

# Targovax

**Transforming the Treatment of Operable  
Pancreatic Cancer**

**Delivering an improvement in survival not  
possible with other treatment options**

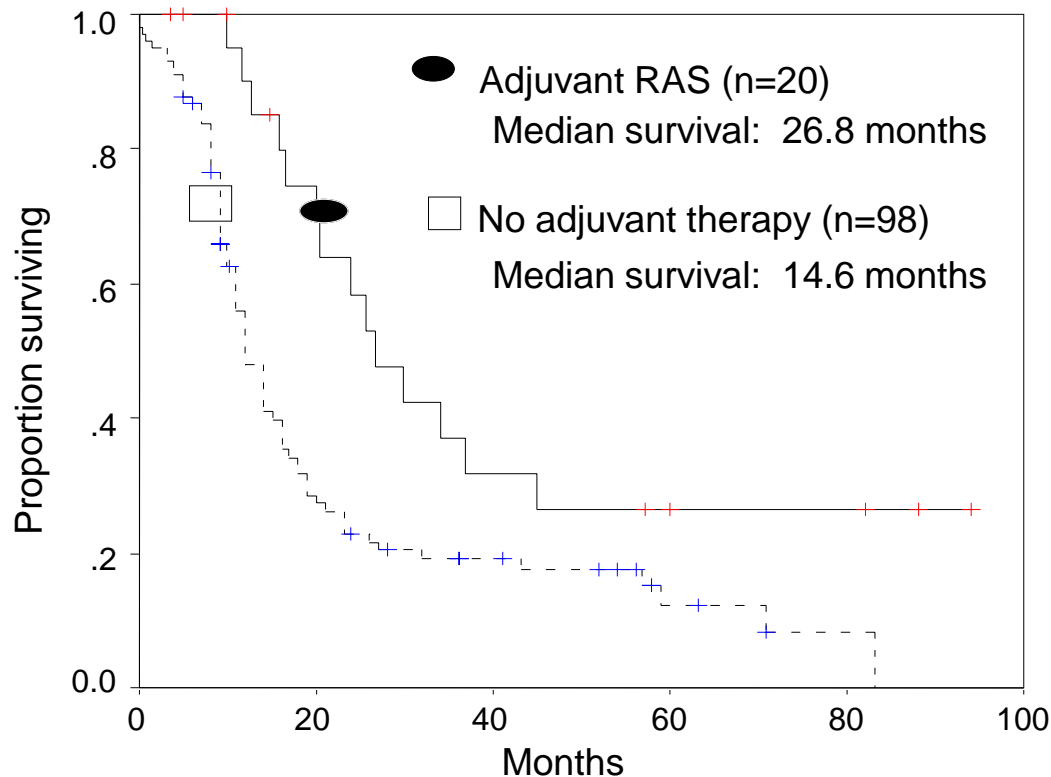
# Targovax in Brief

- Delivering value from a single, high-quality asset
- TG01, a peptide cancer vaccine targeting RAS mutations
- TG01 is expected to deliver improved survival in operable pancreatic cancer – promising clinical data delivered
- Clear clinical development plan designed to confirm survival benefit in place – key read outs in 2014
- Orphan drug protection granted in EU & US
- Virtual company – led by an experienced, driven team
- Founded in 2010 – based in Oslo, Norway

## What is TG01?

- Multi-peptide cancer vaccine
- Based on oncogenic amino acid substitutions in position 12 or 13 in p21 RAS
- All mutations induce cellular immune responses (T cells) – kill tumor cells
- Shown to be safe and effective in the clinic
- Cancer patients who show an immune response to TG01 have seen an improvement in survival times

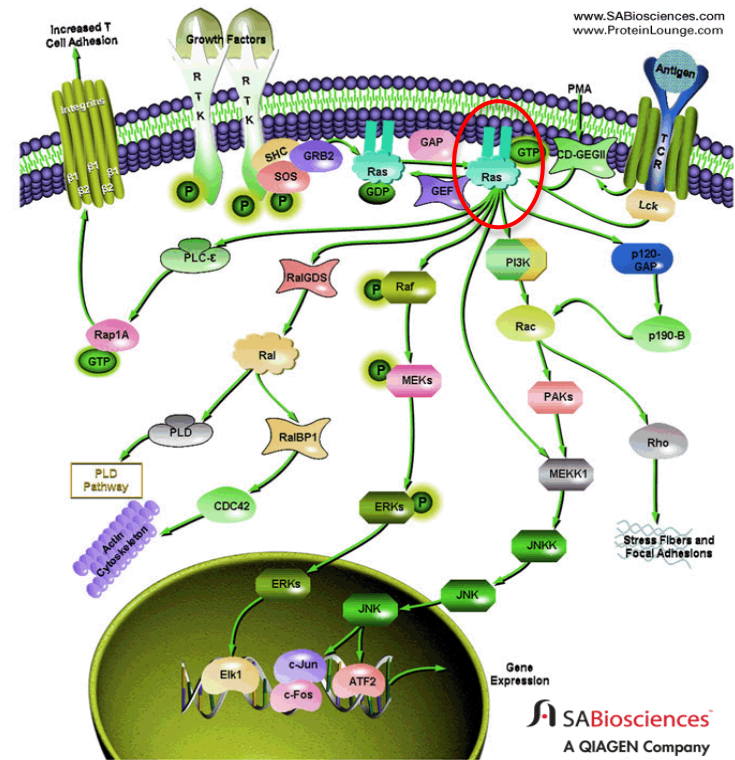
# TG01 Appears to Deliver a Survival Benefit in Operable Pancreatic Cancer



- Median 12-month survival improved
- 3 long-term survivors
- Strong immune responses
- Well tolerated, low toxicity
- 200+ patients
- Clinical trials conducted in the 1990s
- Included single peptides and cocktails

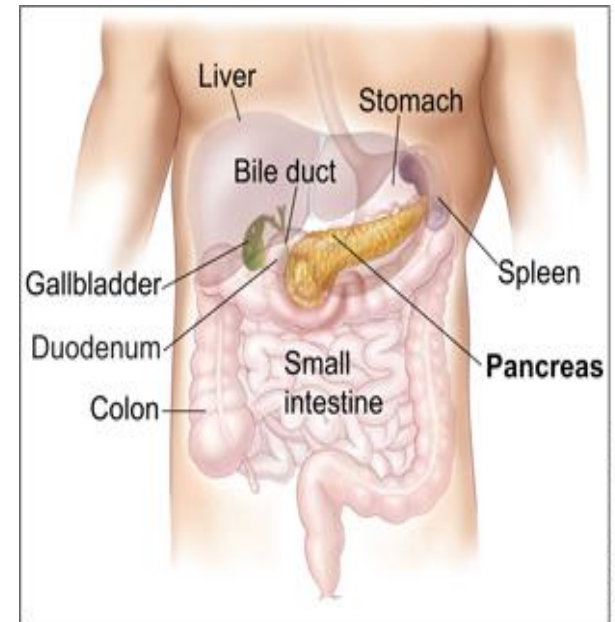
# TG01 – RAS and Cancer

- RAS controls cell division
- RAS mutations are found in
  - 80-90% pancreatic cancer
  - 40-50% colorectal cancer
  - 25-30% non small cell lung cancer
- RAS screening is becoming routine
  - RAS mutation is a negative prognostic factor
  - Therapy not effective and often withdrawn if mutations detected
- **Current treatment options provide no survival benefit**



# Pancreatic Cancer – the Challenge

- 112 000 new cases per annum
- Pancreatic cancer
  - 4th leading cause of cancer death
- Survival for patients with non-operable (advanced/metastatic) pancreatic cancer
  - 10% after 12 months
  - 5% after 5 years
- Survival for patients with operable pancreatic cancer
  - 15% after 5 years
  - Median OS: 22 months
- **Patient survival unchanged over last 30 years**
- USD 1.9 billion spent on pancreatic cancer treatment each year in US



# TG01 – Clinical Development Plan

- Plan involves two Phase II studies
  - Operable cancer trial designed to demonstrate benefit of TG01
  - Non-operable cancer trial designed to deliver randomised data for TG01
  
- Phase I/IIb: operable pancreatic cancer
  - 18-24 patients
  - Start H2 2012
  
- Phase II randomised: non-operable pancreatic cancer
  - 60-70 patients, two arms
  - Start H1 2013
  
- Phase II/III pivotal study: operable pancreatic cancer
  - 300-600 patients, two arms
  - Disease-free survival (DFS) and overall survival (OS) endpoints
  - Start 2014/2015

# EMA's Scientific Advice

- TG01 – the 7 peptide cocktail accepted
- GM-CSF – use as an immune modulator has been accepted
- Combination use with gemcitabine accepted
- Dosing regimen accepted
- No further animal studies necessary before clinical trials
- Endpoints in Phase II/III clinical study
  - DFS accepted as primary outcome measure
  - OS as secondary

# Targovax – an Excellent Investment

- Single, high-quality asset
- TG01 – a peptide vaccine targeting RAS mutations
  - ~ 90% pancreatic cancer patients
- Well thought-out clinical development plan designed to confirm survival benefit in pancreatic cancer patients
  - randomised Phase II data
  - key read outs in H2 2014
- Positive results will pave the way for a partnering deal
- Clear value uplift – 2 years post investment
- Lean, efficient organisation focused on delivering value