



COMPANY PRESENTATION

April 2019



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COMPANY SNAPSHOT

LEADING ANTIBODY IMMUNO-ONCOLOGY PLATFORM



- Advancing Cancer Immunotherapy by overcoming tumor resistance
- Validated by publications in top-tier journals e.g. Cancer Cell, and Immunity and partnerships with leading pharma companies such as Pfizer, Transgene, Bayer Pharma, Daiichi Sankyo and Mitsubishi Tanabe Pharma

ROBUST PIPELINE FUELED BY STRONG, FULLY INTEGRATED RESEARCH ENGINE



- 2 proprietary programs in the clinic - key readouts 2019
- 50/50 partnership with Transgene to develop first-in-class antibody-expressing oncolytic viruses in solid tumors

VALIDATING DEAL WITH PFIZER



- Development of anti-tumor associated myeloid (anti-TAM) antibodies
- \$3 million upfront & \$6 million equity stake
- Potential milestones > \$500 million & up to double digit royalties

STRONG INSTITUTIONAL SHAREHOLDER BASE



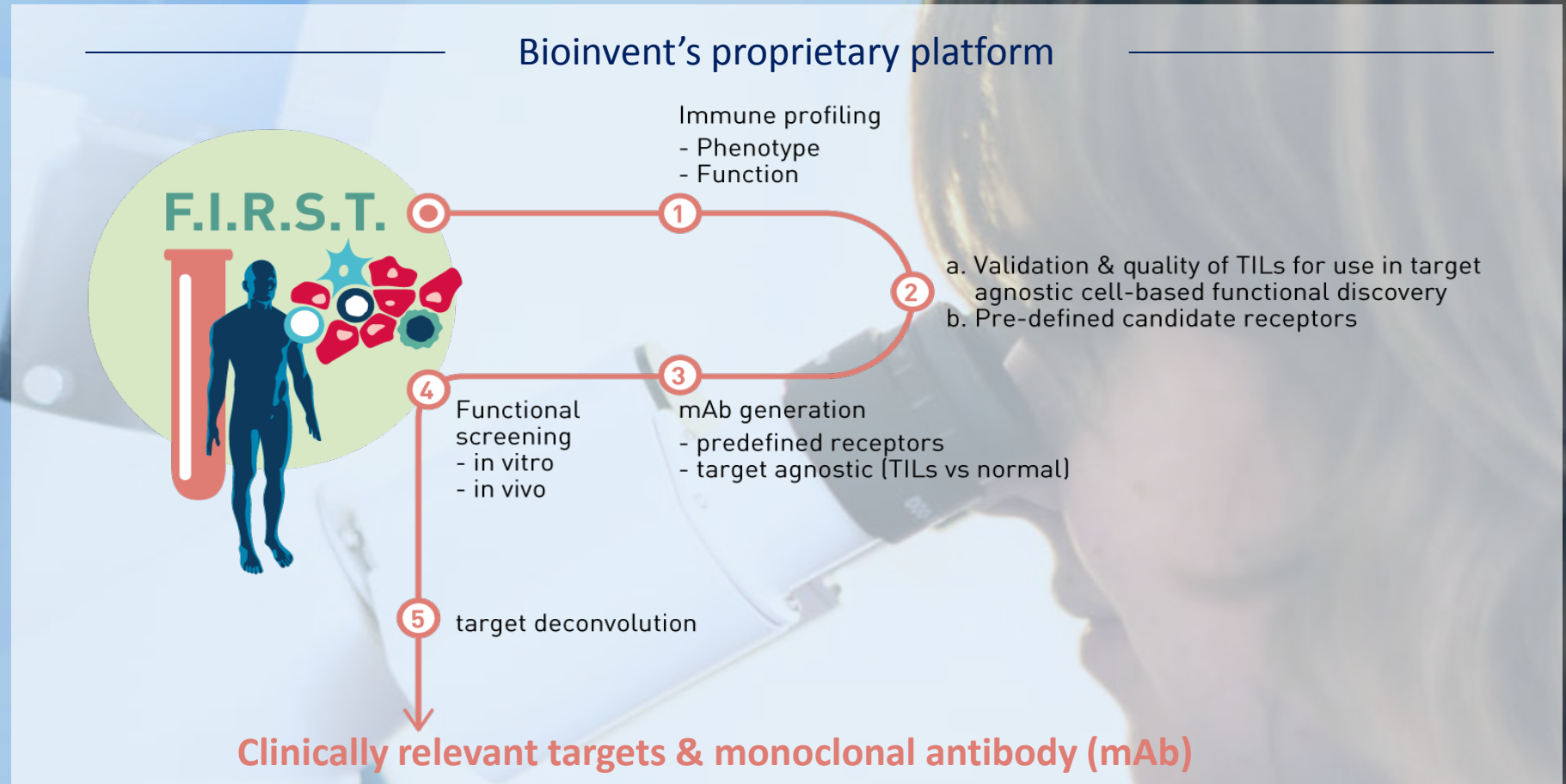
- a.o. Pfizer, Omega Funds, Institut Mérieux, Van Herk Investments, Rhenman Healthcare Equity

EXPERIENCED MANAGEMENT TEAM WITH BIG PHARMA AND BIOTECH EXPERIENCE



- Broad scientific/clinical expertise
- Significant senior executive experience with strong focus on partnering/deal making

F.I.R.S.T™ - A PATIENT CENTRIC PLATFORM FOR DISCOVERY OF NOVEL ONCOLOGY TARGETS AND MAB



Platform validated by Pfizer

- Pfizer is now using the platform for their tumor associated myeloid cells (TAM)

NEW DRUGS AND MECHANISMS ARE NEEDED TO IMPROVE CANCER IMMUNOTHERAPY & SURVIVAL

THE CONCEPT WORKS

New drugs direct the immune system to combat tumors

ONLY A SUBSET OF PATIENTS RESPOND TO CURRENT DRUGS

New mechanisms and antibodies needed to improve outcomes

A RAPIDLY GROWING MARKET

2016 sales¹

43bn

(USD)

2022E sales¹

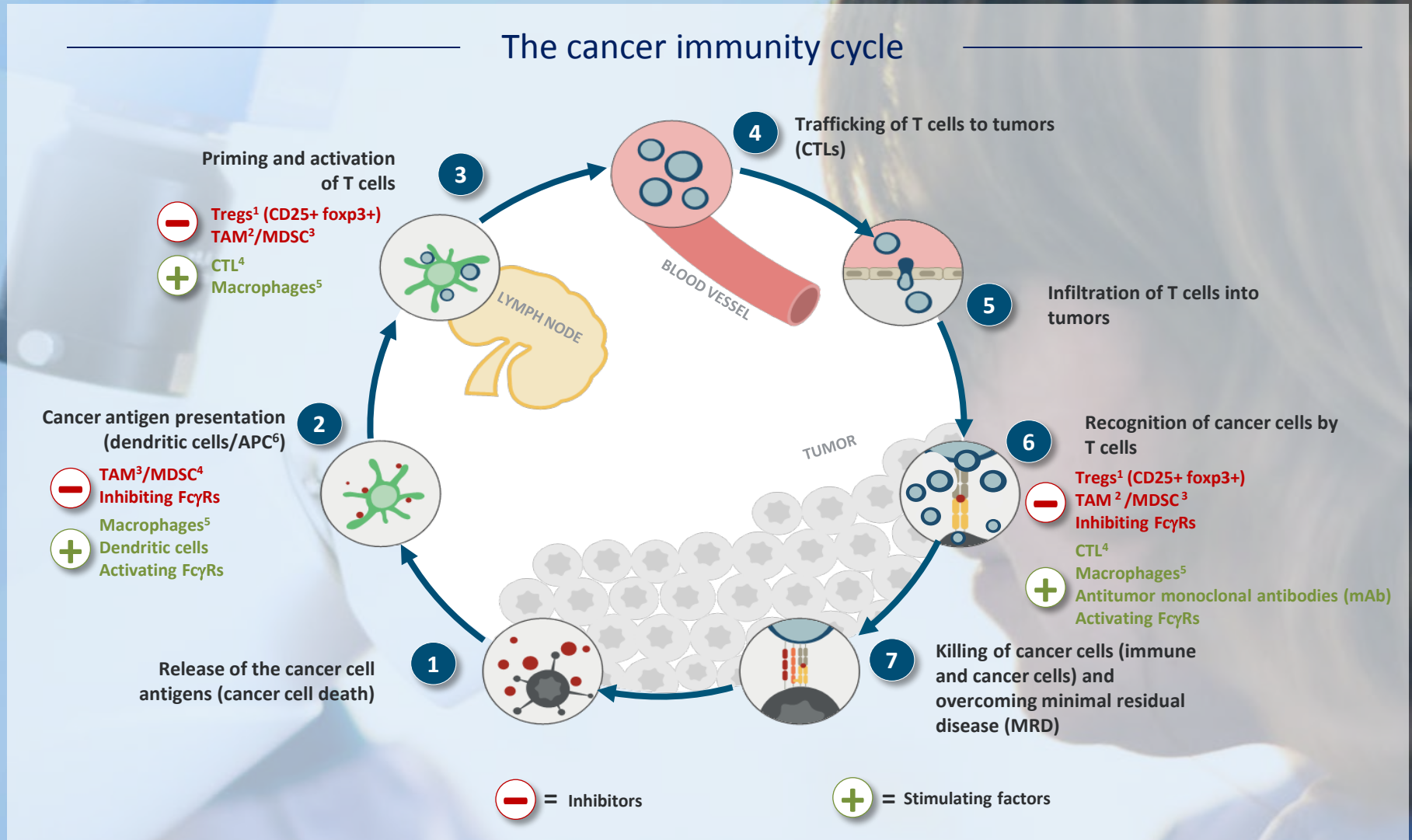
97bn

(USD)

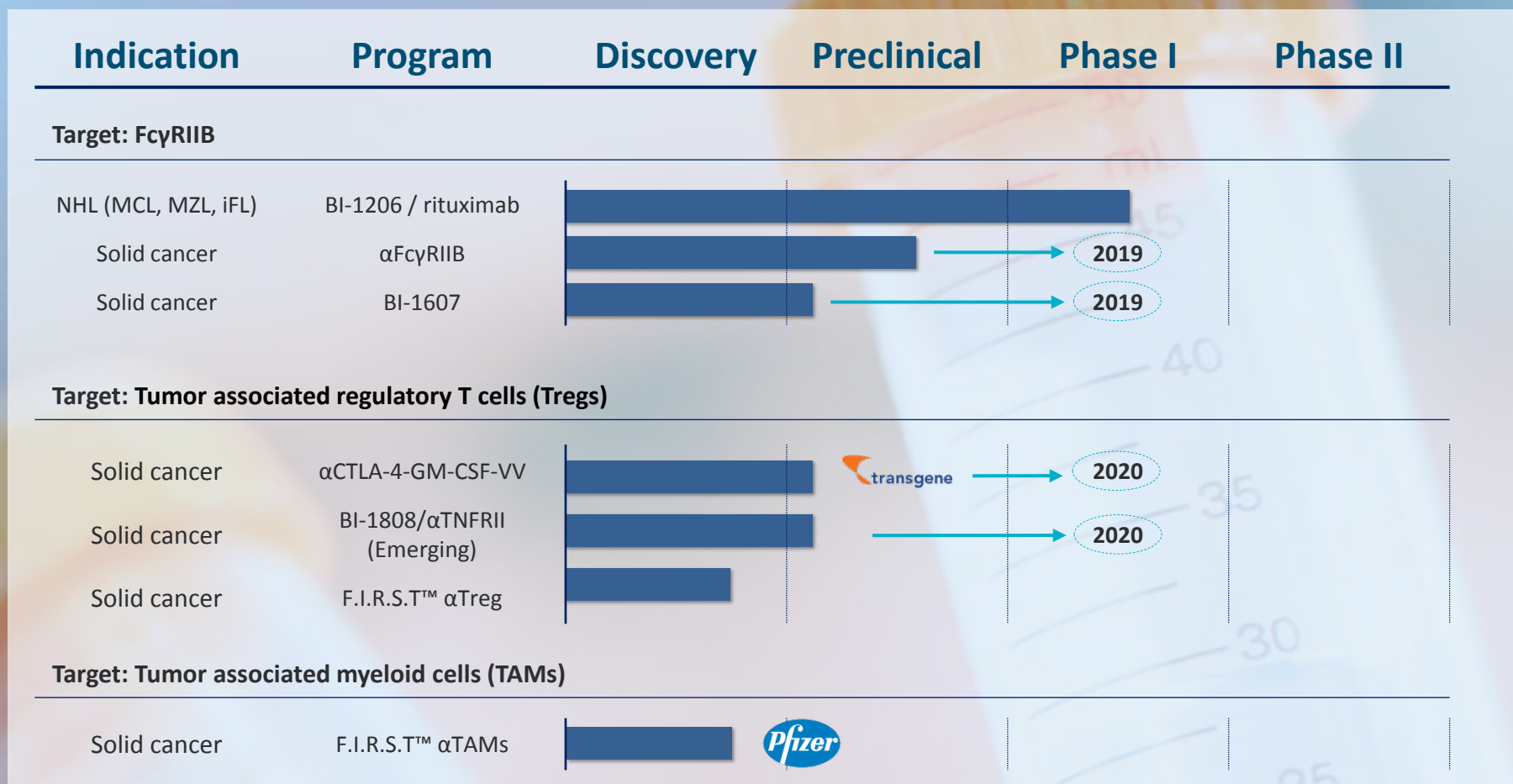
CAGR 2016-2022E¹

14.6%

BIOINVENT TARGETS KEY IMMUNE SUPPRESSIVE CELLS & MECHANISMS TO BOOST ANTI-CANCER IMMUNITY

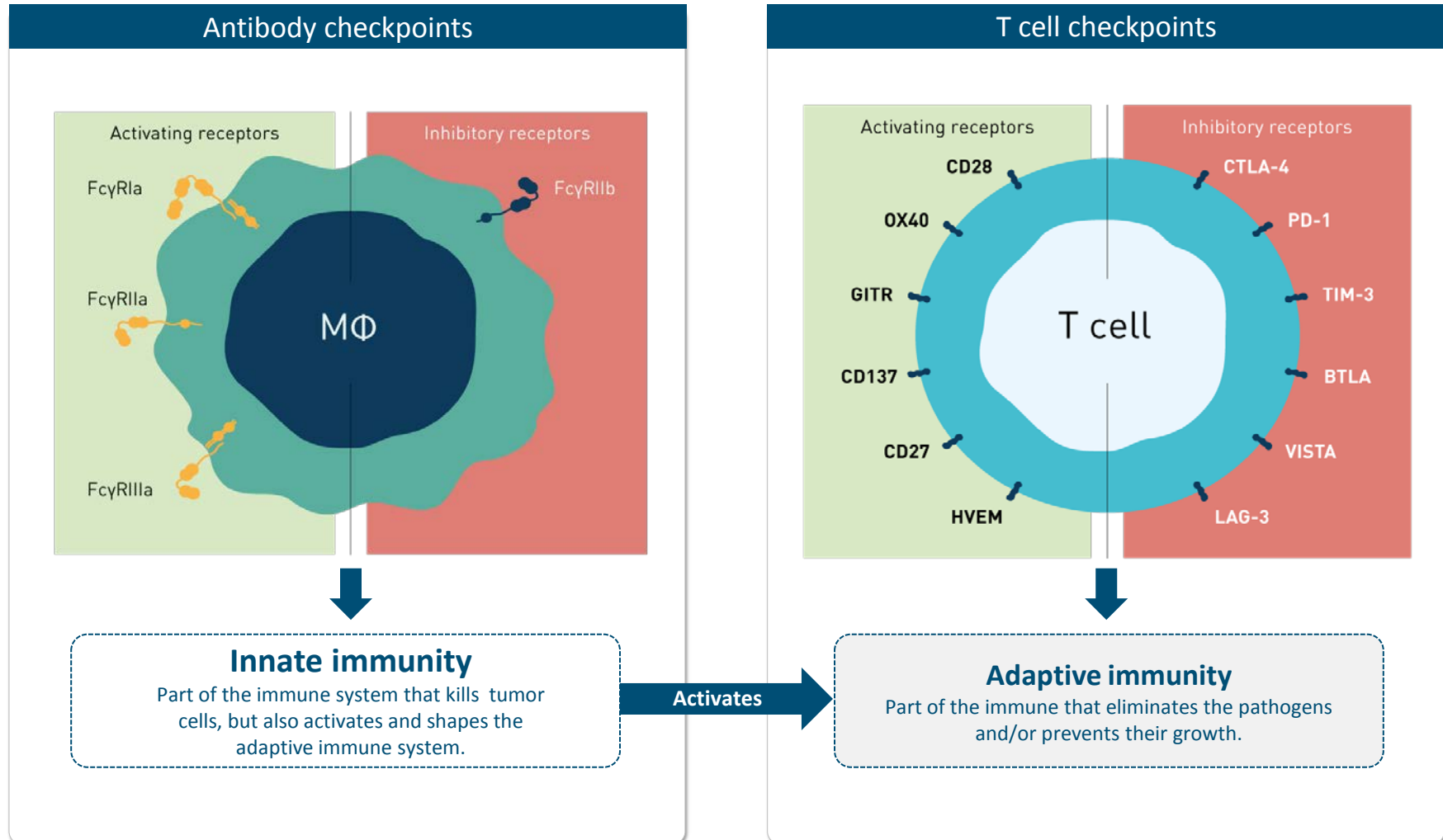


PIPELINE – MULTIPLE VALUE DRIVERS



- BioInvent additionally has ownership in anti-PLGF programs TB-403 and THR-317 partnered with Oncurios and Oxurion
- Two parallel Clinical Phase I/II studies ongoing with BI-1206 (BioInvent and CRUK sponsored)

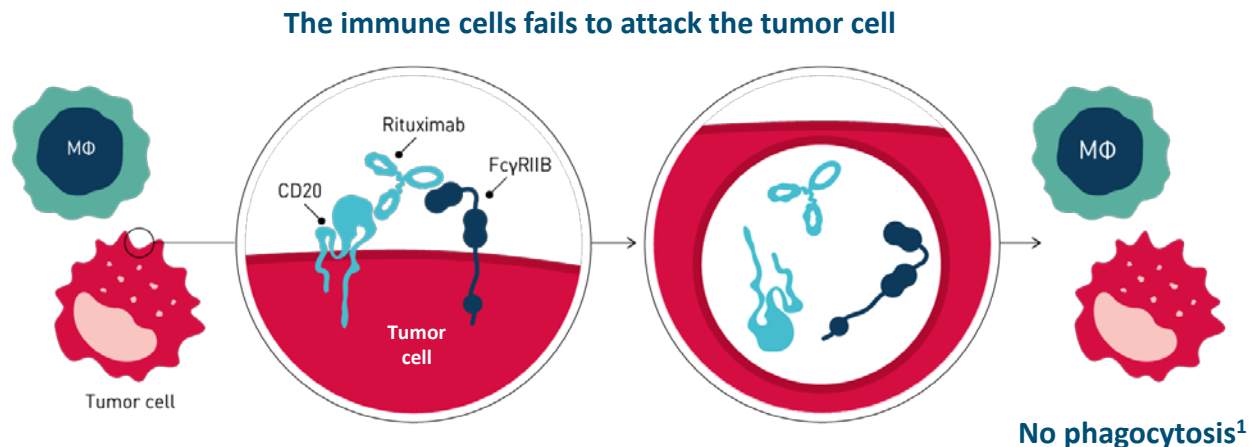
FcγRIIB – A SINGLE INHIBITORY ANTIBODY CHECKPOINT TO UNLOCK ANTI-CANCER IMMUNITY



BI-1206 IN NON-HODGKIN LYMPHOMA TURBOCHARGING ANTI-CD20

PRE BI-1206

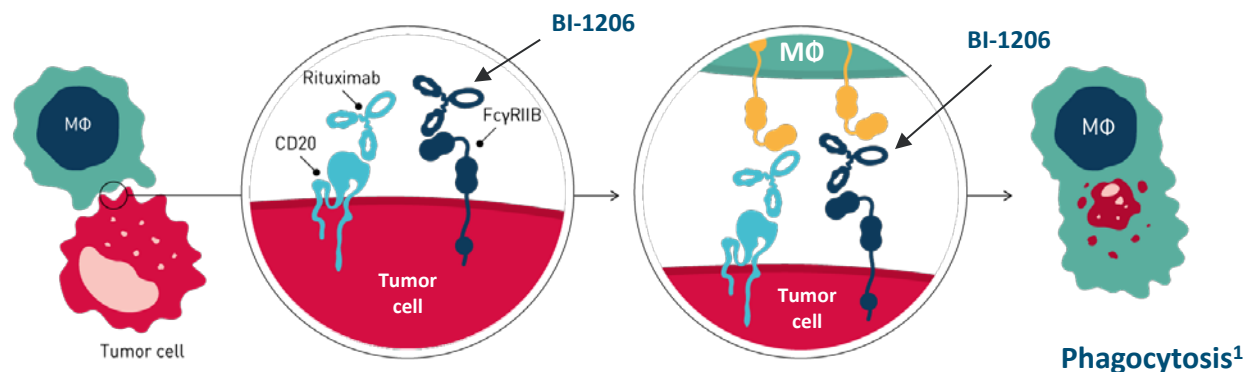
- Rituximab is effective when bound to **CD20** on the cell surface, but its efficacy is hampered by FcγRIIB-mediated endocytosis
- **Rituximab** is a monoclonal antibody (Rituxan®, Mabthera®, Roche) killing malignant B cells
- **CD20** is an antigen expressed on the surface of B cells, as well as cancer cells derived from B-cells
- The **FcγRIIB**-receptor functions to remove Rituximab from CD20, i.e. protecting cancer cells from the immune system



POST BI-1206

- BioInvent's **BI-1206** blocks the **FcγRIIB** receptor, suppressing the tumor's protection. Its activity helps restore and enhance rituximab's effect
- With the **FcγRIIB**-receptor blocked, a better anti-tumor activity is engaged allowing the immune system to find and kill the tumor cell

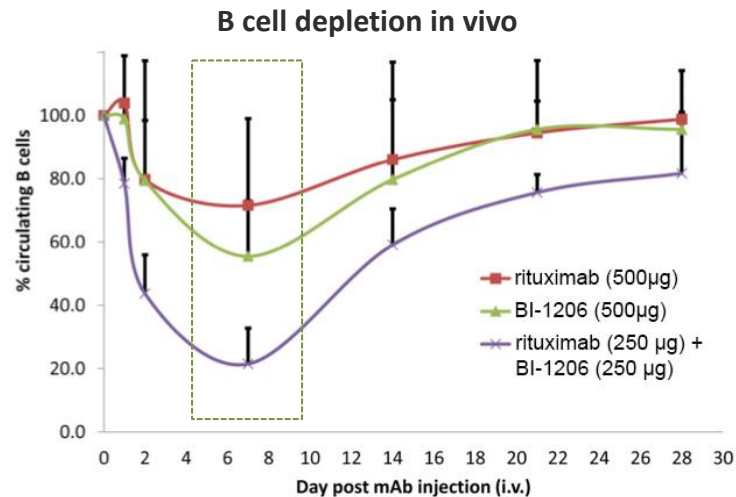
With the FcγRIIB-receptor blocked, the immune system can kill the tumor cell



BI-1206: CUTTING BOTH WAYS

BI-1206 BLOCKS RITUXIMAB INTERNALIZATION AND IMPROVES ITS ANTI-TUMOR ACTIVITY

Human CD20 FcγRIIB double transgenic mice



Comments

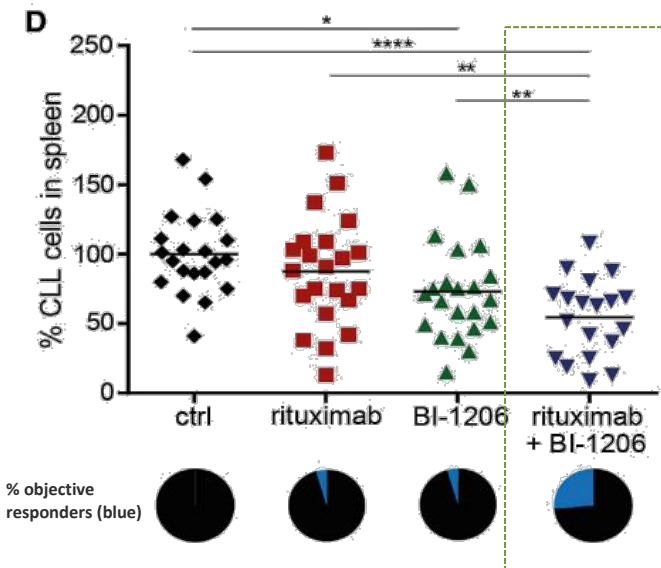
- By combining Rituximab and BI-1206, results show a synergistically enhanced B cell depletion
- Demonstrating that BI-1206 is truly boosting Rituximab's effect

**BOOSTING
RITUXIMAB'S EFFECT**



**OVERCOMING
RESISTANCE**

Humanized model of relapsed / refractory CLL¹



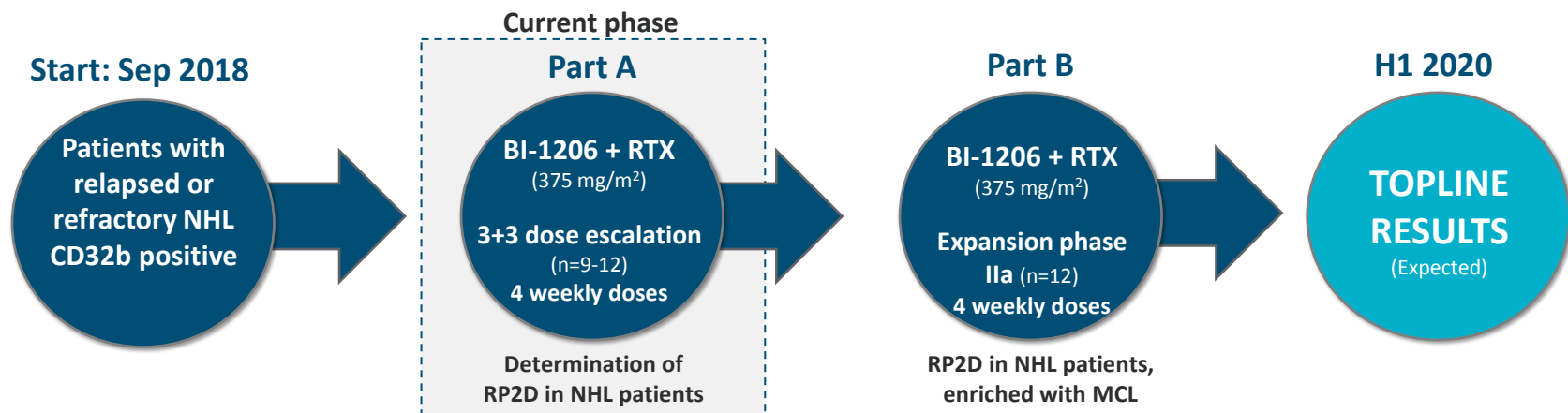
Comments

- Adding BI-1206 re-sensitizes tumor cells to rituximab mediated leukemic cell depletion
- Demonstrating that BI-1206 can overcome rituximab resistance in vivo

BI-1206: EXPANDING THERAPEUTIC POTENTIAL - PHASE I/IIA STUDY

STUDY OVERVIEW

- A multicenter, open label, Phase I/IIa study in relapsed or refractory indolent Non-Hodgkin Lymphoma (iNHL) patients enriched with Mantle Cell Lymphoma – approximately 24 patients across sites in US & EU
- High proportion of patients expressing FCγRIIB in enriched population
- High unmet medical need – despite the availability of targeted therapies

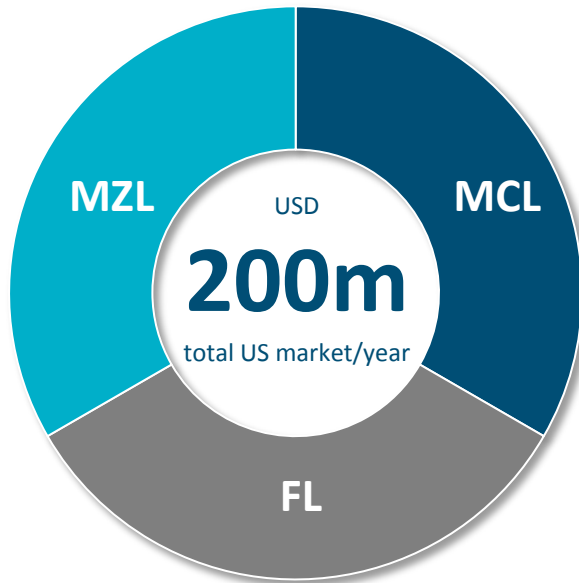


OBJECTIVES

- Safety & tolerability of BI-1206 in combination with rituximab
- PK/PD¹ of the antibody
- Recommended phase 2 dose (RP2D)
- Signs of efficacy of the combination treatment
- Biomarker exploration (B cell depletion, phosphorylation of FCγRIIB)
 - FCγRIIB overexpression is associated with a worse prognosis for the patient

BI-1206: VALUE PROPOSITION – KEY SEGMENTS & VALUE DRIVERS

KEY SUB-SEGMENTS OF NON-HODGKIN LYMPHOMA (NHL)



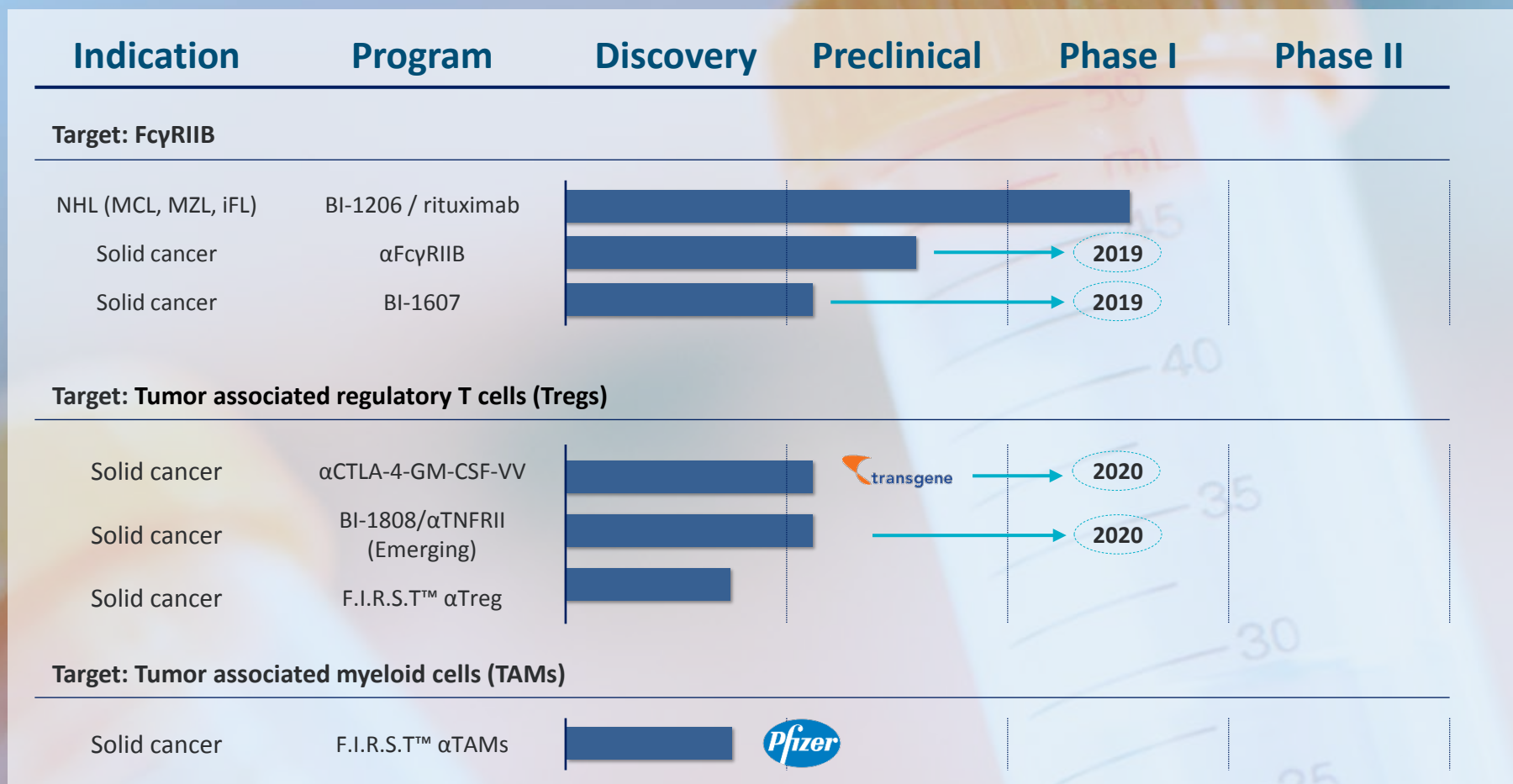
- **MCL¹**, mantle cell lymphoma develops in the outer edge of a lymph node called mantle cell. Usually diagnosed in people in their early 60s. MCL may be slow growing (indolent) but can also be fast-growing (aggressive).
- **FL¹**, follicular lymphoma is typically very slow-growing and is the most common form of slow-growing non-Hodgkin lymphoma.
- **MZL¹**, marginal zone lymphoma is a slow growing type of B cell non-Hodgkin lymphoma that begins forming in the marginal zones of lymph tissue. Median age for diagnosis is 65.

Value drivers

Safety, chemo-free regimen and scientific rationale in anti-CD20 refractory B-cell lymphoma are key drivers of BI-1206 attractiveness.

- First-in-class in hematology - no direct competitors
- BI-1206 shows a favorable safety profile
- High unmet need for chemotherapy-free, safer options in 2nd Line
 - in Rituximab-refractory patients
 - in aggressive disease such as MCL
 - in transplant ineligible and elderly MCL patients
 - In patients ineligible for chemo or targeted therapies
- Shorter clinical trials in 2nd Line and 3rd Line MCL (~2-3 years)
- Strong scientific rationale
- Possible label extension to all therapeutic areas where anti-CD20 mAbs are used
- BioInvent has received Orphan Drug Designation from the FDA for BI-1206 in MCL in January

PIPELINE – MULTIPLE VALUE DRIVERS



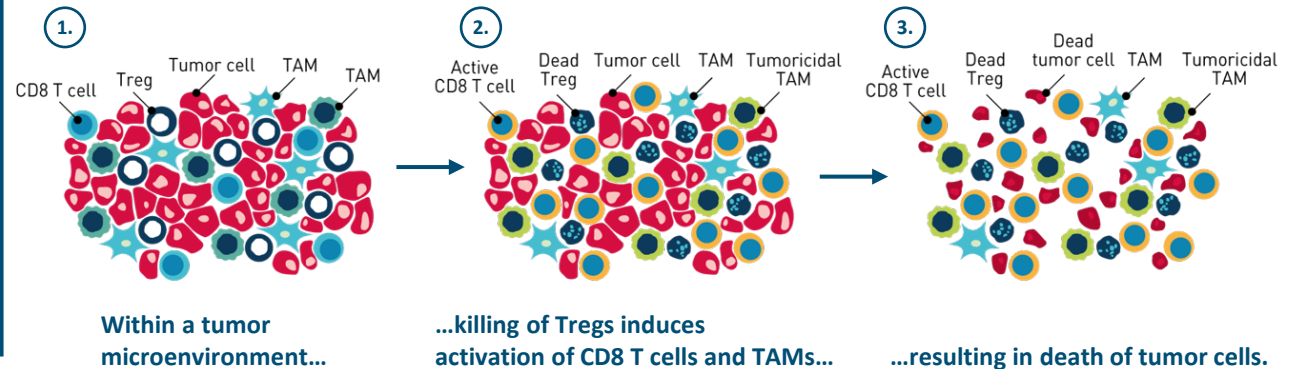
- BioInvent additionally has ownership in anti-PlGF programs TB-403 and THR-317 partnered with Oncurios and Oxurion
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TARGETING TREGS AND TAMs TO MITIGATE IMMUNE SUPPRESSION

TARGETING TREGS

- Regulatory T cells (Tregs) can substantially inhibit immune responses, enabling tumor cells to escape detection.
- BioInvent is utilizing its F.I.R.S.T.™ platform to identify and characterize monoclonal antibodies to cancer-associated Treg targets in a function-first, target agnostic, manner.
- BioInvent is also pursuing differentiated antibodies to known targets through novel mechanisms and pathways.

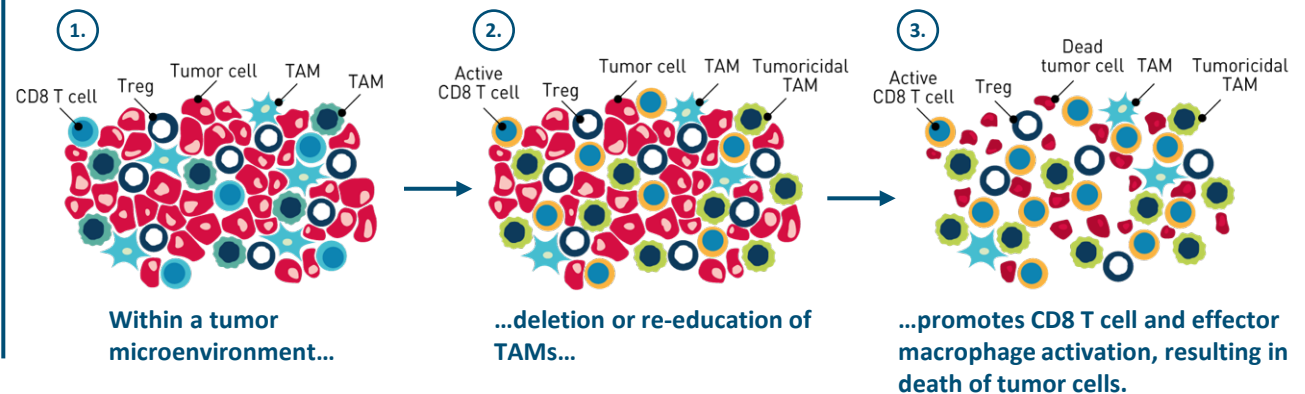
Developing antibodies that act on Tregs via novel or validated targets



TARGETING TAMs

- In partnership with Pfizer Inc., BioInvent works to identify novel oncology targets and therapeutic antibodies that may either reverse the immunosuppressive activity of tumor-associated myeloid cells (TAMs) or reduce the number of tumor-associated myeloid cells in the tumor.
- BioInvent is eligible for potential future development **milestones in excess of \$500 million.**

Strategic collaboration with Pfizer – developing antibodies that act on TAMs



MABS + ONCOLYTIC VIRUS TO TARGET SOLID TUMORS

50/50 PARTNERSHIP WITH TRANSGENE TO DEVELOP NEXT GENERATION ONCOLYTIC VIRUS

MAbs and oncolytic virus attacking the solid tumor



Oncolytic virus & anti-CTLA-4 antibody combination elicits stronger antitumor response & targeted expression of anti-CTLA-4 antibody, which improves safety profile

Comments

1.

- Virus-particles infect tumor cells
- Virus replicates and persists in tumor cells without integrating into host genome in a safe manner

2.

- Virus infected tumor cells produce human Treg depletion optimised anti-CTLA-4 antibody
- Virally infected tumor cells lyse as a result of viral infection
- Tumor antigens are released into tumor microenvironment

3.

- Intratumorally produced anti-CTLA-4 depletes Tumor Treg and induce Teff activation
- Tumor antigens are taken up by APCs fuelling activation of Tumor-specific T cells
- Systemic adaptive anti-tumor responses are induced and boosted "abscopal effect"

ABOUT THE COLLABORATION



- BioInvent and Transgene collaborate to **co-develop oncolytic virus (OV)** candidates encoding a validated anti-CTLA-4 antibody sequence, potentially with additional transgenes, **aimed at treating solid tumors**
- Transgene is contributing both its OV design and engineering expertise, as well as its proprietary Vaccinia viruses, designed to directly and selectively destroy cancer cells by intracellular replication of the virus in the cancer cell (oncolysis).
- BioInvent is providing its cancer biology and antibody expertise to the collaboration, as well as anti-CTLA-4 antibody sequences generated through its proprietary n-CoDeR®/F.I.R.S.T.™ platforms.
- **Cost and profits are shared 50/50** between Transgene and BioInvent

Clinical status

Phase I → **2020**
(Expected)

KEY MILESTONES

TIMING	EVENTS
H2 2018	<ul style="list-style-type: none"> ✓ Start Phase I/IIa BI-1206/rituximab combination trial in NHL ✓ Preclinical rationale Anti-CTLA-4/oncolytic virus, SITC Poster
H1 2019	<ul style="list-style-type: none"> ✓ BI-1206 /rituximab orphan drug designation (ODD) in mantle cell lymphoma ✓ Podium Presentation SLAS 2019 Washington on F.I.R.S.T[™] <ul style="list-style-type: none"> ▪ Anti-FcγRIIB antibody/anti-PD1 start Phase I/IIa ▪ BI-1206/rituximab poster presentation at Int. Conf. on Malignant Lymphoma
H2 2019	<ul style="list-style-type: none"> ▪ Pfizer collaboration: TAM target antibodies selection ▪ Start phase IIa BI-1206/rituximab combination trial in NHL ▪ BI-1607 (anti-FcγRIIB antibody)/checkpoint inhibitor, start Phase I PoC trial
H1 2020	<ul style="list-style-type: none"> ▪ Anti-FcγRIIB antibody/anti-PD1 start Phase IIa ▪ BI-1206/rituximab I/IIa in NHL topline results ▪ Anti-FcγRIIB antibody/anti-PD1 Phase I/IIa, ASCO poster ▪ BI-1808 +/- anti-PD1, start Phase I
H2 2020	<ul style="list-style-type: none"> ▪ Transgene collaboration: Anti-CTLA-4/oncolytic virus, start Phase I/IIa ▪ Anti-FcγRII antibody/anti-PD1 Phase I/IIa, topline results
H1 2021	<ul style="list-style-type: none"> ▪ BI-1206/rituximab Phase I/IIa in NHL readout

PROPRIETARY MANUFACTURING PLATFORM SINCE 1988



Provided courtesy of EMD Millipore Corporation

- Supports fast and flexible production of proprietary programs
- State of the art single use bioreactor (SUB) technology: 40L -1,000L batch sizes
- Approved for Phase I to III production
- Track record of 30 years inspections
- Consistent source of near term revenues from external customers
- BioInvent has produced drug substance for clinical trials in Europe, USA and Japan
- The production facility is located in Lund, Sweden
- In November 2018 BioInvent signed a manufacturing agreement with an undisclosed U.S. cell therapy company for the production of cGMP compliant material
 - The agreement is expected to generate revenue of c. USD 1.5 million mainly in 2019