molecure

Fate can be altered

June 9th, 2022

Molecure SA (”MOC") and its Board and employees make no warranties or assurances regarding the accuracy or completeness of any representations or other materials contained herein.

The information and data contained herein reflect the current conditions and assessments of the market situation as at the time of preparation of the document and are subject to change at any time. All predictions and forward-looking statements express current views, subjective judgments, predictions and assumptions about potential and uncertain future events and are subject to risk and uncertainty.

MOC and the Management Board indicate that there is a possibility of unexpected events (in particular unpredictable ones), so there is no guarantee that the situation will develop in accordance with the presented predictions.

The document is provided for informational purposes only. MOC, its affiliates and its management and employees do not accept any liability for direct, indirect or any loss or damage that may arise in connection with the use of this document or the information or data contained therein.

Warsaw, June 9, 2022

Presenting team

Marcin Szumowski
PhD, MBA
Chairman of the Board & CEO

Entrepreneur and investor with
20-year experience in the life science industry

Sławomir Broniarek
Board member
CFO

More than 20 years of experience in financial markets, including the investment sector

Zbigniew Zasłona
PhD,
VP Research Biology

Biologist with extensive
experience in anti-inflammatory drug development programs (molecular, cellular and in vivo)

Our vision

To become a leading biotechnology company, globally recognized for discovering and developing breakthrough small molecule drugs acting on novel RNA and unexplored protein targets

Our key strengths

World class medicinal chemistry and biology expertise
Validated discovery & development capabilities through major out-licensing deal with Galapagos

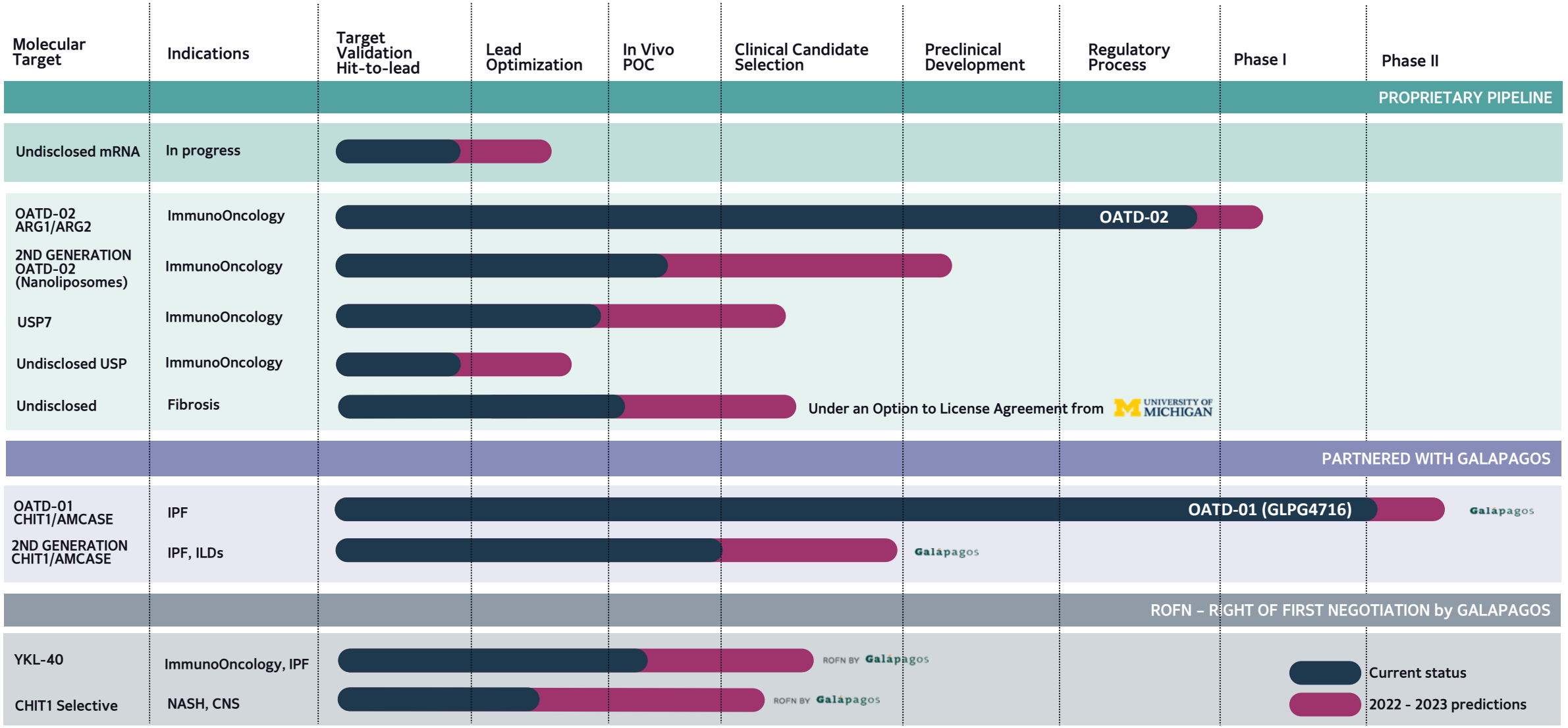
Bold & smart target selection – both mRNA and proteins
Undrugged, limited competition, attractive commercial potential, unmet medical needs

Multiple academic partnerships to access the target biology
Allows us to generate first/best in class drug candidates from our medicinal chemistry expertise

Entrepreneurial / risk taking approach
Belief in our medicinal chemistry expertise and expanding biology capabilities allow us to work on challenging, high reward targets

Preferential access to the highly regarded and rapidly growing Polish life science talent pool
Significantly higher cost efficiency & potential ROI compared to international competition (USA)

Current pipeline



Developing first-in-class small molecule drugs to address challenging protein targets

OATD-01 status of work progress

Molecure out-lincensed OATD-01 (currently GLPG4716) to Galapagos in November 2020.

Status of Galapagos progres is presented below:

All required preclinical and clinical development studies & analyses have been completed, including:

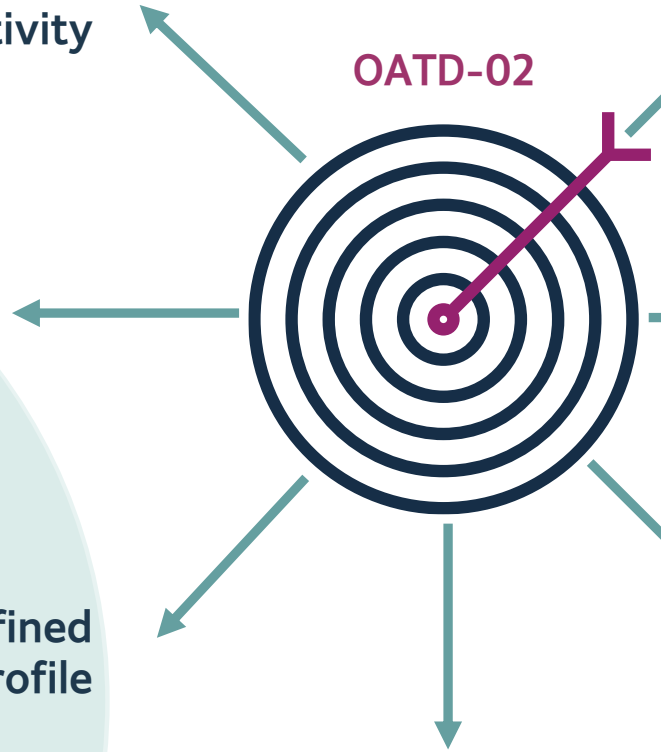
- Drug –drug interaction and Food-effect Study with Midazolam in Healthy volunteers Nov 2021 (completed)
- Drug –drug interaction Study with Nintedanib and Pirfenidone in Healthy volunteers June 2022 (completed)
- GLPG received the Scientific Advice from EMA regarding phase II clinical trial in IPF patients

OATD-02 is a first-in-class dual ARG1-ARG2 inhibitor

Molecure is the only company offering a dual arginase inhibitor with high intracellular activity

Highly potent, orally active dual ARG1/ARG2 inhibitor with intracellular activity

Significant anticancer efficacy as monotherapy and in combinations in multiple tumor models with no toxicity



Restored arginase-suppressed T cell-mediated immune functions

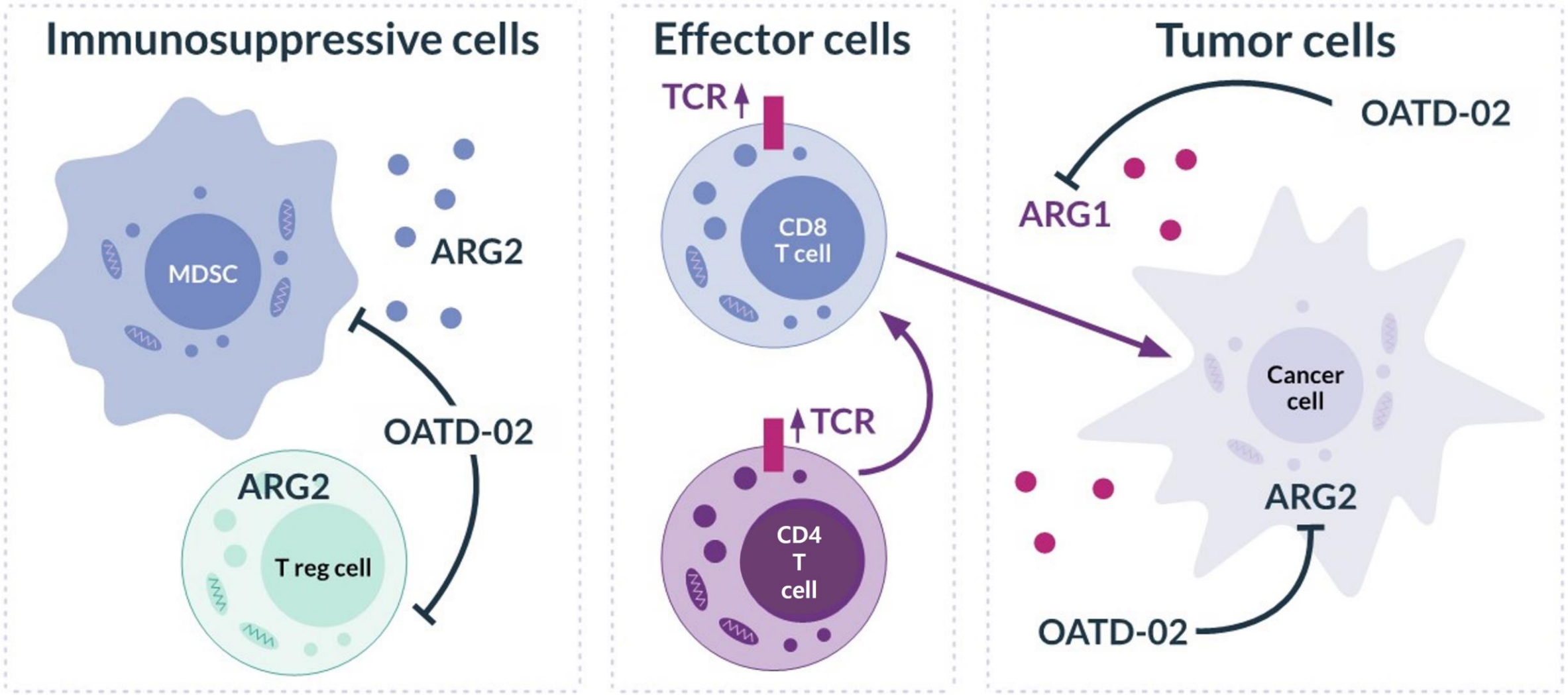
Predicted favorable human PK

Clearly defined pharmacological profile

Patent protection until 2037

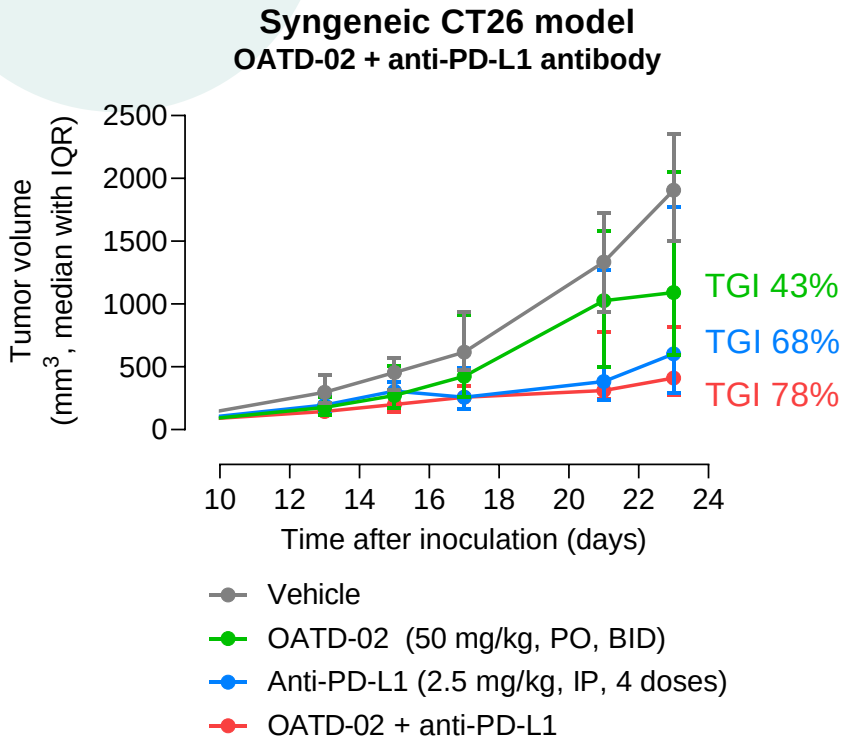
Expected to enter the clinic in 2022

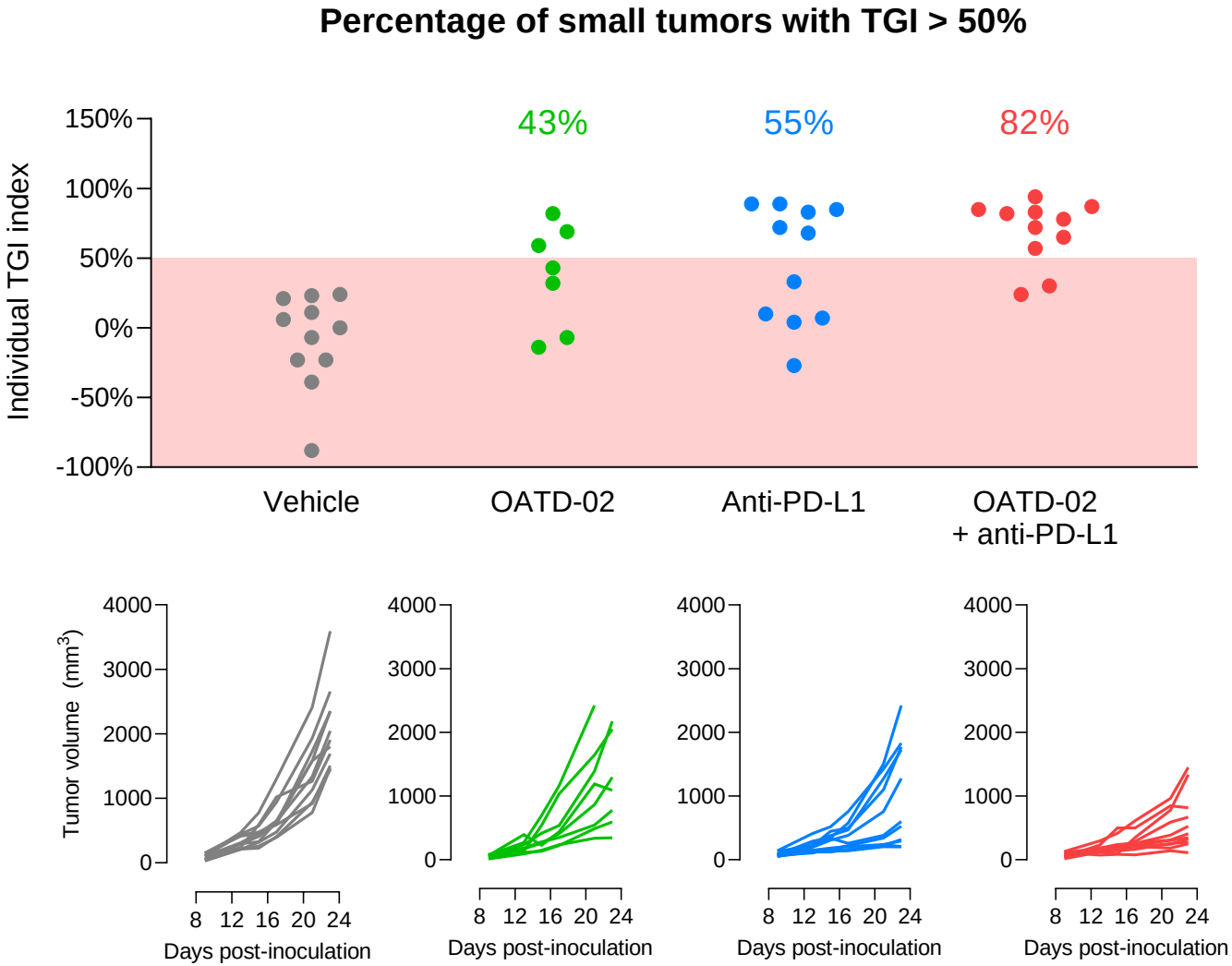
OATD-02 Restores effective antitumor immune responses



OATD-02 improved the efficacy of immune checkpoint inhibitors

OATD-02 enhanced the efficacy of **anti-PD-L1 antibodies**

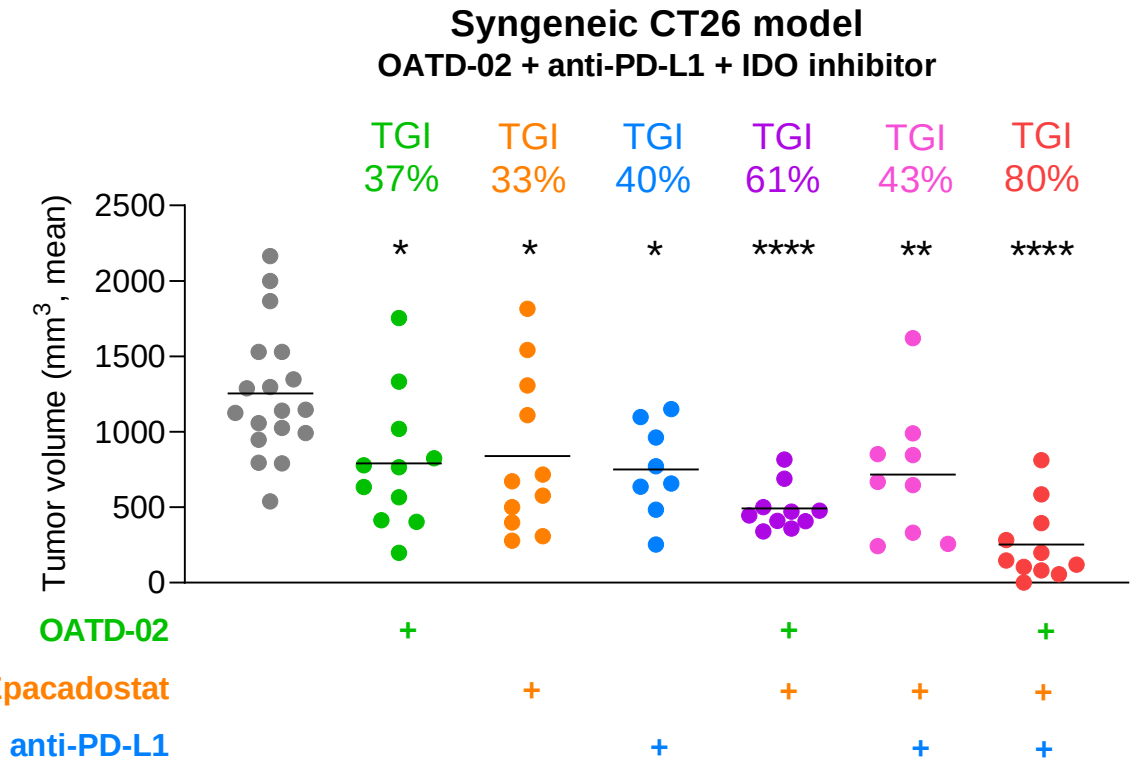




OATD-02 showed a superior activity in a triple therapy combined with anti-PD-L1 antibody & epacadostat (IDO inhibitor)

OATD-02 showed superior antitumor activity in combination with IDO inhibitor (TGI 61% vs. 40% for EPA monotherapy)

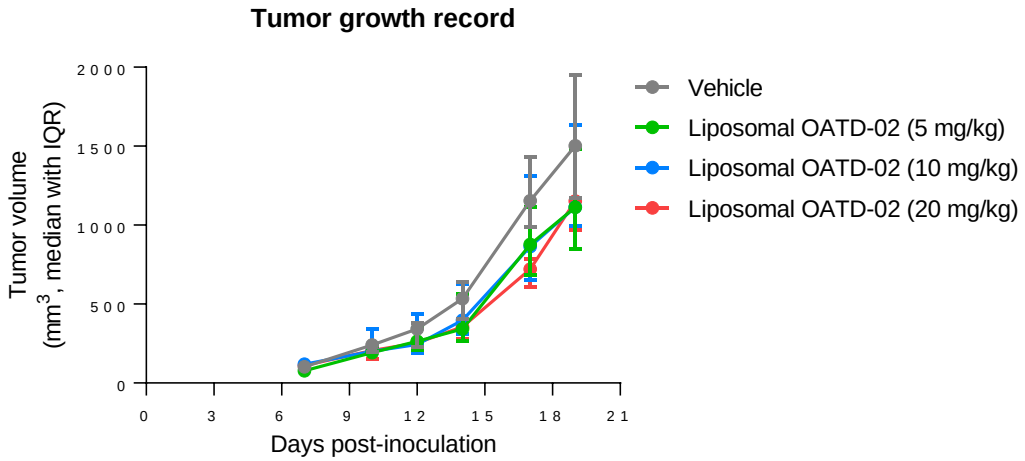
OATD-02 strongly improved the efficacy of the combination of epacadostat and anti-PD-L1 antibody (TGI 80% vs. 43% for dual combo) without apparent toxicity

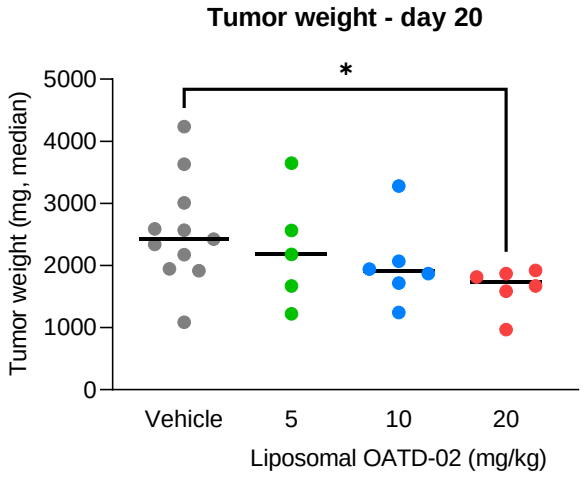


OATD-02 dosed at 50 mg/kg (po, bid from day 1)
Epacadostat dosed at 30 mg/kg (po, bid from day 1)
Anti-PD-L1 dosed at 2.5 mg/kg (ip, qd, days 8, 10, 12, 14 & 16)

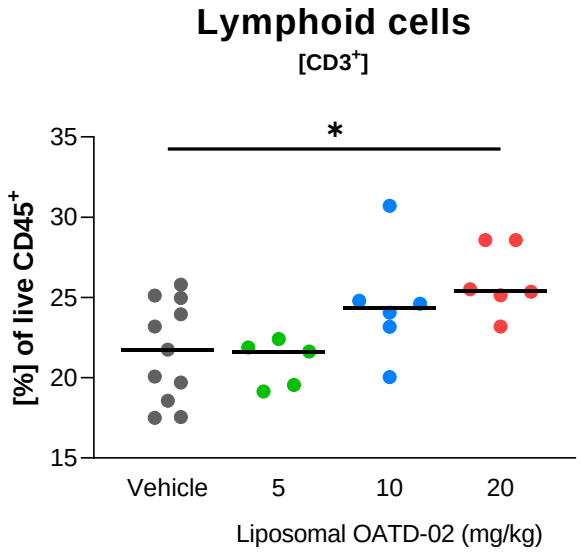
Liposomal formulation as an effective vehicle for drug administration

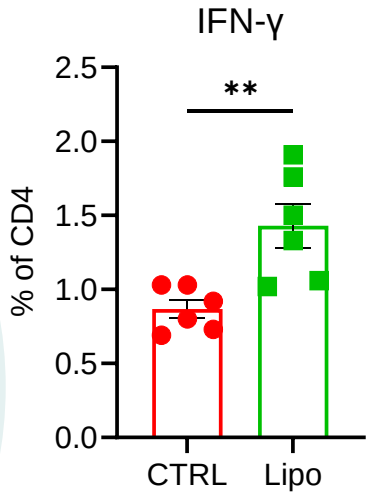
Reduced tumor growth

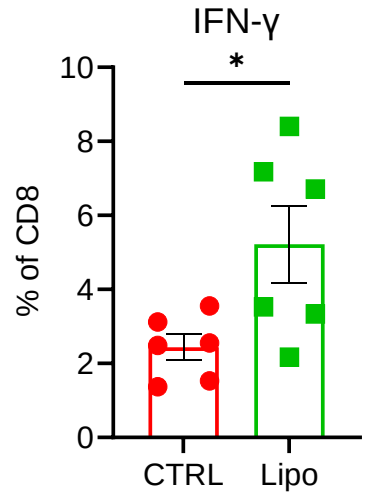




Enhanced immune response against tumor







molecure

OATD-02 on-track to enter the clinic in 2022 – Phase I/II

Potential best-in-class profile:

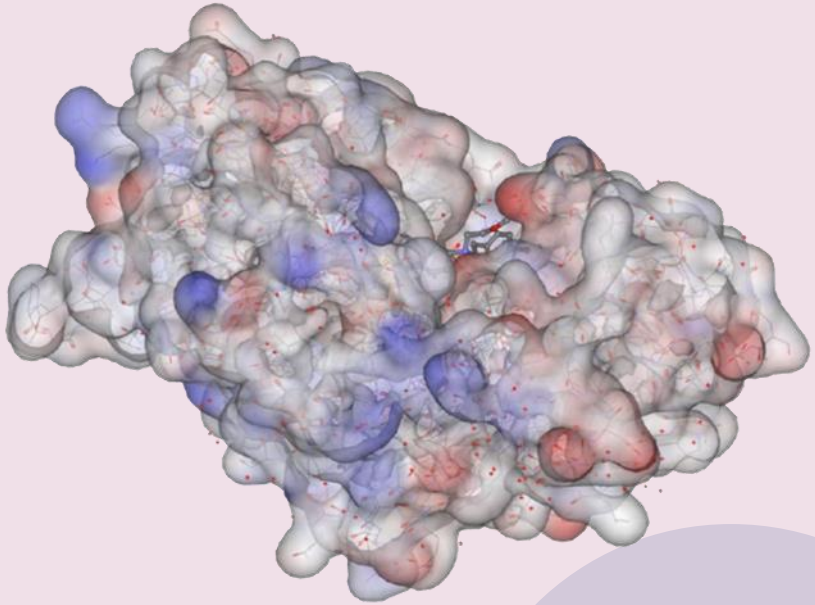
- First dual ARG1/ARG2 inhibitor
- Favorable therapeutic window of OATD-02 with improved safety and tolerability
- Better infiltration in tumor microenvironment enhancing therapeutic efficacy
- Possibility to broaden the spectrum of target malignancies

CTA submission package in finalisation with filing expected Q3 2022

- ADME, Genotoxicity, 14d MTD and 4wk GLP tox in two species
- NOAEL (No-observed-adverse-effect Level) determined
- Efficacy in monotherapy and in combinations validated in multiple tumor models

*CTA – Clinical Trial Application
*FPFV – First Patienr First Visit
*LPLV – Last Patient Last Visit
*CSR -Clinical Study Report

YKL-40 binders



Status

- Advanced lead stage
- Selective YKL-40 binder
- Favourable pharmacokinetic profile and positive initial data in a cancer model
- No significant off-target activity

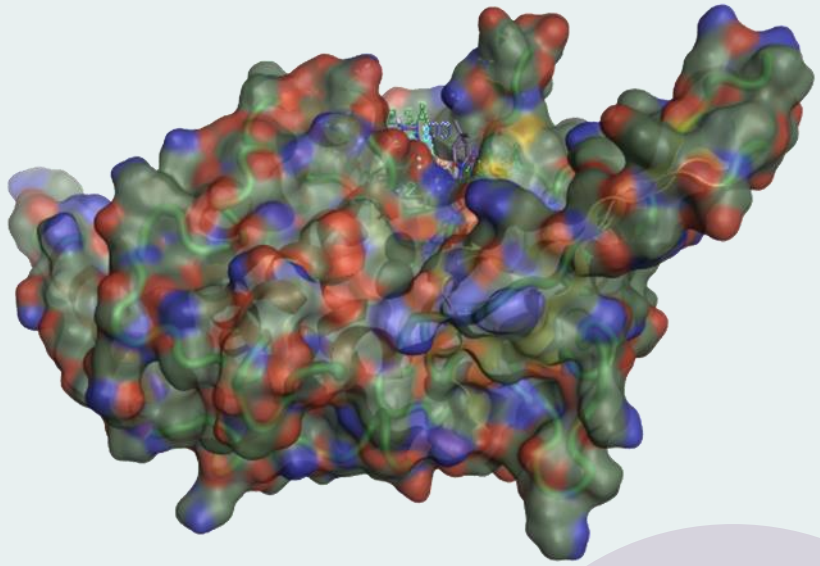
Research Focus in 2022

- *In vivo* efficacy for the lead YKL-40 binder
- Reveal the mechanism of action of YKL40 and its binder through a number of in vitro studies
- Scientific collaborations with the International Institute of Molecular Mechanisms and Machines (IMOL) and **University Medical Center Hamburg-Eppendorf** to achieve these goals in a timely manner

Timeline & Milestones

- *In vivo* efficacy confirmation by Q4 2022
- Development candidate nomination by Q1 2023
- IND submission by Q4 2024

USP-7



Status

- Lead optimization stage
- Active and selective USP-7 inhibitor OAT-4828
- USP-7 inhibitor shows *in vitro* immunomodulatory properties, specially for lymphocytes

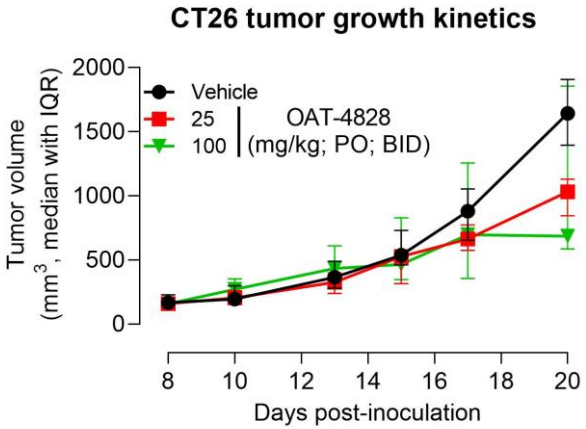
Research Focus in 2022

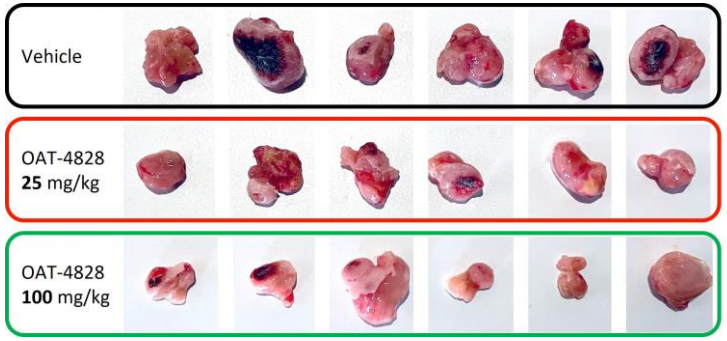
- Improvement of the PK profile in order to have predictable level of inhibition of biological target *in vivo*
- Start *in vivo* validation of our lead USP-7 inhibitor as a tool compound

Timeline & Milestones

- *In vivo* efficacy confirmed in Q2 2022 (6 m ahead of time)
- Development candidate nomination by Q2 2023
- IND submission by end of 2024

Significant tumor size reduction in CT26 model after **OAT-4828** treatment

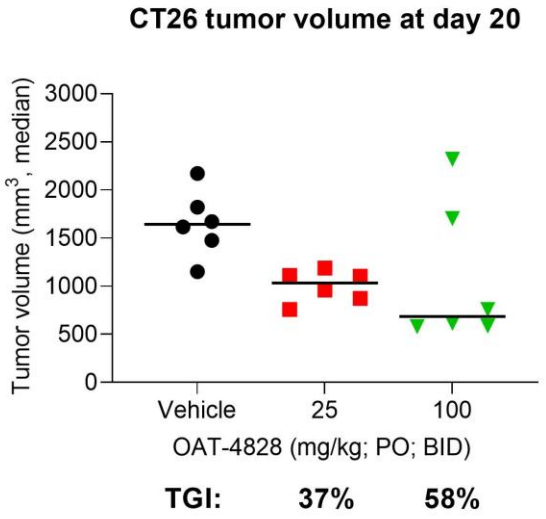


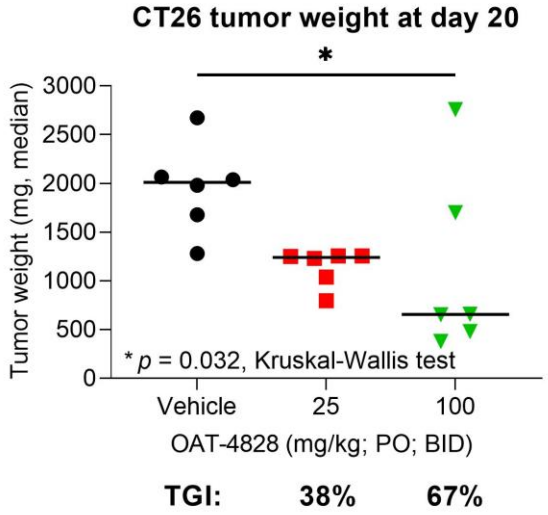


When administered in BALB/c mice bearing CT26 tumors, for 20 days at doses of 25 or 100 mg/kg PO, BID,

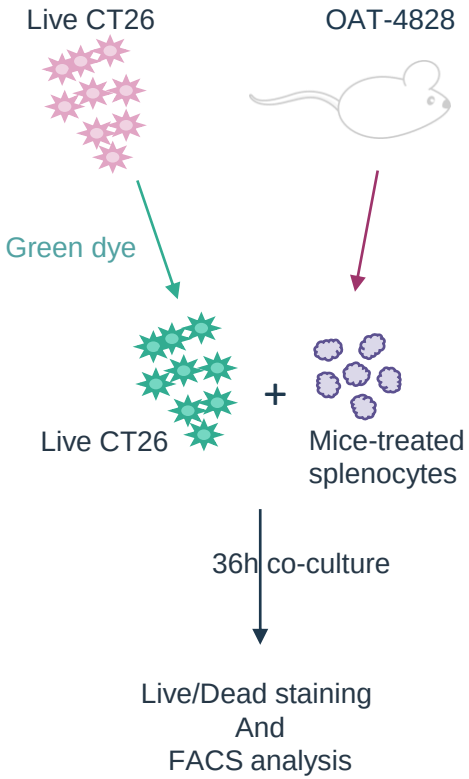
OAT-4828 exerts an anti-tumor effect of up to 67% reduction in weight.

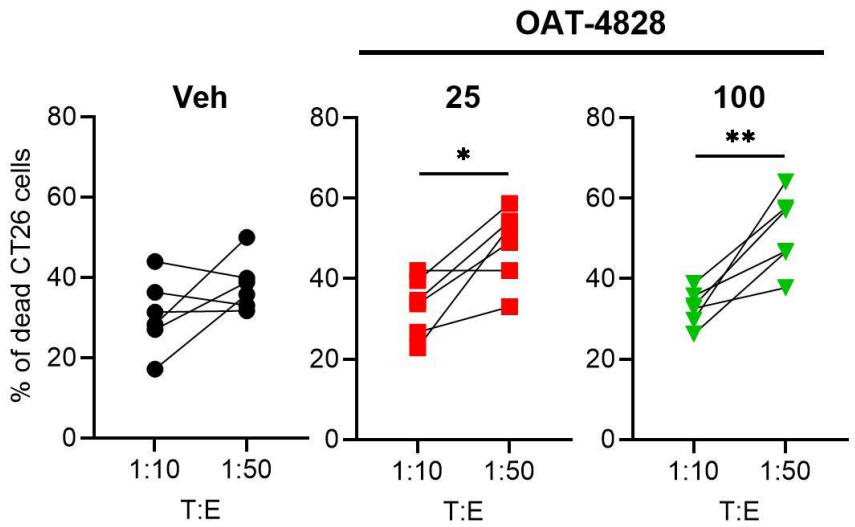
Tumors are smaller, lighter and less necrotic

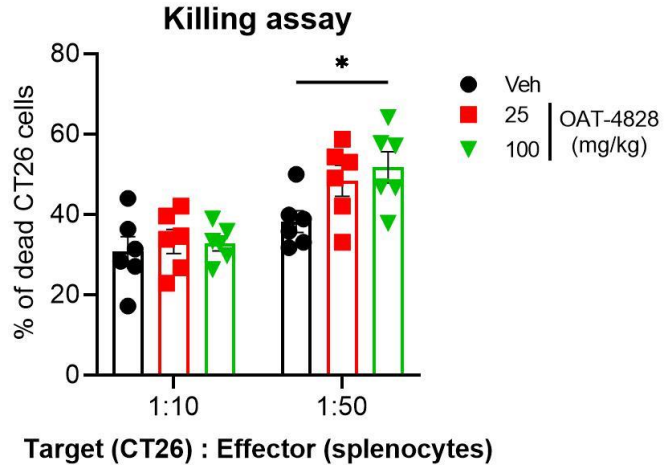




Increased killing of CT26 cells by effector cells from **OAT-4828** treated mice

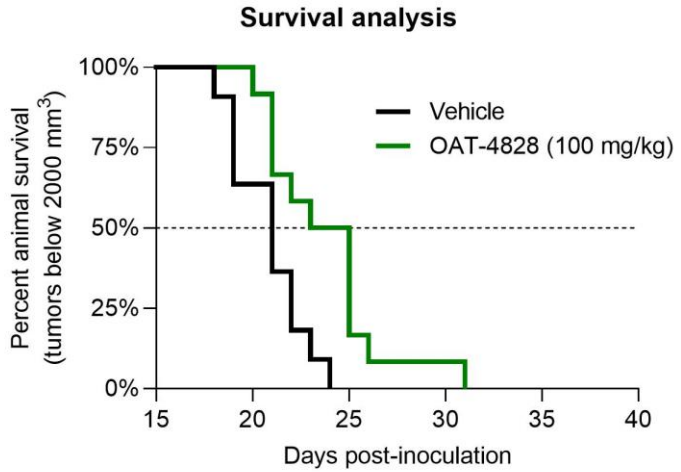




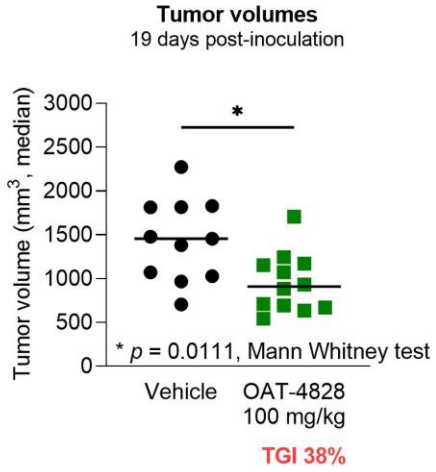


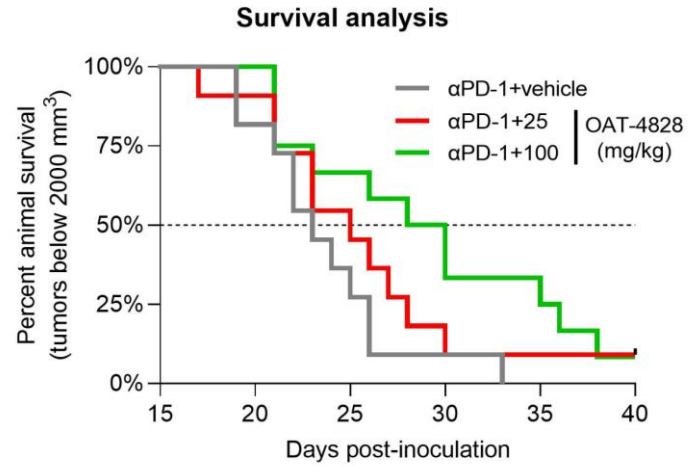
Effector cells isolated from the spleen of mice treated with OAT-4828 for 20 days bear the potential to induce cell death ex vivo, in fresh CT26 cells in the absence of other treatment

OAT-4828 increases survival and augments the effects of a mouse anti-PD-1 antibody in a CT26 colorectal carcinoma cancer model

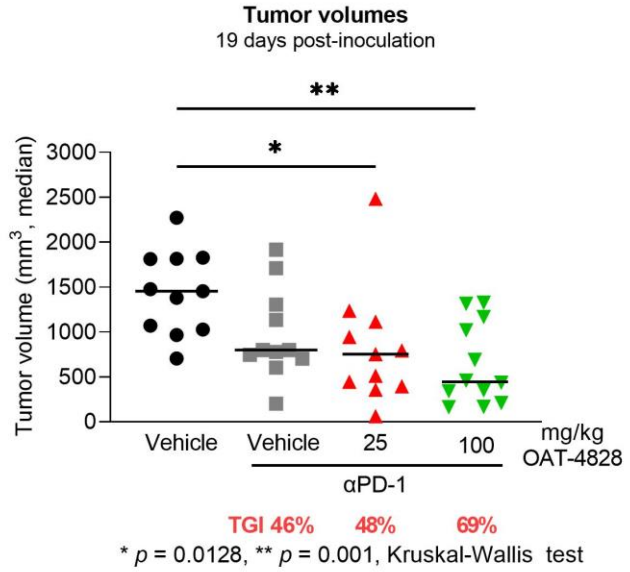


Monotherapy



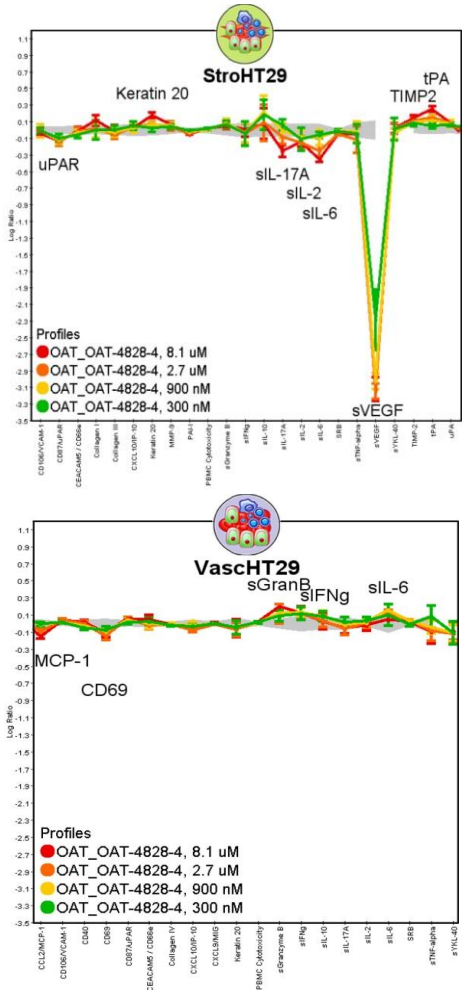


Combination



molecure

Human primary co-cultures validate anti-tumor and immunomodulatory properties of **OAT-4828**



To validate translational potential of the results we tested OAT-4828 in human co-culture system:

- Human cells (PBMC's, primary fibroblasts or endothelial cells) were cultured with human cancer cell lines representing the tumor microenvironment
- We observed a significant decrease in VEGF. OAT-4828 excerts anti-tumor effect by inhibition of growth of new tumor supplying blood vessels
- We validated an increase in biomarkers such as IFN-γ and GzmB demonstrating immunomodulatory properties of OAT-4828 in human systems

IFN- γ – Interferon gamma
GzmB – Granzym B

Summary of OAT-4828 anti-tumor effects

Molecure has developed an advanced lead, highly selective small molecule inhibitor of USP7, with drug-like characteristics warranting further development, which:

- Inhibits the growth of CT26 syngeneic colorectal cancer cells in monotherapy and in combination with αPD-1 MAb in a dose dependent fashion.
- Increases number and cytotoxicity of $CD8^+$ T cells in circulation (spleen) and in tumors
- Increases the secretion of granzyme B and IFN-γ by T cells
- Decreases the TAM-associated markers and increases the pro-inflammatory phenotype of $CD4^+$ T cells
- Effector cells isolated from OAT-4828-treated animals elicit an effective and direct killing of CT26 cells *ex vivo*

We have demonstrated OAT-4828 **efficacy in colorectal cancer model**, **elucidated the mechanism of action,** which explains in vivo tumor reduction, and we have **validated its translational potential**.

License option agreement

Status

- Constant know-how transfer, screening cascade set up and advanced lead optimization
- Verification of the therapeutic efficacy in various fibrosis models
- Aiming for first-in-class status in the program

Research Focus in 2022

- Establishing the screening cascade to identify an advanced lead molecule
- Confirmation of *in vivo* activity of the lead compound
- Improved design of molecules effective *in vivo* within 9-12 months

Timeline & Milestones

- Decision on option execution expected Sept 2022
- Development candidate nomination by H1 2023
- IND submission by Q4 2024

Our small molecule mRNA discovery platform

The potential to disrupt mRNA targeting approaches

Molecure - discovering medicines of the future

Small molecules targeting RNA to prevent downstream RNA translation

GENE OF INTEREST

GCAUGGAAAc

1 Target Selection

2D RNA STRUCTURE

BIOINFORMATICS
BIOPHYSICS

2 Thermodynamic modeling to predict secondary structure

UNIQUE ALGORITHM

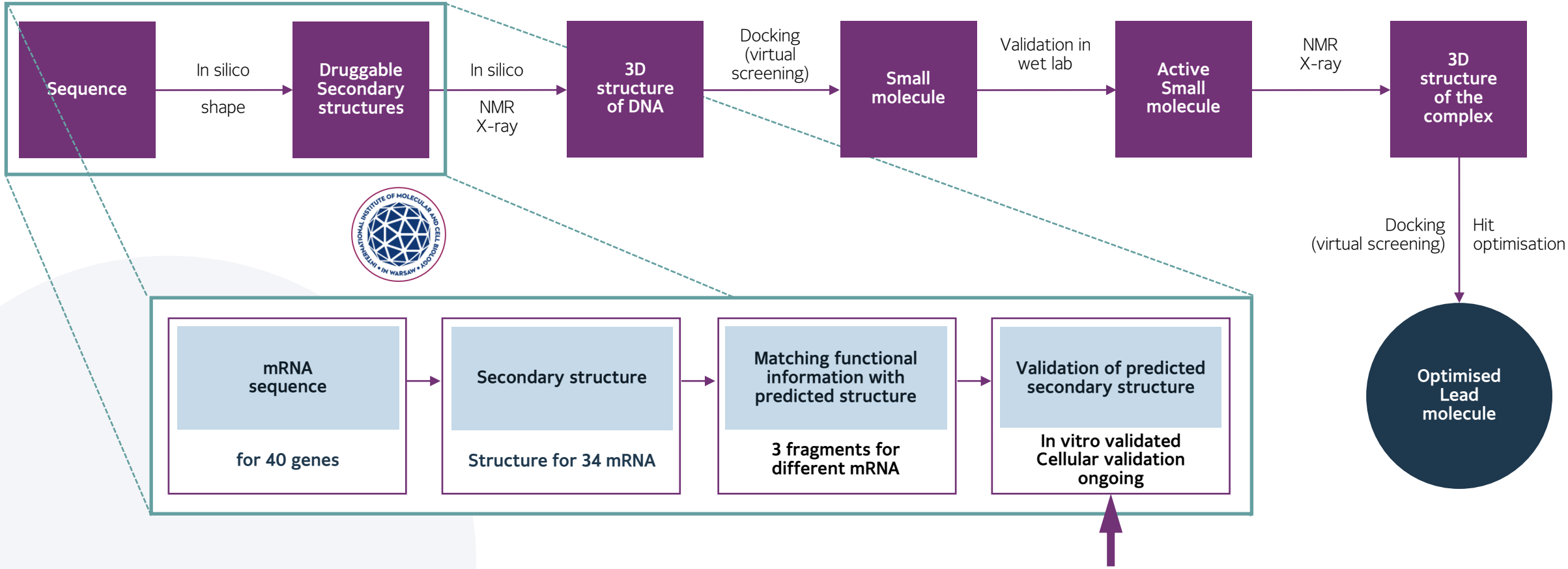
3 Dynamic modeling for tertiary structure determination and binding pocket identification

BOUND SMALL MOLECULE
- NO TRANSLATION -
NO PATHOLOGICAL PROTEIN

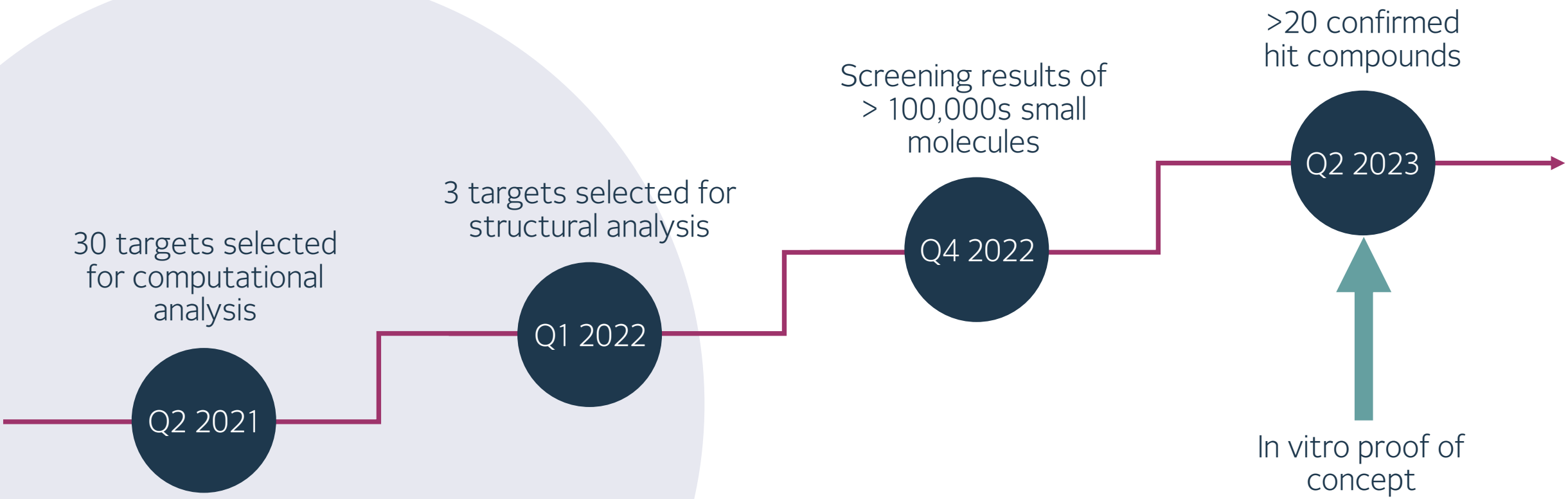
HTS
MEDICINAL CHEMISTRY

4 High throughput screening of potential binders and refining of leads with wet lab chemistry

Our mRNA platform discovery workflow



Our path to success in discovering RNA targeting small molecules



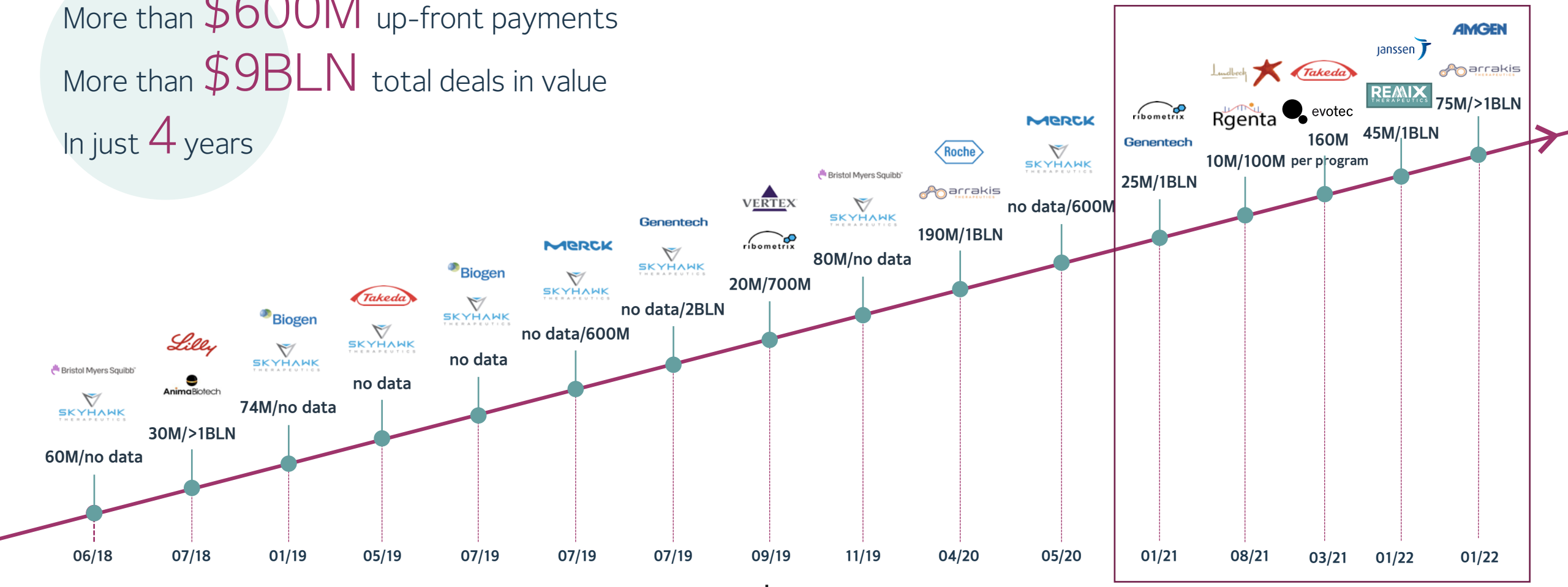
The RNA space is advancing rapidly

Targeting RNA with small molecules has led to multiple significant biotech / big pharma partnerships

More than $600M up-front payments

More than $9BLN total deals in value

In just 4 years



Financials

Financials update

PLNm	Q1 2021	Q1 2022
Revenue	**0.20**	**0.99**
Costs	**2.56**	**4.25**
Partnered project costs	**1.13**	**0.48**
New started projects	**0.00**	**0.91**
EBITDA	**-2.41**	**-3.62**
CAPEX	**0.03**	**0.88**

R&D spending end of Q1 2022

PLN 6,61M ($1,5M)*

of which grants end of Q1 2022

PLN 2,5M ($0,6M)

Cash position May 2021

>PLN 86M ($20M)

Financing available until end 2023

2021

- 1 clinical program
- 1 preclinical program
- 4 early pipeline programs

2022 R&D plans

- Expenditures >PLN 40M
- Including Grants >PLN 16M out of granted 35M

Next 12 months

- 1 Ph1 (OATD-02) + 1 Ph2 (GLPG4716)
- 1-3 preclinical programs
- 5-7 early pipeline programs

* Exchange rate based on USD/PLN = 4,29

ESOP (long-term incentive program) proposal

The ESOP program is dedicated to:

- All employees and members of the Management Board of Molecure for the years 2022-2024

The criteria for awarding Molecure shares are the following:

- Employment and/or management board membership for at least 6 months
- Achievement of individual KPIs (as in MBO or equivalent) in line with the Company's strategic goals
- Loss of shares in the event of termination of employment and/or function
- New shares will be issued only if MOC stock price increases from baseline

Principles of acquiring MOC shares in exchange for phantom shares.

- MOC shares within ESOP are issued after the end of the last incentive period (beginning of 2025)
- Maximum number of ESOP shares to be issued: 400 000
- Shares awarded at the end of the program will be released for trading in portions of 1/3 each year with two year lock-up agreement (each portion of 1/3 shares will be released for trading in 2025, 2026 and 2027).

Authorized Capital proposal

- Two components of the authorised capital:
  - [i] ESOP authorised capital and
  - [ii] INVESTMENT authorised capital;
- ESOP authorised capital is connected directly to the maximum amount of MOC new shares issued within the ESOP program and will not be available to other shareholders/investors.
- shares issued within INVESTMENT authorized capital will be available to investors (preferably biotech specialist international investors with a long-term perspective).
- This preference is aligned with the Company's long-term strategy of gaining international recognition & exposure.
- The Management Board will have the right to issue shares under the authorised capital under market conditions after the approval of the Supervisory Board.
- Details of the subscription are provided in the published projects of Shareholder's Assembly resolutions.

Business Development

Business Development at BIO International Convention

The BIO International Convention attracts 10,000+ biotechnology and pharma leaders who come together for one week of intensive networking to discover new opportunities and promising partnerships.

After 3 years, we are back in person for the 2022 International Convention happening in San Diego, CA June 13-16.

Our Focus this year will be on

- Continuing discussions with existing prospects on OATD-02 as well as newly identified prospects in the US and China
- Introducing, for the first time, OAT-4828, our lead asset in the fast-progressing USP7 program
- Raising awareness about our small molecule targeting mRNA platform and demonstrating the uniqueness of our approach

With one week to go before the start, we already have 27 one-on-one meetings confirmed including some of the top 20 pharma companies as well as specialist biotechs, with more pending confirmation.

Of the prospects we are going to meet, the most well known are the likes of

Roche Pfizer MERCK INVENTING FOR LIFE
Debiopharm WE DEVELOP FOR PATIENTS ono sanofi Boehringer Ingelheim
KLUS PHARMA Eisai AstraZeneca SUN PHARMA

DUBs inhibitors development landscape

- Inhibition of deubiquitinases as a therapeutic modality is a relatively recent approach, with the first collaborations dating from 10 years ago.
- The main therapeutic areas of DUB inhibition are **oncology, neurology** and **fibrosis**
- Until March this year, there were no relevant inhibitors targeting DUBs that entered clinical trial.
- **Mission Therapeutic** (UK) is the leader in the field, with 3 programs at preclinical stage, and 1 USP30 inhibitor program, MTX652, approved by the US FDA to enter phase I in acute kidney injury.
- Mission Therapeutics also concluded 2 deals at preclinical stage, with Abbvie (2018) and Pfizer (2020)
- **Ubiquigent** (UK) proposes as a fee-for-service or through collaborations, access to DUB profiler, their screening platform with the likes of BMS, LEO Pharma, Dorian therapeutics, FORMA an KSQ therapeutics

Competitive landscape-USP7 specific

No USP7 inhibitor has entered clinical development stage yet

The main, active competitors based on patent searches are:

- **RAPT Therapeutics** – pipeline molecule
- Ubiquigent (in-licensed from Medivir AB)
- Forma Therapeutics
- Servier
- **Hybrigenics** – pipeline molecule
- Almac Discovery
- Shouyao Holdings
- Schrödinger, Inc

Molecure 3-year goals

Potential milestones targeted by end of 2024

RNA Platform

2023

- In vitro PoC reached for at least three high value mRNA targets

2024

- Drug-like molecules (leads) in 2 or more RNA-targeting small molecule programs
- First high-value collaboration / partnership
- Expansion in new therapeutic areas and modalities

Protein Targets

2023

- Two clinical stage assets administered to patients
- 2-3 candidates in formal preclinical development (internal pipeline + in-licensing)
- Early tolerability and safety data, possible efficacy signals, MTD established for OATD-02

2024

- Preliminary results from the completed phase I study
- New IND preparation and filing

Financial/Operational

2023

- Significant value assigned to the mRNA-targeting discovery platform

2024

- Significant cumulative revenue from partnering & collaboration agreements
- Dynamic growth: +50% human resources
- Inreased international presence and recognition

Questions & answers

Glossary

CTA – Clinical Trial Application

FPFV – First Patient First Visit

LPLV – Last Patient Last Visit

ARG - Arginase

MTD – Maximum Tolerated Dose

GLP – Good Laboratory Practice

IND – Investigational New Drug

PBMCs - Peripheral Blood Mononuclear Cells

VEGF - Vascular Endothelial Growth Factor

IFNγ – Interferon gamma

GzmB – Granzyme B

Anti-PD-L1 - A monoclonal antibody directed against programmed cell death-1 ligand 1

IPF - Idiopathic Pulmonary Fibrosis

NASH - Non-alcoholic steatohepatitis

ILDs - Interstitial Lung Diseases

CHIT1 – Chitotriosidase

DUBs - Deubiquitinases

ESOP - Employee Stock Option Plan

KPI - Key Performance Indicators

MBO - Management by Objectives

TGI -Tumor Growth Inhibition