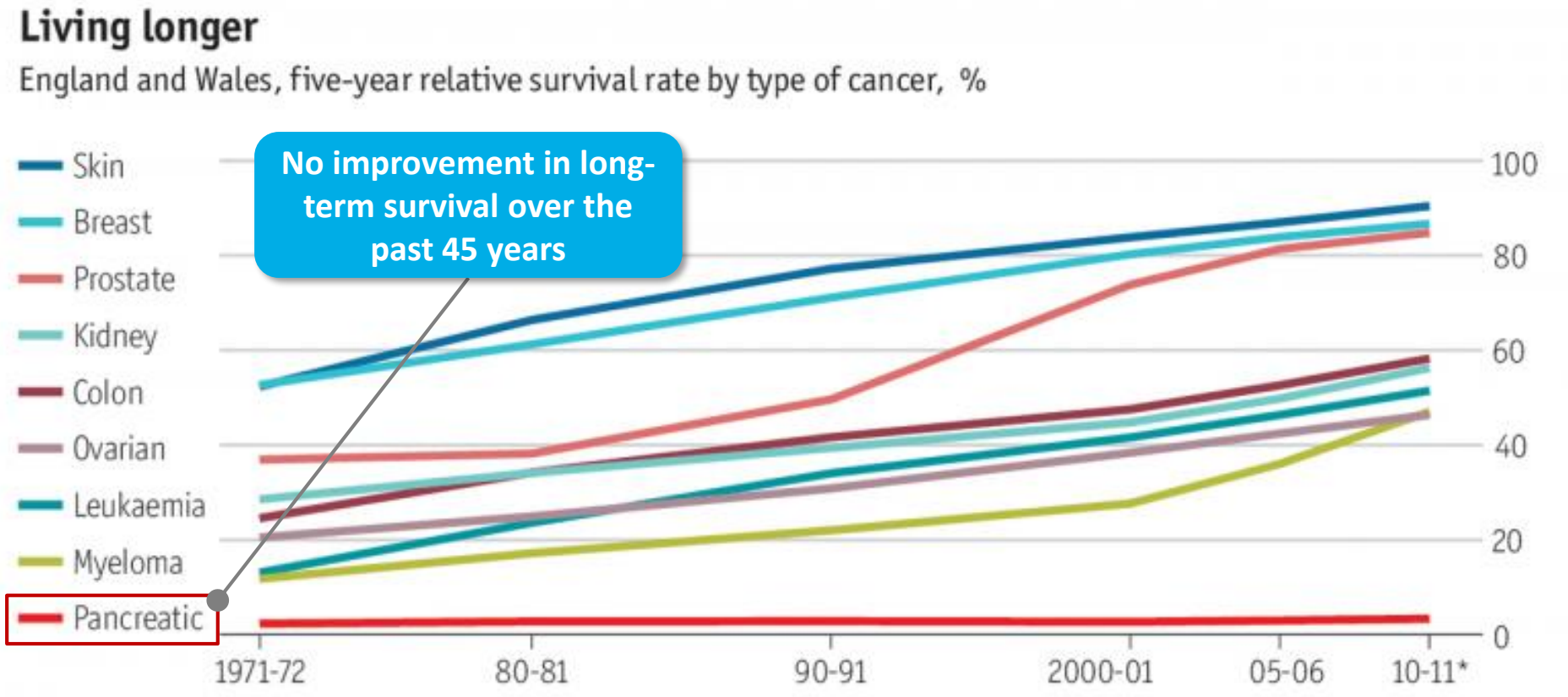
Arming the patient's immune system to fight cancer

Nordic-American Life Science Days

New York City – November 14th 2017

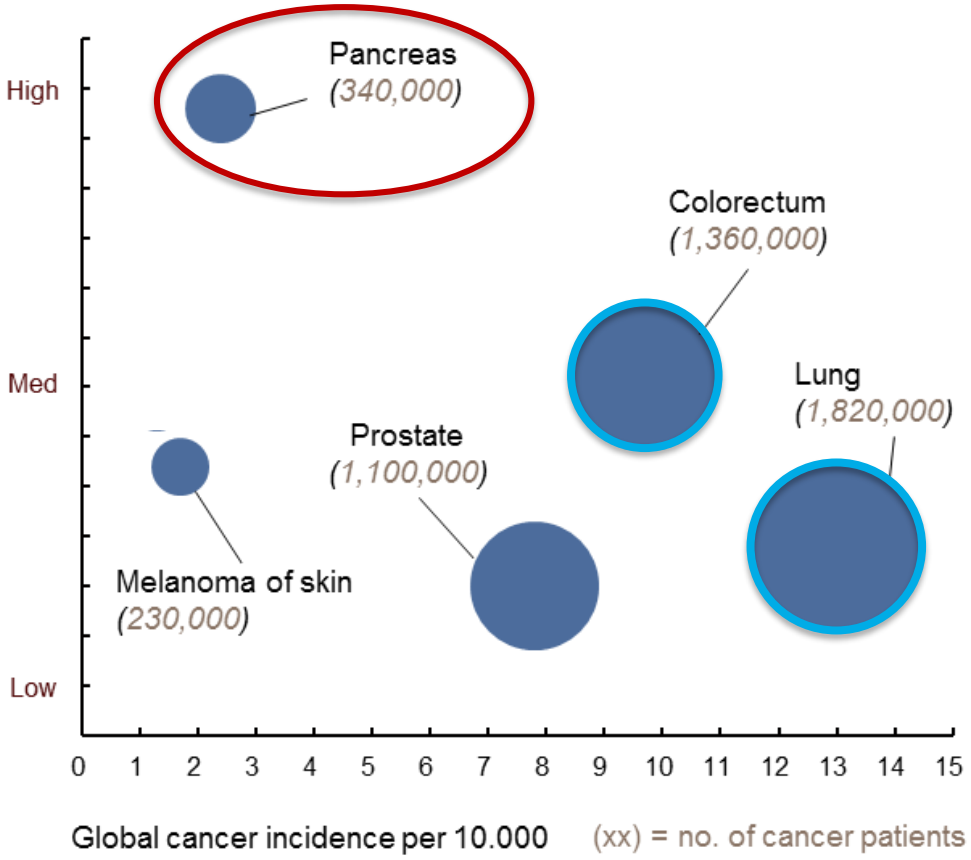
The five year survival rate for pancreatic cancer patients has not improved since the 1970s



SOURCE: Cancer Research UK, graphic adapted from The Economist September 16 2017

The RAS gene is mutated in 90% of pancreatic cancer patients, making it an ideal target

Frequency of RAS mutations



- RAS mutations are found in **90% of pancreatic cancer** patients
- RAS mutations result in **uncontrolled cell division**
- **There are no existing therapies** targeting RAS

Targovax' TG vaccine gears the immune system to recognize and destroy RAS mutated cancer cells

1. Activate immune system

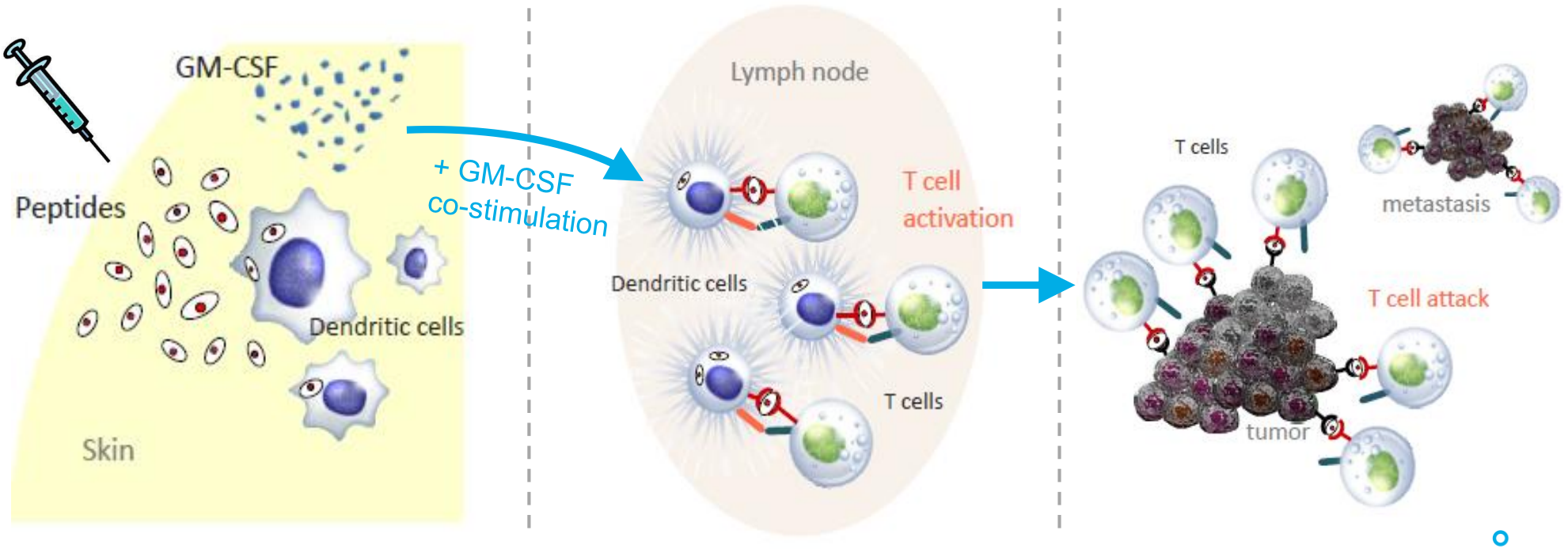
- TG vaccine **injected intradermally** and picked up by APCs

2. Induce mutRAS T-cells

- CD4+ and CD8+ **mut-RAS T-cells induced** in the lymph node

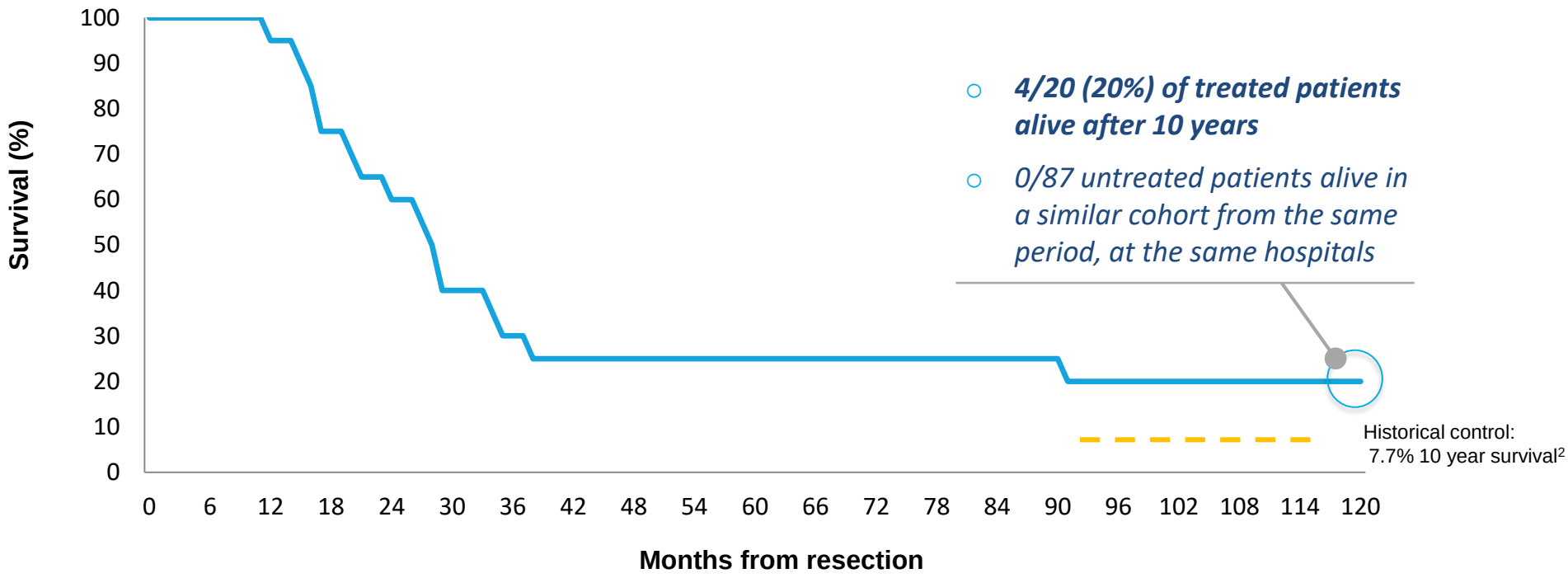
3. Attack the cancer

- mutRAS T-cells identify and **destroy RAS mutated cancer cells**



In previous trials in resected pancreatic cancer, TG vaccination has shown 20% 10 year survival

10 year survival in historical TG trials in resected pancreatic cancer (n=20, TG monotherapy)



[1] Wedén et al., 2011

[3] Oettle H et al., JAMA 2013, vol 310, no 14

These promising results are now being validated in an ongoing phase I/II trial with adjuvant chemotherapy

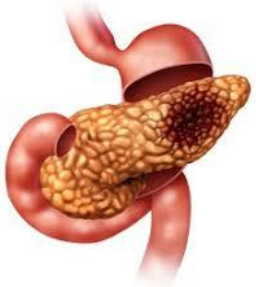
1st cohort (19 patients)	**Median survival 33.1 months vs. 27.6 for historical control** **13 of 19 patients (68%) alive 2 years after surgery**, vs. 30-53% in historical controls
2nd cohort (13 patients)	**13 of 13 patients (100%) alive 1 year after surgery**
mutRAS immune response (1 yr)	**90% of patients** (29/32) had **RAS-specific immune activation**
Safety	TG01 and gemcitabine **combination treatment is well-tolerated** **Four allergic reactions reported in 1st cohort, none in 2nd cohort** (up to 1 year)

How TG is different from other peptide vaccines, and may succeed where others have failed

Lessons Learned	The TG approach
Target often poorly defined *and not cancer specific*	✓ Mutated **RAS is a well-defined neo-antigen**, and a driving cause of cancer
Insufficient immune activation *of CD4+ helper and CD8+ killer T-cells*	✓ TG peptides are designed and **proven to induce both CD4+ helper and CD8+ killer mutRAS-specific T-cells**
Depot-forming adjuvants not suitable*, as activated T-cells return to depot instead of tumor site*	✓ **Non depot-forming** immune modulator GM-CSF used as adjuvant to stimulate **strong, systemic T-cell response**

Resected pancreatic cancer is the lead indication, but all RAS mutated cancers are potential TG targets

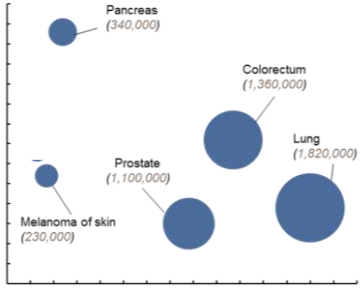
1. **Pancreatic cancer** (resected)
2. **Colorectal cancer**
3. **Lung cancer** (NSCLC)
4. **All mutRAS cancers**



- **TG01 lead indication**
- Completing phase I/II
- Planning phase IIb/III
- **40.000 patients[1]**

- **TG02 lead indication**
- Phase I trial recruiting
- 50% RAS mutated
- **Up to 500.000 patients[1]**

- **TG02 potential future indication**
- 30% RAS mutated
- **Up to 500.000 patients[1]**

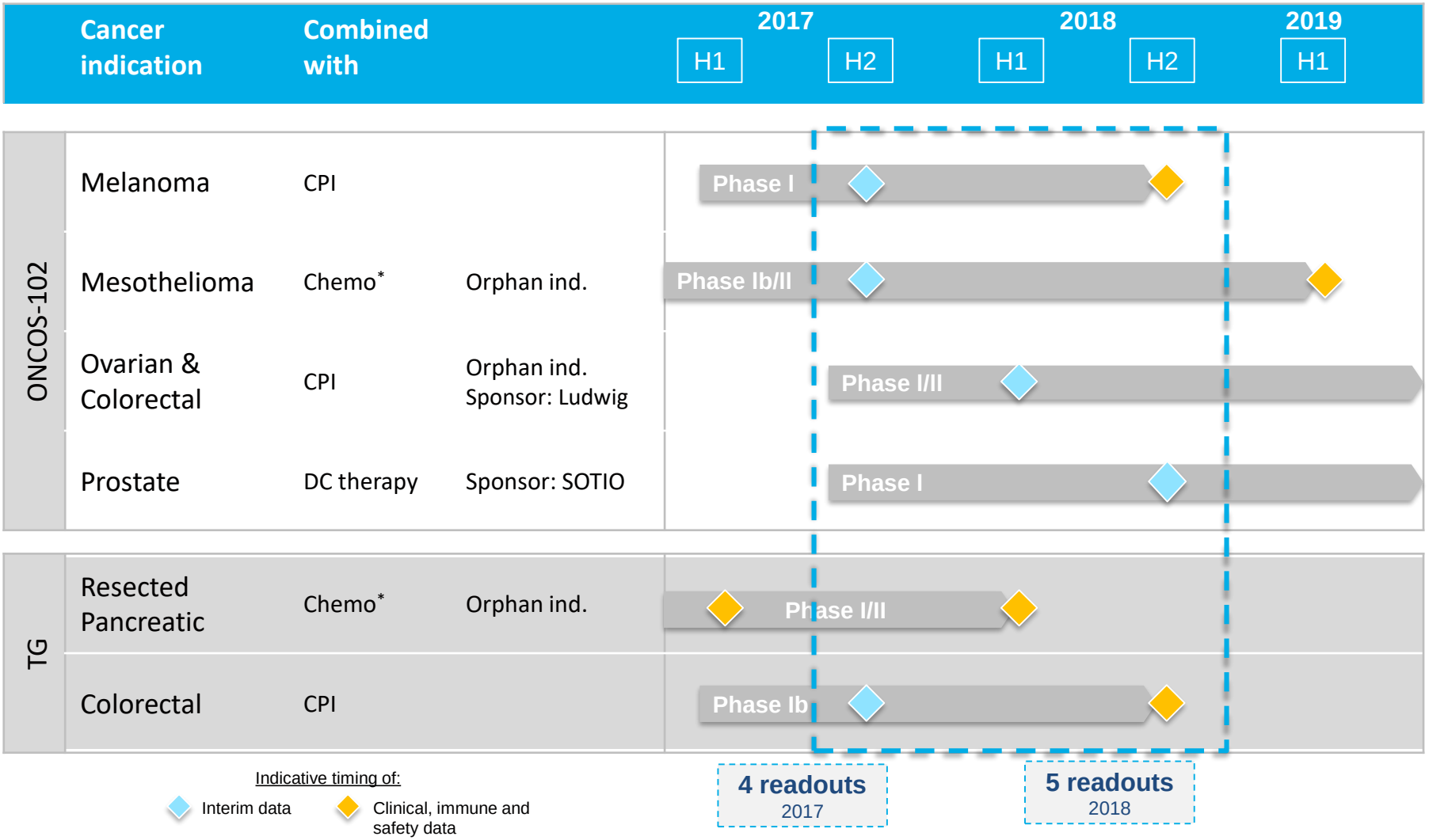


- **TG02 + TG03 ultimate long-term potential**
- 30% of all cancers
- **Up to 30% of all cancer patients[1]**

Source: Global data, Riva et al. Plos One 2017

1: Estimated total addressable patient number with RAS mutations in US, EU and China

Targovax has a broad clinical program with several important upcoming data read-outs



* In combination with Standard of Care Chemotherapy. Pemetrexed/cisplatin for Mesothelioma and Gemcitabine for Resected Pancreatic

Targovax has an experienced senior management team in place to execute the development program

CEO - Øystein Soug

- Former CFO of Algeta ASA
- Track record in bringing an oncology asset from phase I through to market launch
- Oversaw the sale of Algeta to Bayer Healthcare

CMO - Magnus Jäderberg, MD

- Former CMO of Bristol Myers Squibb Europe
- Brought Yervoy to market as first-in-class checkpoint inhibitor
- 30 years of experience in R&D

CFO - Erik Digman Wiklund

- Former consultant in McKinsey & Co Pharma practice
- PhD in cancer epigenetics
- Various commercial and R&D roles in biotech, including at Algeta

CTIO – Jon Amund Eriksen

- Original inventor of the RAS TG peptide platform
- Pioneer in immuno-oncology
- 35 years of experience in pharma R&D and product development