



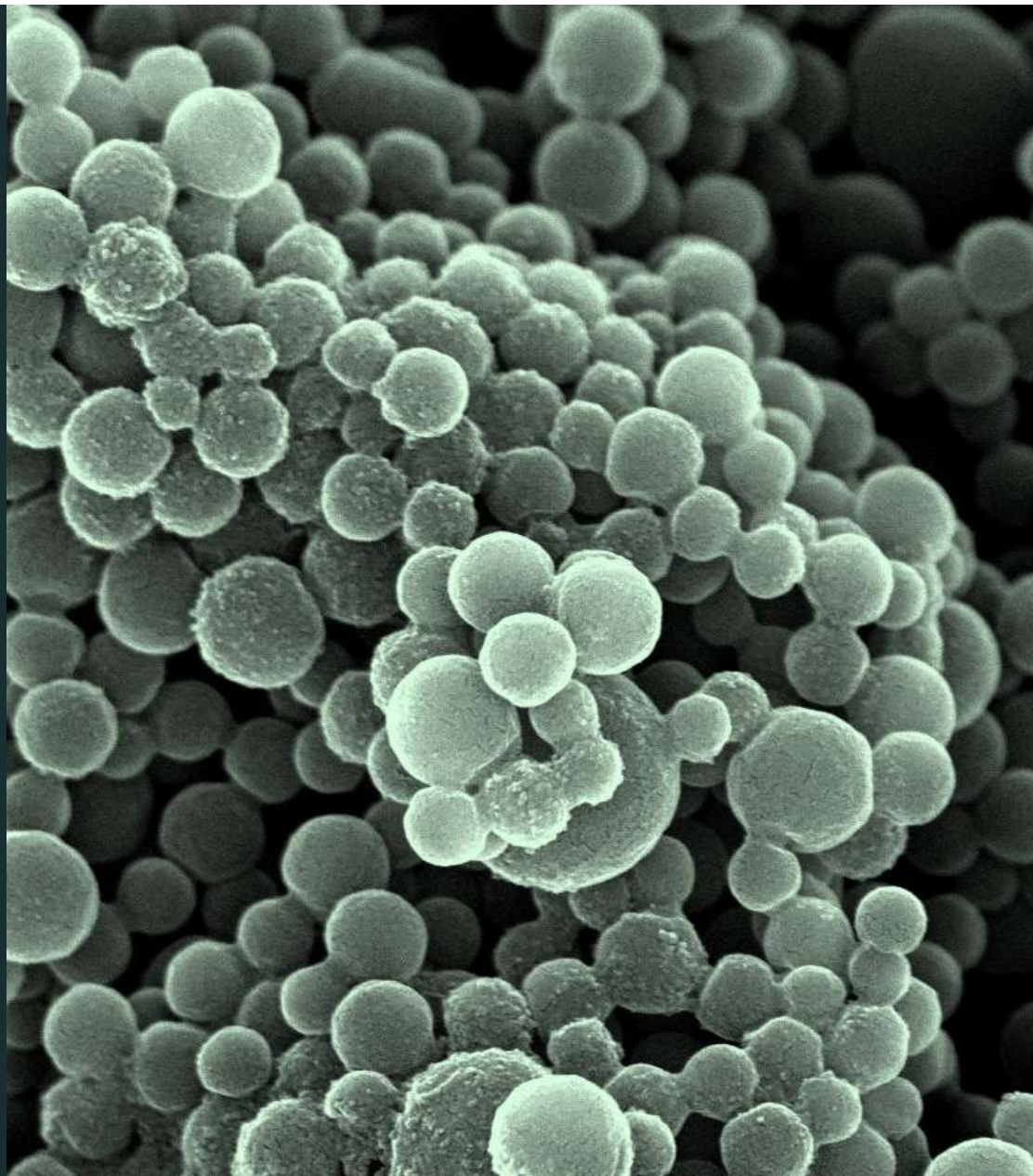
NaDeNo

NANOSCIENCE AS

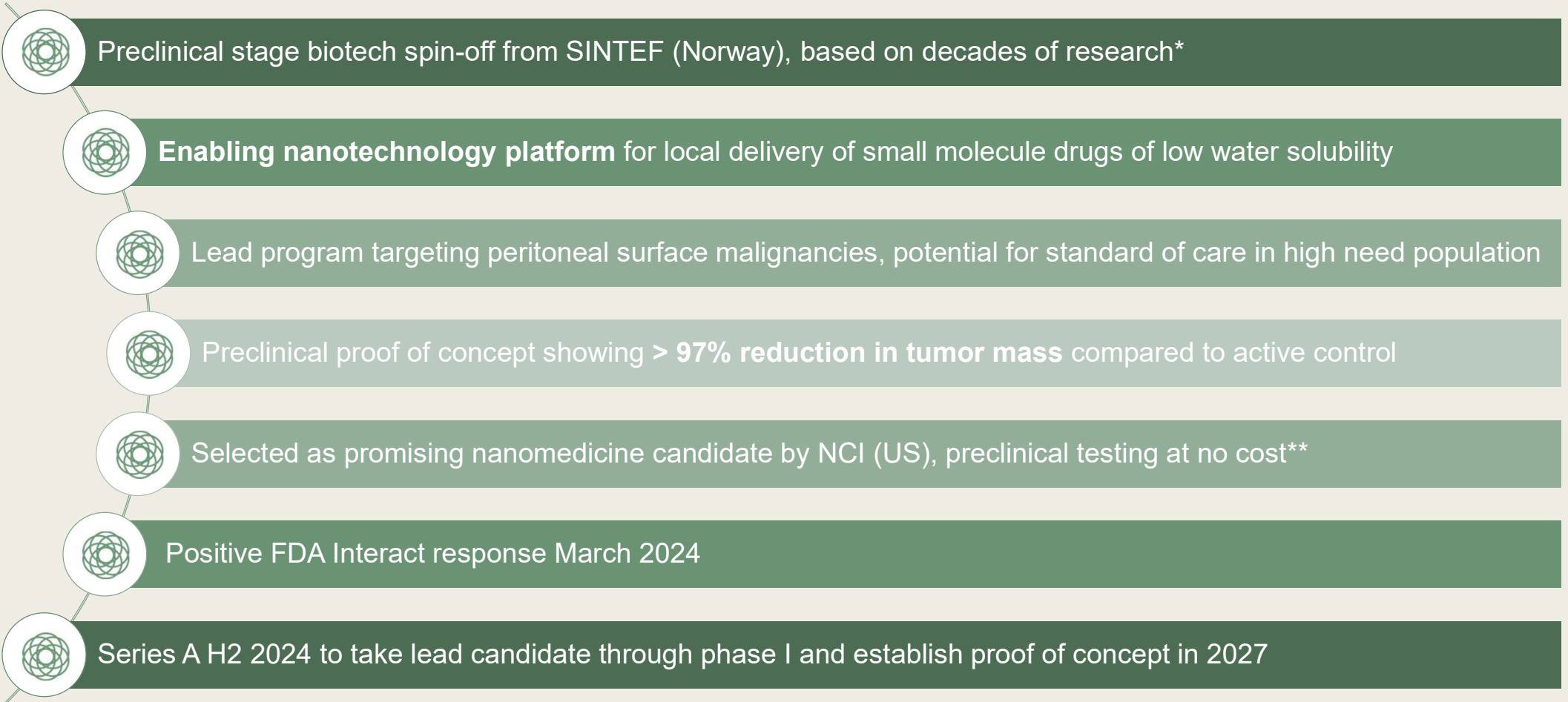
A 2022 SINTEF spin-off

UNLEASHING THE POTENTIAL OF HARD TO DELIVER
DRUGS

Non-confidential July 2024



NaDeNo in a Nutshell



Enabling Nanoparticle Platform

The major cause of failure in development of small molecule drugs is low water solubility¹

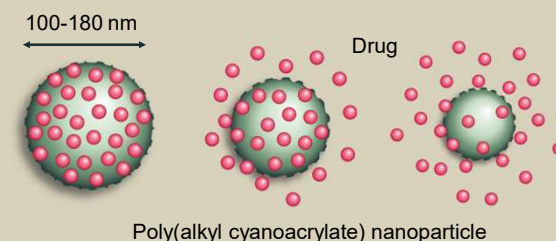
Concept

Hydrophobic small molecule drugs
encapsulated in polymeric nanoparticles

No chemical modification of drug

Local administration

Drug release kinetics follow a **triphasic profile**:
~30% burst release, ~40% release over 12 hrs,
~30% over >4 weeks.



Impact

- ✓ Enhanced safety and tolerability
- ✓ Increased efficacy
- ✓ Novel delivery opportunities for new and existing hard-to-deliver drugs
- ✓ Possibilities for prolonged drug patent protection



How our delivery system differentiates

- 💧 Designed for highly water-insoluble drugs
- 🔗 No chemical modification of encapsulated drug
- 🪡 High drug load and drug recovery* and only 0.2% free drug

- 🤝 Additive treatment effect**
- 📅 >1 year shelf life at 4°C, no aggregation
- 🧊 No lyophilization, no organic solvents
- 🏭 Scalable, one-step, low-cost manufacturing



1 Kalepu S, Nekkanti V. Insoluble drug delivery strategies: review of recent advances and business prospects. *Acta Pharmaceutica Sinica B* 5, 442 (2015)

* Drug load 8-10 wt% of total mass, 90% drug recovery, very high particle density in stock suspension

** Confidential data generated by the National Cancer Institute, Oslo University Hospital and SINTEF

Intraperitoneal Surface Malignant Disease

**Locally advanced
or metastatic
cancer located in
the peritoneum***

**Few symptoms,
late-stage
diagnosis**

**Poor survival
rates^{1,2,3}**

**Confirmed high
unmet medical
need^{4,5}**

**Lack of standard
treatment**



*Metastatic tumors typically originate from ovarian, colorectal, gastric, appendiceal and pancreatic cancer

PACAB-002 for local administration

Polymeric nanoparticles encapsulating the cytotoxic drug cabazitaxel

Local administration ensures high and durable drug concentrations near the tumor

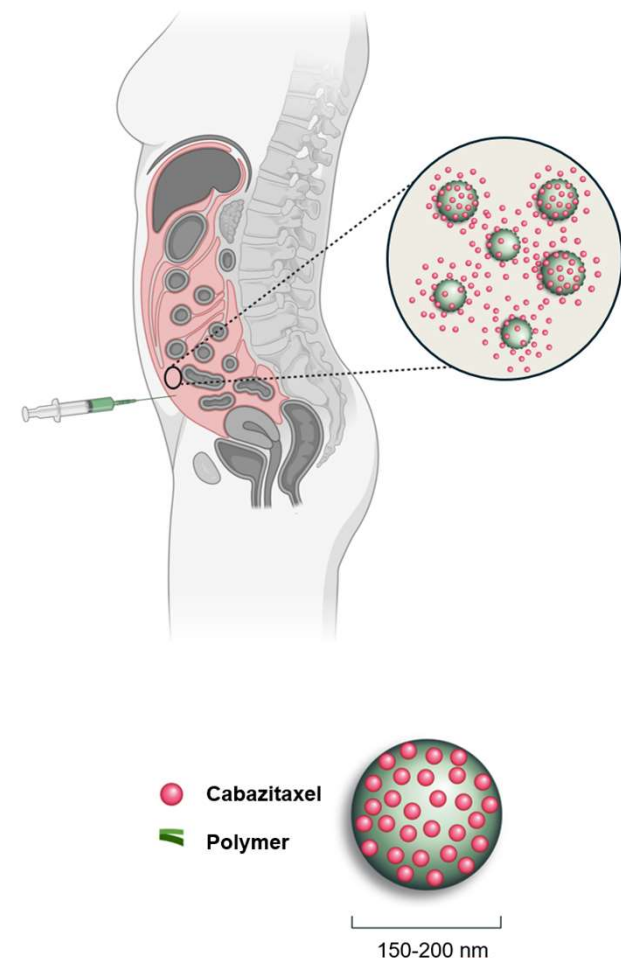
- ✓ Prolonged drug retention time in the peritoneum¹
- ✓ Tumor specific accumulation of drug¹
- ✓ Lower systemic exposure¹
- ✓ **Additive treatment effect** of the nanoparticles due to immune cell stimulation²
- ✓ Established efficacy profile of active substance³

Attractive features of cabazitaxel: Highly hydrophobic giving excellent compatibility with PACA nanoparticle, highly potent, broad tumor activity, better tolerability and less resistance than other taxanes, effect on tumour microenvironment, direct immunomodulatory effect.

¹Hyldbakk, et al., Nanomedicine. 2023 Jan, 48(4)

²Confidential data generated by National Cancer Institute, Oslo University Hospital and SINTEF

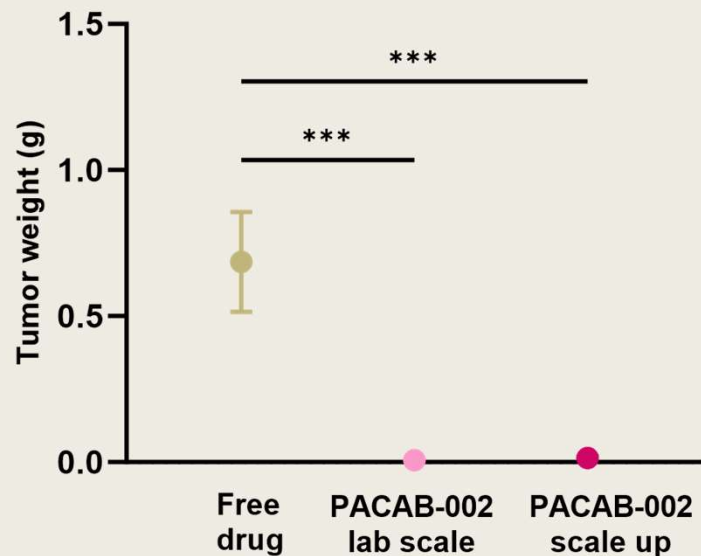
³Regulatory approval routes for established APIs: FDA 505(b)(2), EMA Hybrid application



Polymer: poly(alkyl cyanoacrylate) = PACA

Preclinical proof of concept

> 97% tumor reduction compared to active control



- Mouse model of peritoneal surface malignant disease originating from **ovarian cancer**
- **Intraperitoneal** injection
- **Single** treatment
- **Repeated with industrial scale material**

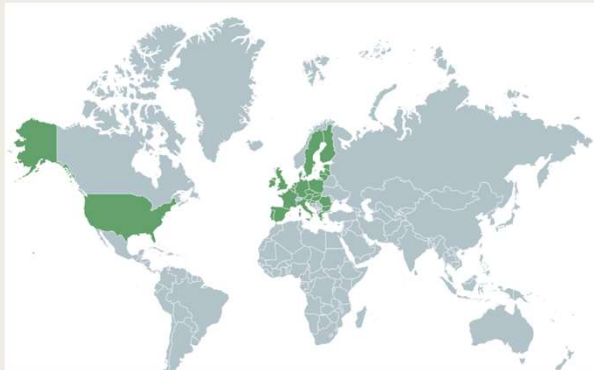
PACAB-002 lab scale and scale up compared to free drug (cabazitaxel) showing tumor weight at study end (day 38) after single intraperitoneal administration. N=6 mice per group. *** $p \leq 0.001$. Non-treated mice were sacrificed on day 17 due to large tumor burden.

Attractive business case

Potential to become standard of care in a high unmet medical need population

Incidence numbers with peritoneum as the sole site of metastasis*

70 000 patients



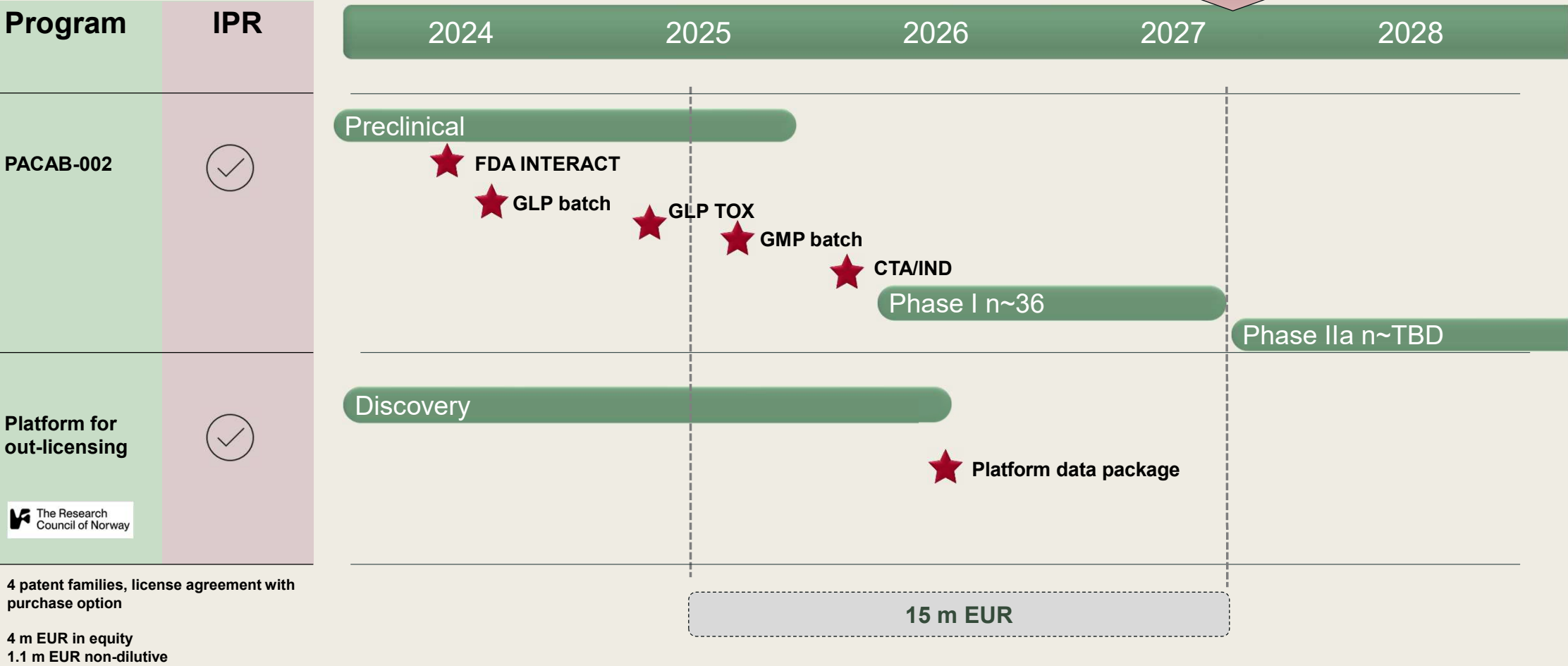
Peak sales estimate: >1 bUSD*

Phase I	Phase II	Phase III
Peritoneal surface malignant disease pipeline (intraperitoneal adm)		
 [CT-0508, CAR-Macrophage, US]	 [Radspherin, microspheres labelled with radium-224, EU] [MYJ-1633, NK cell therapy, Korea]	 [catumaxomab (bispecific), anti-EpCAM x anti-CD3 Mab, Asia]
Ovarian and primary peritoneal cancer pipeline (intraperitoneal adm)		
	 [AVB-001, Encapsulated cell product engineered to produce native hIL-2, US]	 [GEN-1/IMNN-001, IL-12 plasmid vector, lipopolymer nanoparticle delivery system, US] [OliV-Vec / GL-ONC1 (oncolytic attenuated vaccinia virus expressing hNIS), EU]
Nanoformulations of cabazitaxel (intravenous adm)		
	 [DEP® cbz, Australia, UK]	

- Modest competitive landscape within local treatment of peritoneal malignancies
- Only nanoformulation of cabazitaxel for local delivery

Development programs and capital need

Early proof
of concept



Together we can deliver more!



**Partners with hard-
to-deliver small
molecules
for co-development**

Enabling technology for hard to deliver drugs

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