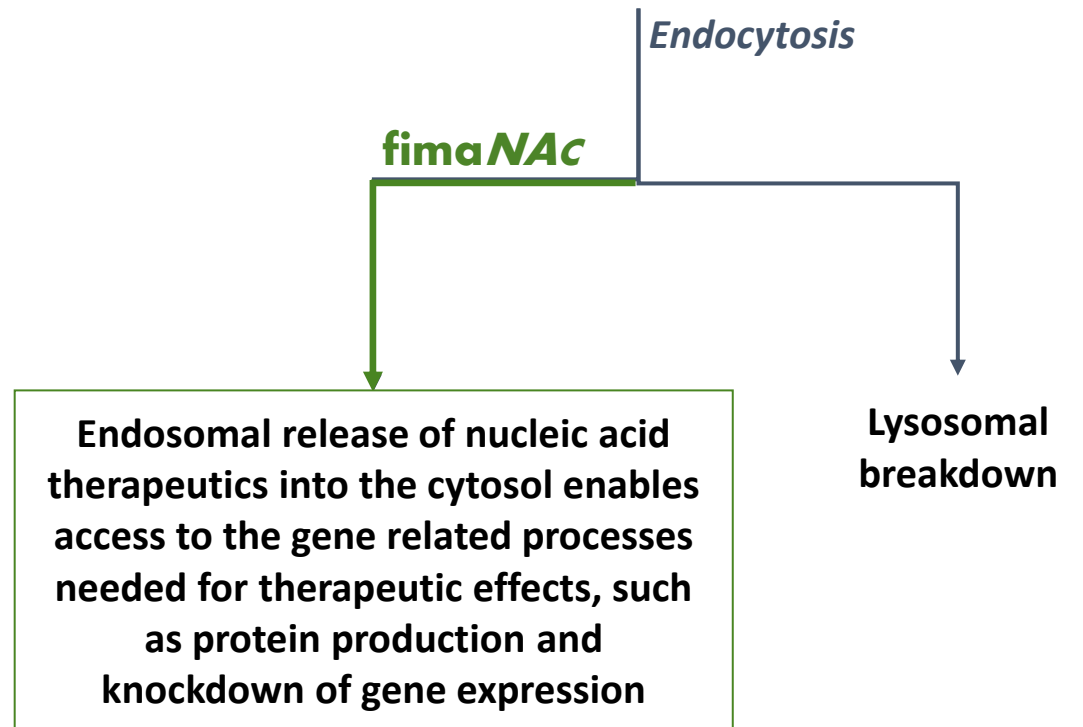


# PCI TECHNOLOGY

- ▶ **fimaNAC** – mode of action



## Nucleic acid therapeutic



## RESEARCH COLLABORATIONS

- ▶ Collaborations within nucleic acid therapeutics

- ▶ Research collaborations to explore synergies with partner products
- ▶ Four current research collaborations
- ▶ PCI Biotech continues to pursue new value-adding collaborative opportunities

fimaNAC



DCPRIME

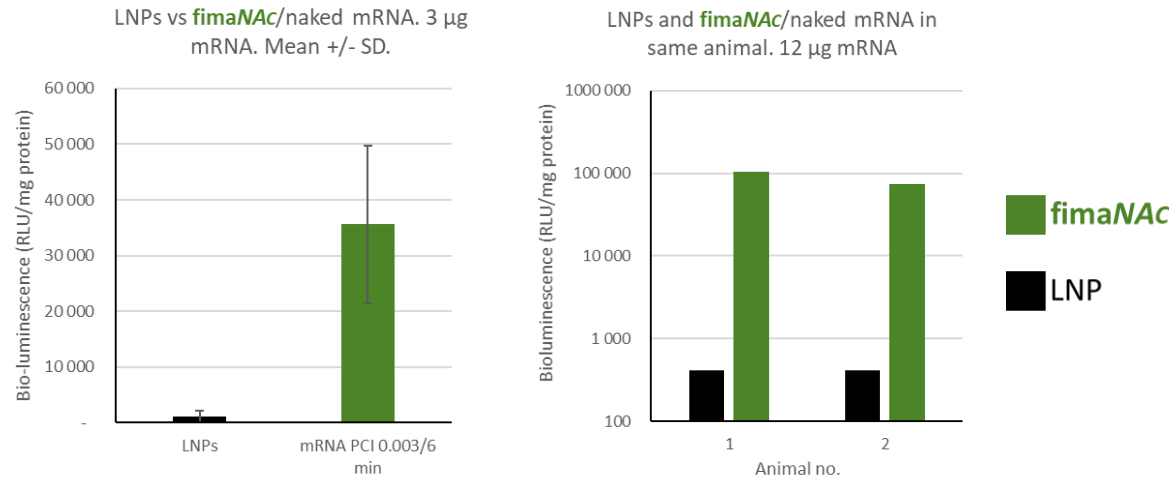


- ▶ Encouraging mRNA results recently presented at international RNA conference\*

# INTRATUMOURAL DELIVERY WITH **fimaNAC** IS CONVINCINGLY SUPERIOR TO LNPs

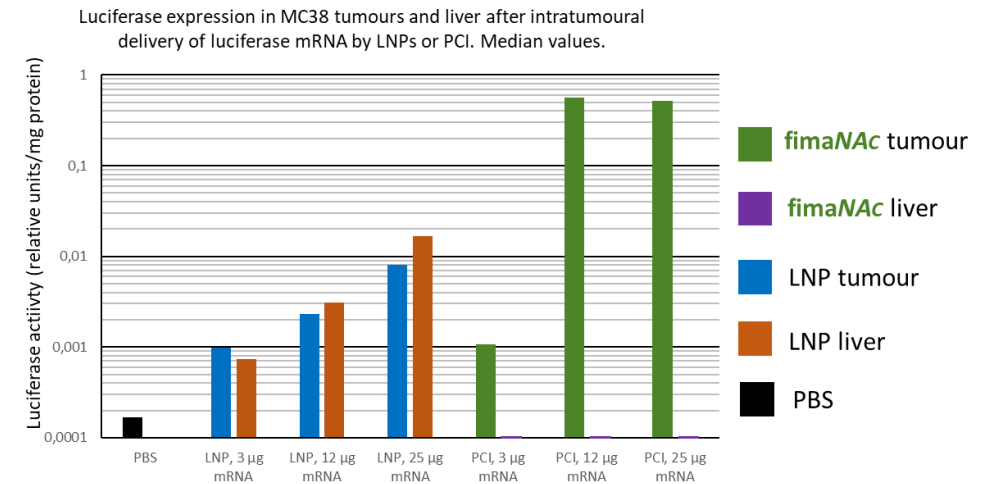
- ▶ Substantially higher and more targeted mRNA delivery to tumours compared to LNPs

## Consistently improves delivery compared to LNPs



- ▶ 35x higher activity with **fimaNAC** compared to LNPs (3µg mRNA)
- ▶ 200x in intra-animal (2 tumours) comparison (12µg mRNA)

## Preventing undesirable off-target delivery

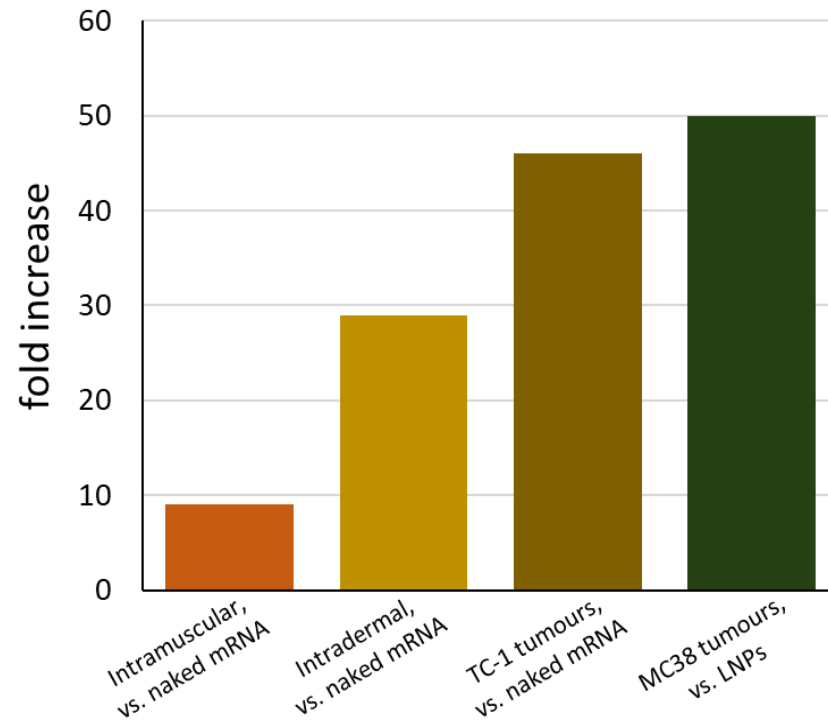


- ▶ **fimaNAC** -mediated delivery confined to tumour
- ▶ LNPs seem to leak out of the tumour leading to unwanted expression in the liver

# NAKED MRNA DELIVERY WITH **fimaNAc** – DIFFERENT APPLICATIONS

- ▶ Substantially enhanced delivery to tumour, muscle and skin

Fold increase of mRNA expression with **fimaNAc**



## ▶ Local delivery technology

- Delivery demonstrated to tumour, muscle, and skin
- Convincing superiority to LNPs demonstrated in tumour
- Administered as one injection without side effects
- Injection and illumination as one procedure
- mRNA expression spatially restricted to illuminated area

## ▶ Clinically proven platform technology

- **fimaVACC** and **fimaCHEM** using the same platform technology
- Ample safety data in humans – systemic and local administration

## ▶ Applications where a local effect may be desired

- Skin, muscles, tumours, eye, joints, lymph nodes

# GOOD PROGRESS AND EXCITING OUTLOOKS

## fimaCHEM

### **Progressing development in bile duct cancer towards marketing authorisation application**

- Encouraging tumour response and survival data from Phase I
  - Orphan drug status granted in EU and USA
  - Fastest way to market determined through regulatory interactions with authorities
  - Global pivotal RELEASE study with interim read for accelerated approval
- 

## fimaVACC

### **Successful clinical PoC with enhanced immune responses**

- Phase I results recently published in high-impact immunology journal
  - Vaccination technology available for licensing
  - Plan for clinical proof of concept in a disease setting
- 

## fimaNAC

### **Providing an intracellular delivery solution for nucleic acid therapeutics**

- A versatile technology with strong preclinical data
- Research collaborations with several players in the field

# INVESTMENT HIGHLIGHTS

## Broad platform technology

PCI is a platform technology with three programmes targeting an attractive and growing oncology market, with a clear path to a high unmet need orphan oncology market for the lead candidate

## Advanced lead product candidate

**fima CHEM** – Amphinex® is an orphan designated (EU & US) first-in-class product candidate in pivotal development for treatment of bile duct cancer – a disease without approved drugs

## Encouraging clinical results

Positive early signs of tumour response in a first-in-man study published in Lancet Oncology, and in a Phase I study specifically targeting bile duct cancer – encouraging survival data

## Defined development strategy

Development strategy for lead candidate established based on thorough regulatory discussions with FDA and EMA – a single randomised pivotal study with accelerated/conditional approval potential

## Pipeline opportunities

**fima VACC** – a clinical stage vaccination technology with encouraging cellular immune responses  
**fima NAC** – a preclinical gene therapy delivery solution with established key player collaborations

## Experienced leadership

Management team, Board of Directors and advisors with extensive pharmaceutical industry experience across a range of medical development and commercial areas

# PCI Biotech



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For enquiries:

Per Walday, CEO

Mobile phone: +47 917 93 429

E-mail: [pw@pcibiotech.com](mailto:pw@pcibiotech.com)

Ronny Skuggedal, CFO

Mobile phone: +47 940 05 757

E-mail: [rs@pcibiotech.com](mailto:rs@pcibiotech.com)

[www.pcibiotech.com](http://www.pcibiotech.com)

