OSE IMMUNO THERAPEUTICS

Breaking Through the Therapeutic Ceiling with First-In-Class Immunotherapies

January 2024

Forward Looking Statement

This presentation contains express or implied information and statements that might be deemed forward-looking information and statements in respect of OSE Immunotherapeutics. They do not constitute historical facts. These information and statements include financial projections that are based upon certain assumptions and assessments made by OSE Immunotherapeutics' management in light of its experience and its perception of historical trends, current economic and industry conditions, expected future developments and other factors they believe to be appropriate.

These forward-looking statements include statements typically using conditional and containing verbs such as "expect", "anticipate", "believe", "target", "plan", or "estimate", their declensions and conjugations and words of similar import.

Although the OSE Immunotherapeutics' management believes that the forward-looking statements and information are reasonable, the OSE Immunotherapeutics' shareholders and other investors are cautioned that the completion of such expectations is by nature subject to various risks, known or not, and uncertainties which are difficult to predict and generally beyond the control of OSE Immunotherapeutics. These risks could cause actual results and developments to differ materially from those expressed in or implied or projected by the forward-looking statements. These risks include those discussed or identified in the public filings made by OSE Immunotherapeutics with the AMF. Such forward-looking statements are not guarantees of future performance.

This presentation includes only summary information and should be read with the OSE Immunotherapeutics Universal Registration Document filed with the AMF on May 2, 2023, including the 2022 Financial results, all available on the OSE Immunotherapeutics' website.
Other than as required by applicable law, OSE Immunotherapeutics issues this presentation at the date hereof and does not undertake any obligation to update or revise the forward-looking information or statements.

This presentation does not constitute an offer to sell the shares or soliciting an offer to purchase any of the Shares to any person in any jurisdiction where such an offer or solicitation is not permitted. The Shares may not be offered or sold, directly or indirectly, may be distributed or sent to any person or into any jurisdiction, except in circumstances that will result in the compliance with all applicable laws and regulations. Persons into whose possession this presentation may come are required to inform themselves about, and to observe all, such restrictions. The Company accept no responsibility for any violation by any person, whether or not it is a prospective purchaser of Shares, of any such restriction.

The information contained in this presentation has not been independently verified and no commitment, representation or warranty, express or implied, is given by the Company or anyone of its directors, officers or respective affiliates or any other person and may not serve as the basis for the veracity, completeness, accuracy or completeness of the information contained in this document (or for any omission of any information in this presentation) or any other information relating to the Company or its affiliates. The information contained in this document is provided only as of the date of this document and may be subject to update, supplement, revision, verification and modification.

They can be modified significantly. The Company is not subject to an obligation to update the information contained in this document and any opinion expressed in this document is subject to change without notice. The Company, its advisers, its representatives cannot be held responsible in any manner whatsoever for any loss of any nature whatsoever resulting from the use of this document or its contents or otherwise related in any way to this document.

This document contains information relating to the Company's markets and the positioning of the Company in these markets. This information is derived from various sources and estimates of the Company. Investors cannot rely on this information to make their investment decision.

Delivering first-in-class immunotherapies from Target to Clinic

Key in-house expertise and capabilities to identify and develop first-in-class immunotherapies

- Founded in **2012**
- IPO/Euronext in **2015**
- **60+ FTEs**
- **500+ granted patents**

- **52 M€** : Equity
- **121+ M€** : Partnerships
  +70% non-dilutive funding

Phase 3 asset in Oncology
Tedopi® most advanced cancer vaccine
NSCLC 2L post-CPI market: ***+5b$/year***

Phase 2 asset in Inflammation
Lusvertikimimab anti-IL-7R mAb
Ulcerative colitis market: ***+10b$/year***

2	**Strategic Pharma Partners**	**1.4b$** potential milestones
5	**Clinical stage assets**	• 3 **Fully** owned (Phase 1, 2, 3) • 2 **Partnered** (Phase 1, 2)
3	**Pre-clinical** platforms Assets approaching development	• **Innovative MoA & Targets** to address critical unmet need • International Research Collaboration

Boehringer Ingelheim · Veloxis Pharmaceuticals · Harvard University · UKSH Universitätsklinikum Schleswig-Holstein · Memorial Sloan Kettering Cancer Center · Nantes Université · Inserm

OSE Immunotherapeutics **pipeline**

Combining a clinical portfolio of first-in-class assets with unique, highly productive R&D platforms

	Product candidate	Target	Indication	Research	IND-enabling	Phase I	Phase II	Phase III	Market
Proprietary	Tedopi®	Neoepitopes vaccine	NSCLC Mono post-ICI 3L						*Compassionate (EU)*
			New NSCLC Mono post-ICI 2L					Phase 3 start H1-2024	
			PDAC Combo maintenance *(IIS)*						
			NSCLC Combo 2L post-ICI *(IIS)*						
			OC Mono or Combo *(IIS)*						
	OSE-127/Lusvertikimab	Anti-IL-7R	**Ulcerative Colitis**					** Results 2024 **	
			ALL						
	OSE-279	Anti-PD1	Solid tumors						
Partnered	FR104/VEL-101	Anti-CD28	Kidney Transplant						
	BI 765063	Anti-SIRPα	HNSCC 2L and HCC 1L/2L						
	BI 770371	Anti-SIRPα	Solid tumors						
R&D	OSE-230	Anti-ChemR23	Chronic Inflammation						
	BiCKI®-IL-7	Anti-PD1/IL-7v	Solid tumors						
	Myeloid Checkpoint	Anti-CLEC-1	Cancers						

Immuno-Oncology
Immuno-Inflammation

NSCLC: Non-Small Cell Lung Cancer; **PDAC:** Pancreatic Ductal AdenoCarcinoma; **OC:** Ovarian Cancer; **ALL:** Acute Lymphoblastic Leukemia. **HNSCC:** Head and Neck Squamous Cell Carcinoma; **HCC:** **H**epato**C**ellular **C**arcinoma **UC:** Ulcerative Colitis.; **IND:** Investigational New Drug Application.

Strategic partners provide industry-leading clinical support and strong financial foundations

Over €1.4bn in potential milestones; €121m* already received since 2016

OSE-172/BI 765063
HNSCC and HCC
MSS Endometrial / MSS CRC

Boehringer Ingelheim

€65.3m received

Up to **€1.1bn** in milestones

+ High-single digit to low teens royalties
on global sales

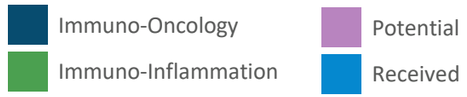
FR104/VEL-101
Kidney transplant

Veloxis PHARMACEUTICALS
an Asahi Kasei company

€13.9m received

Up to **€315m** in milestones

+ Tiered royalties
on global sales



OSE IMMUNO THERAPEUTICS

* Including upfront, milestones and reinvoiced R&D costs + previous license agreement with J&J and Servier

Key catalysts

2024

Readouts

- **Lusvertikimab**
  Phase 2 results in UC
- **OSE-279**
  Phase 1 results
- **BI 765063/BI 770371 *(partnered)***
  Phase 1/2 results in solid tumors
- **FR104/VEL-101 *(partnered)***
  Phase 1/2 results in Kidney Transplantation

Progress

- **Tedopi®**
  Phase 3 start in NSCLC 2L
- **FR104/VEL-101 *(partnered)***
  Phase 2 start in Kidney Transplantation
- **OSE-230**
  IND/Phase 1
- **R&D programs & Lusvertikimab**
  New partnering opportunities

2025-2027

Readouts

- **Tedopi®**
  Phase 3 results in NSCLC 2L
- **BI 765063/BI 770371 *(partnered)***
  Phase 2 results
- **FR104/VEL-101 *(partnered)***
  Phase 2 results in Kidney Transplantation
- **OSE-230**
  Phase 1 results + Phase 2 results

Progress

- **Lusvertikimab *(to partner)***
  Phase 3 start
- **BiCKI®-IL-7v**
  IND/Phase 1
- **CLEC-1**
  IND/Phase 1
- **New R&D programs/platforms**

Investment Highlights

Compelling product

Promising clinical data from the lead asset Tedopi®
- Met primary overall survival endpoint in monotherapy in PoI pivotal NSCLC post-ICI study
- Significant better Safety profile & Quality of Life with positive Net Treatment Benefit versus SOC

Large market opportunities

Focus on multi-billion $ markets
- **I/O:** NSCLC (2L, 3L), HCC (1L, 2L), HNSCC (2L), Leukemia
- **I&I:** IBD (Ulcerative Colitis), Kidney Transplantation

Strong pharma partnerships

Sustainable business through multi-partnership strategy
>€1.4bn milestones: Boehringer Ingelheim, Veloxis + New partnership opportunities

Long duration IP portfolio

IP extends to 2040's
I/O: Tedopi® (>2038), OSE-172 (>2037), OSE-279 (>2039), CLEC-1 (>2040) **I&I:** OSE-127 (>2037), FR104 (>2035), OSE-230 (>2040)

Multiple upcoming catalysts

Multiple key clinical and regulatory milestones expected in the next 18 months
- **Tedopi®:** preparing confirmatory pivotal phase 3 NSCLC 2L
- **Lusvertikimab (OSE-127):** Top-line results Ulcerative Colitis Phase 2
- **BI 765063/BI 770371:** Phase 1b results in solid tumors
- **FR104/VEL-101:** Phase 1/2 results and Phase 2 start in Kidney Transplantation
- **OSE-230** & **BiCKI®IL-7v:** 2xIND in the next 18 months

Financial Position

Cash visibility until Q4 2024
15 M€ available cash as of June 30, 2023, + **5.4 M€** R&D tax credit & + for almost **14 M€** additive financing secured post H1-2023

Our plan to build a **leading immunotherapy company**

OSE IMMUNO THERAPEUTICS

First-in-class strategy

Position Tedopi® as the best treatment option after ICI-failure in cancer patients

Leverage the clinical advantage of anti-SIRPα in the DON'T Eat Me landscape in Solid Tumors

Boehringer Ingelheim

Demonstrate Lusvertikimab (OSE-127) clinical activity Phase 2 in Ulcerative Colitis

Confirm FR104/VEL-101 benefit as maintenance therapy in kidney transplantation

Veloxis PHARMACEUTICALS

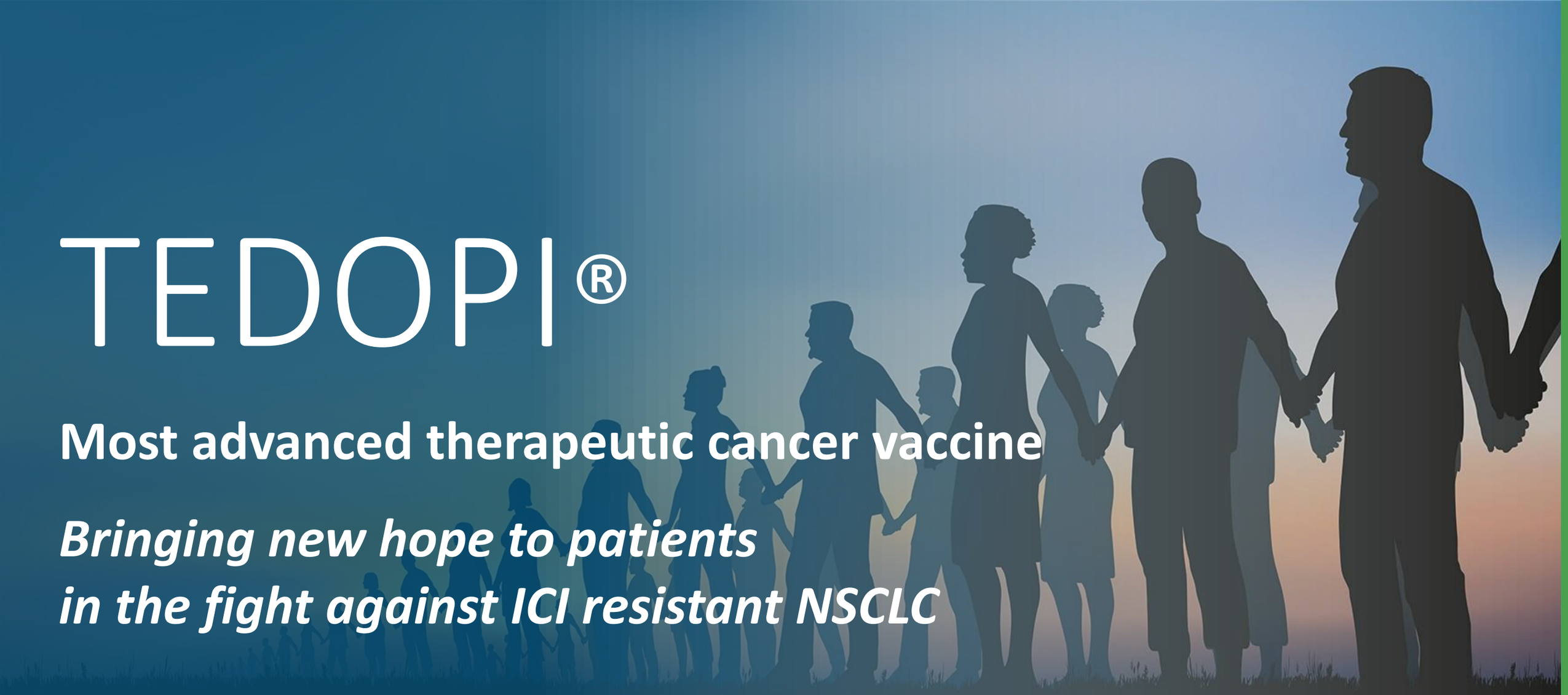
Advanced proprietary early-stage assets from OSE's research platforms
3 programs to enter the clinic in 2024-25 with *new partnering opportunities*

Proprietary clinical programs

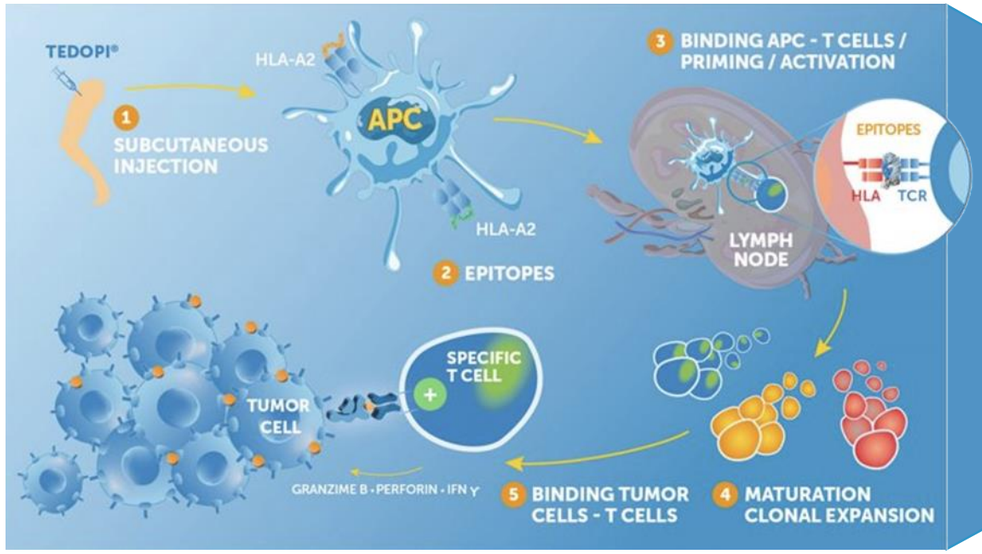
TEDOPI®

Most advanced therapeutic cancer vaccine

Bringing new hope to patients
in the fight against ICI resistant NSCLC



An **immunotherapy activating specific T-cells** to revive anti-tumor response



Most advanced Cancer Vaccine in clinical development

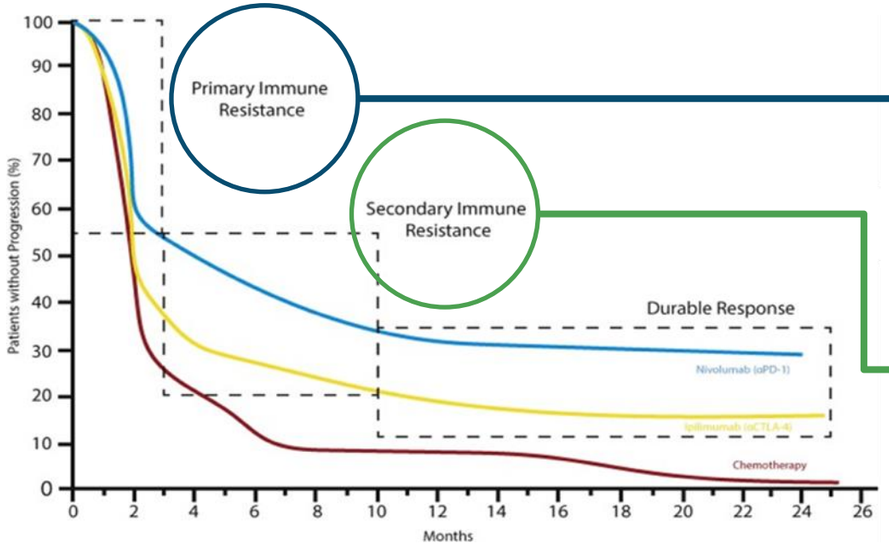
- **Unique** combination of **neoepitopes**: small peptides deriving from **tumor specific** antigens* expressed in various cancers
- Strong **binding to HLA-A2** receptor (45% population)
- Direct activation of tumor specific T-cells **differs from checkpoint inhibitors** releasing the break of immune response

Proprietary combination (9 **optimized neoepitopes** + 1 epitope giving universal T helper response)	Induces early T cell **memory** responses + **Migration** in tissues	**Ready to Use subcutaneous** formulation with Q3W injection	**Orphan Drug** Designation (FDA) **>1,000 injection** in clinical trials	Strong IP position until **2038**[1] (US / EU / Asia)

1: *OSE Immunotherapeutics Receives New European Patent*

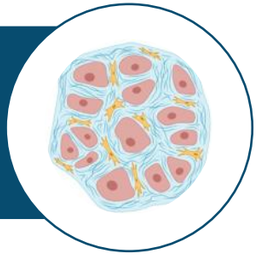
Tedopi® is a **novel cancer vaccine** with a strong biological rationale in post-ICI **secondary resistance**

Shifting paradigms with cancer vaccine immunotherapy



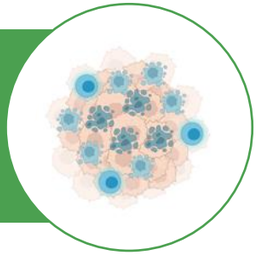
Primary (intrinsic) resistance
Patients who do not respond to ICIs with a rapid disease progression
→ **Immune refractory tumors**

No T-cell refractory tumors



Secondary (acquired) resistance[1]
Patients who have a period of initial ICI therapy benefit followed by disease progression
→ **Immuno-sensitive tumors**

T-cell exhausted & dying



Tedopi® has the **potential to rejuvenate & refresh specific TILs** in immuno-sensitive tumors.
Neoepitope-specific T cells have tumor killing potential and limited side effects.

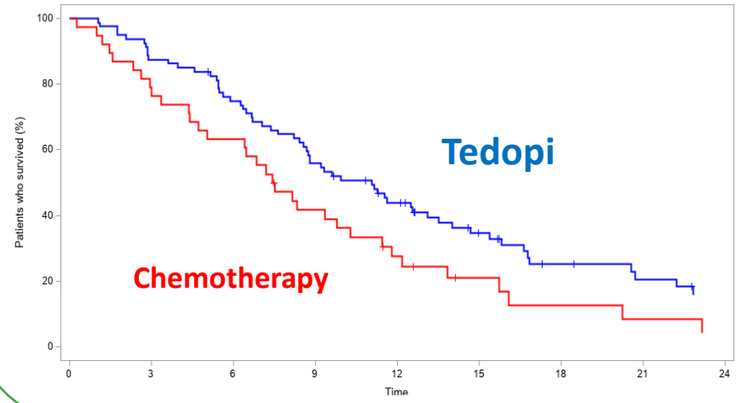
Figure: Schoenfeld AJ, Hellman MD. Cancer Cell 2020. Baxter MA, et al Br J Cancer 2021. **1:** After at least 12 weeks of ICI treatment in monotherapy (Task force SITC 2020 - Kluger H et al 2020).
ICI: immune checkpoint inhibitor. **TILs:** Tumor-infiltrating lymphocytes.

Clinically meaningful benefit of Tedopi®

First randomized Phase 3 with positive results vs. standard of care (SOC)

Overall Survival

Secondary resistance post anti-PD(L)1



OS rate at 12 months
44%
in **Tedopi®** vs.
27.5%
in SoC

Delta OS: **3.6** months

Tedopi® 11.1 months
vs
SoC 7.5 months

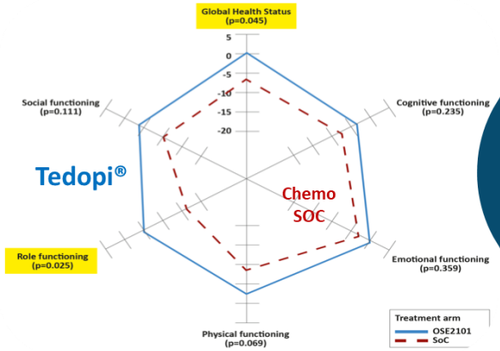
HR 0.59 /
p-value=0.017

Risk of death reduced by 41% *versus chemo.*

Significantly safer than Chemo.

11% *vs* **35%** *grade 3-5 AEs*

Better Quality of Life



Positive Net Treatment Benefit vs SOC: P=0.032

OSE IMMUNO THERAPEUTICS

Besse et al. Annals of Oncology 2023

ANNALS OF ONCOLOGY driving innovation in oncology

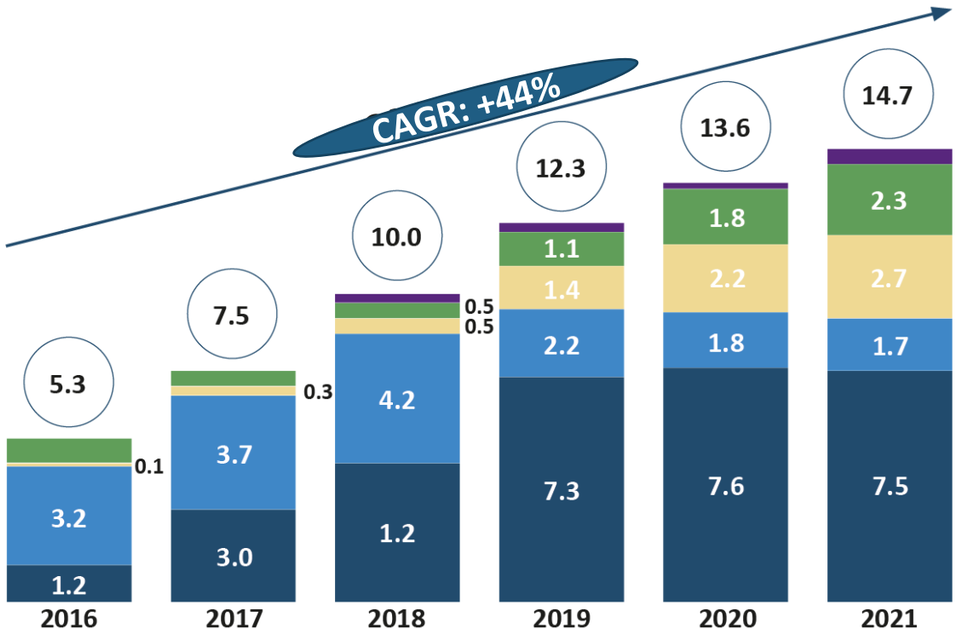
Position Tedopi® as the **best treatment option** after ICI-failure in cancer patients

OBJECTIVES

- Early access and compassionate use in 3L NSCLC
- FDA/EMA optimal regulatory paths for the new confirmatory pivotal phase 3 trial and CDx for potential approval in 2L NSCLC after ICI-failure
- Additional Phase 2 clinical trials in combination (NSCLC, Pancreatic, Ovarian)

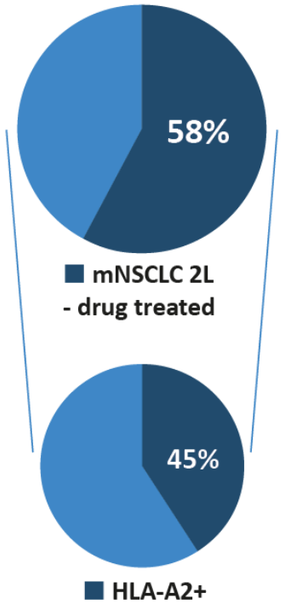
Target population estimated at **100k patients/year** in NSCLC post-ICI (2nd line)

PD-(L)1 NSCLC market is growing (US$bn)[1]



LIBTAYO® (cemiplimab-rwlc) Injection, 350 mg
IMFINZI® durvalumab Injection for Intravenous Use 50 mg/mL
TECENTRIQ® atezolizumab
OPDIVO® (nivolumab)
KEYTRUDA® (pembrolizumab) Injection 100 mg

Expending the potential in 2L post-ICI in G7 market



- Lung cancer is the leading cause of cancer mortality worldwide, accounting for about 1.8m deaths each year.[2]
- NSCLC is the most common type of lung cancer, accounting for 85% of all lung cancers.[3]
- ~60% of 1L patients progress within 18 months.
- HLA-A2 phenotype in about 45% of the population.
- Target NSCLC population: **~10%**

OSE IMMUNO THERAPEUTICS

1: EvaluatePharma - OSE Internal analysis based on publicly available data. **2:** World Health Organization. Globocan 2020 Fact Sheet. Available at: https://gco.iarc.fr/today/data/factsheets/populations/900-world-fact-sheets.pdf. Accessed November 2022. **3:** https://www.cancer.org/cancer/lung-cancer/about/what-is.html. Accessed November 2022

Tedopi® delivers important clinical benefits vs competition

Better Safety profile and QoL in current landscape of late-stage drug development post CT-IO

Company	OSE IMMUNO THERAPEUTICS	MIRATI THERAPEUTICS	Roche / IPSEN / EXELIXIS	MERCK / Eisai	gsk	BIONTECH / OncoC4	AstraZeneca / Daiichi-Sankyo	SANOFI	abbvie
Target	**Multi-epitope vaccine**	**TKIs (anti-angiogenic)**			**Checkpoint Inhibitors**		**ADCs**		
					TIM-3	CTLA-4	TROP2	CEACAM5	c-MET
Current Study	**ATALANTE-1**	SAPPHIRE	CONTACT-01	LEAP-008	COSTAR Lung	PRESERVE-003	Tropion-LUNG1	CARMEN-LC03	NCT04928846
n	**219** **118 (secondary resistant)**	500	350	405	750	600	604	554	698
Therapy	**Tedopi® vs docetaxel**	Sitra + Opdivo vs. docetaxel	Cabo+Tecentriq vs. docetaxel	Lenvi + Keytruda vs. docetaxel	Cobolimab + Jemperli vs. docetaxel	Gostistobart vs. docetaxel	datopotamab deruxtecan vs docetaxel	SAR408701 vs. docetaxel	Telisotuzumab Vedotin vs. Docetaxel
Primary endpoints	**OS**	OS	OS	PFS and OS	OS	OS	PFS and OS	PFS and OS	PFS and OS
Initiation	**2017**	Q3 2019	Q3 2020	Q2 2019	Dec 2020	Q2 2023	Q4 2020	Q1 2020	Q1 2022
Read-out	**2022**	**Failed**	**Failed**	Delayed	2024+	2027+	**Failed OS** (interim analysis)	**Failed**	2025+
		Efficacy/safety data from early-stage trials in NSCLC post-ICI							
- Design	**Active comparator (vs. docetaxel)**	**No active comparator**							
- mOS (months)	**11.1 (8.6 Sq & 12.5 non-Sq)**	Phase II: 14.9 (non-Sq)	Phase II: 13.8 (non-Sq)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- TEAEs G3/4	**11%**	**60%**	**39%**	**78%**	n.a.	**43%**	**25-30%**	**36%**	**36%**
Source	**Besse et al. 2023**	Leal, et al ESMO 2021	Neal et al, ASCO 2022	Taylor et al, J. Clin. Oncol. 38, 1154–1163.	Davar et al, SITC 2018	He et al, ASCO 2023	Lisberg et al, ESMO 2023	Gazzah et al, ASCO 2020	Camidge DR, et al. WCLC 2021

1 - OSE internal analysis based on publicly available information. **2** - World Health Organization. Globocan 2020 Fact Sheet. Available at: https://gco.iarc.fr/today/data/factsheets/populations/900-world-fact-sheets.pdf. Accessed December 2021. OSE Internal analysis based on publicly available data. Note: No direct head-to-head data available. Caution advised when comparing across studies

Further additional potential **clinical value in combination** in NSCLC, PDAC and OC

Phase 2 ISS trials in combination with immunotherapy or chemotherapy treatments

2nd line post 1st line chemo IO

CombiTED - NSCLC
In combination with nivolumab

Tedopi® Plus Docetaxel or Tedopi Plus Nivolumab as 2nd line Therapy in Metastatic NSCLC failing standard 1st line Chemo-immunotherapy[1]

Sponsored by FoRT
PI: Federico CAPPUZZO
(Roma Cancer Institute)
Italy /Spain/ France

FoRT

Readout expected 2025

Maintenance setting post standard of care

TEDOVA - Ovarian Cancer
In combination with pembrolizumab

Tedopi® Alone or in Combination With Pembrolizumab vs Best Supportive Care as Maintenance in Patients with Platinum-Sensitive Recurrent Ovarian Cancer[2]

Sponsored by ARCAGY GINECO
PI: Alexandra LEARY
(Gustave Roussy Institute)
France/ Germany/ Belgium

ARCAGY - GINECO

Readout expected in 2025

TEDOPaM - Pancreatic Cancer
In combination with FOLFIRI

Tedopi® plus FOLFIRI vs FOLFIRI as Maintenance Treatment in Controlled Advanced or Metastatic Pancreatic Ductal Adenocarcinoma after 8 Cycles of Folfirinox[3]

Sponsored by GERCOR PRODIGE
PI: Cindy NEUZILLET
(Curie Institute)
France

GERCOR

Recruitment completed Q2 2023

Readout expected in 2024

1 - NCT04884282 105 Patients planned
2 - NCT04713514 180 Patients
3 - NCT03806309 136 patients -recruitment completed

OSE-279: Proprietary PD1 - **Value generator**

High affinity PD1 antibody, recent patent granted in US, Europe, China, Japan*

Potential of combo with internal asset

- **First positive clinical efficacy signals in solid tumors (Oct. 2023)**
- Evaluate OSE-279 in combination with in-house molecules to obtain proprietary treatment options

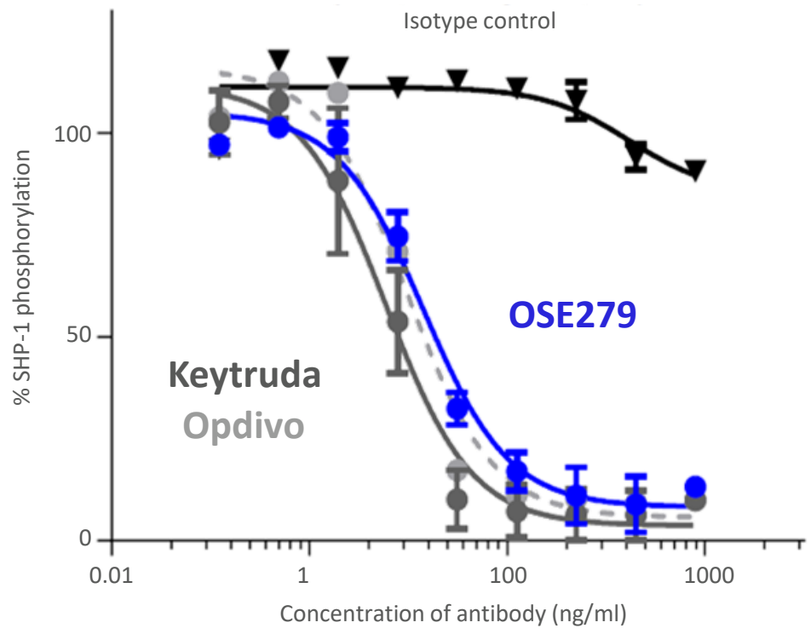
Backbone of the BiCKI® platform

- Develop first-in-class monovalent bispecific antibodies from our proprietary bispecific platform BiCKI® using OSE-279 as backbone therapy

Potential for partnership with biotech/biopharma in combo with external assets

Potential future development and approval in niche indications with strong unmet medical needs

PD1 inhibition

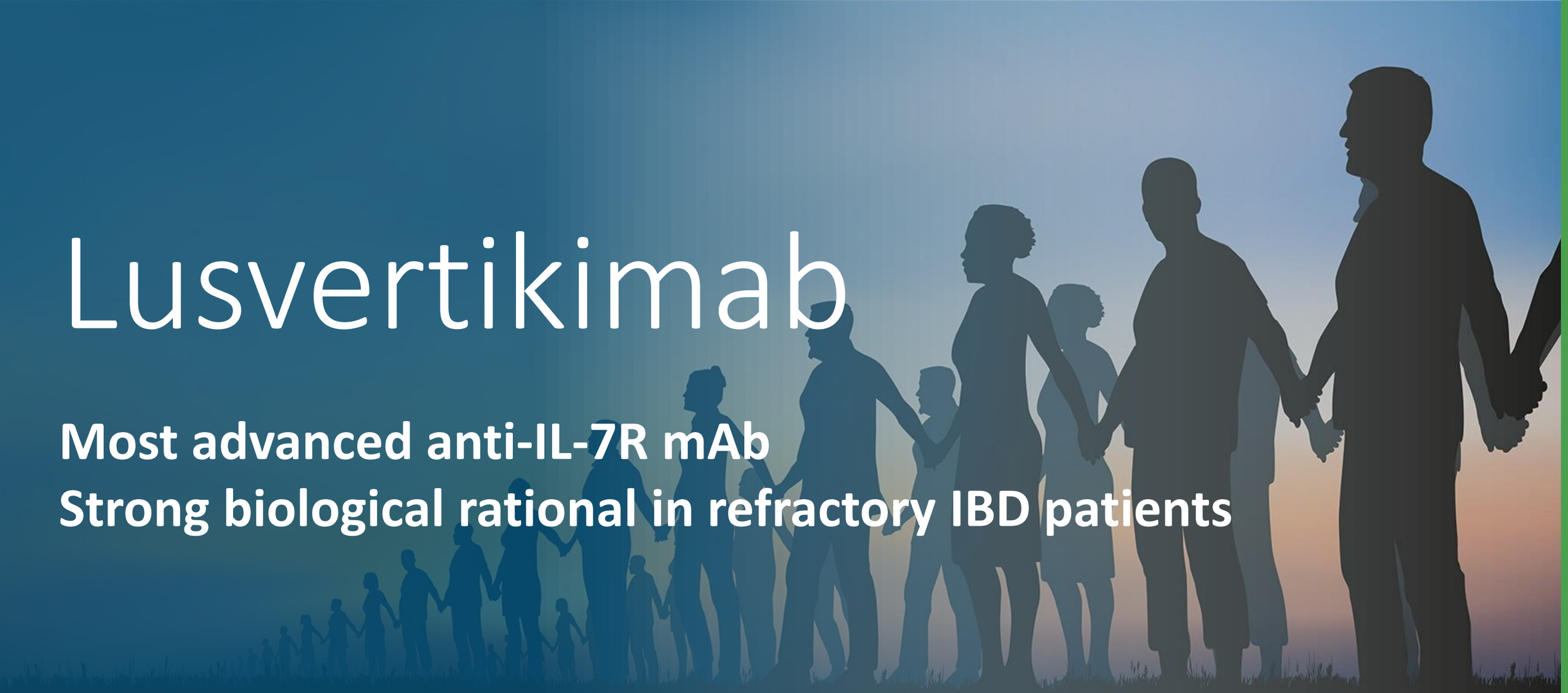


OSE IMMUNO THERAPEUTICS

OSE Immunotherapeutics Receives First Notice of Allowance for a US Patent Covering Anti-PD1 Monoclonal Antibody OSE-279 And its Use in Cancer Treatment

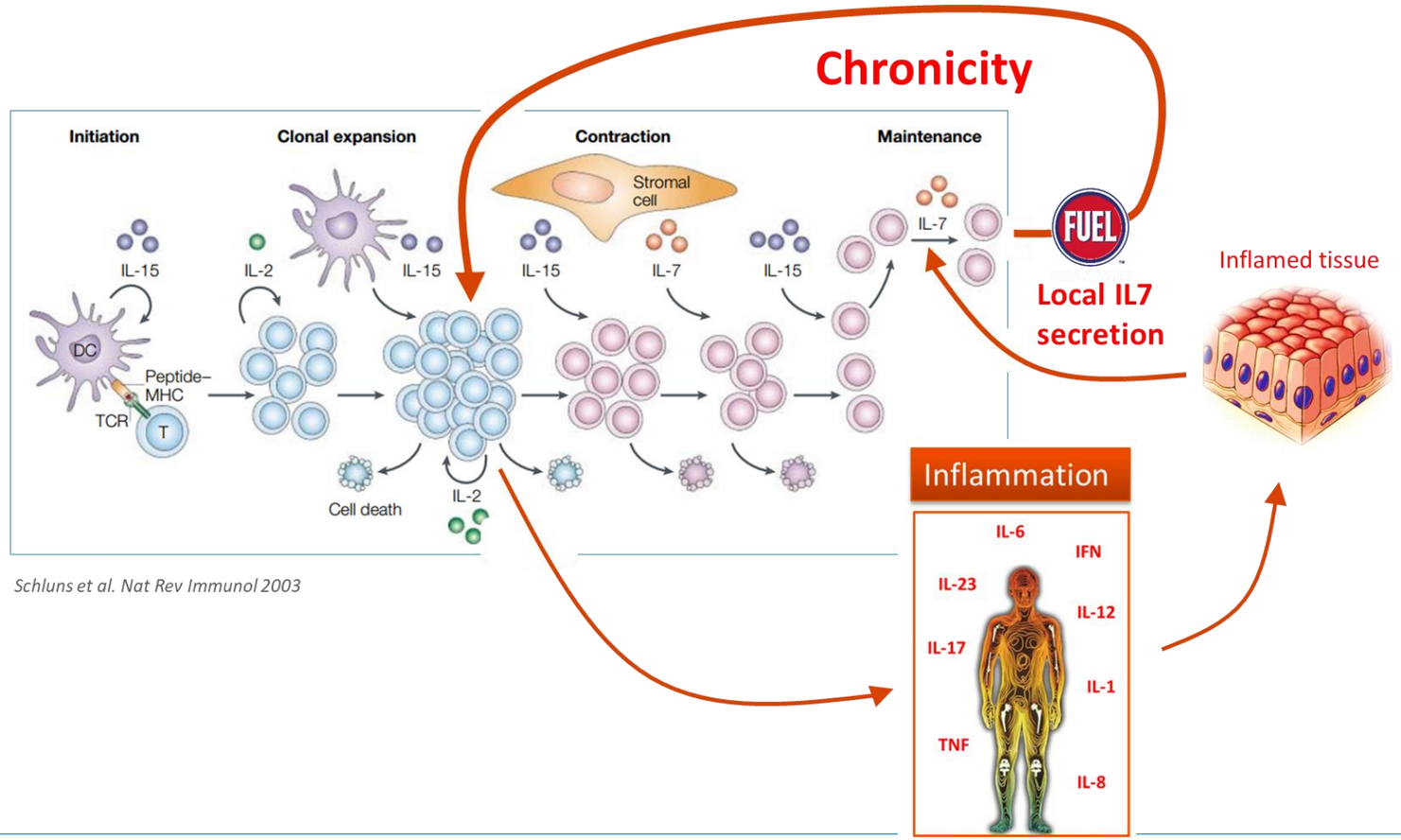
Lusvertikimab

Most advanced anti-IL-7R mAb
Strong biological rational in refractory IBD patients



IL-7 fuels chronic inflammation in tissues

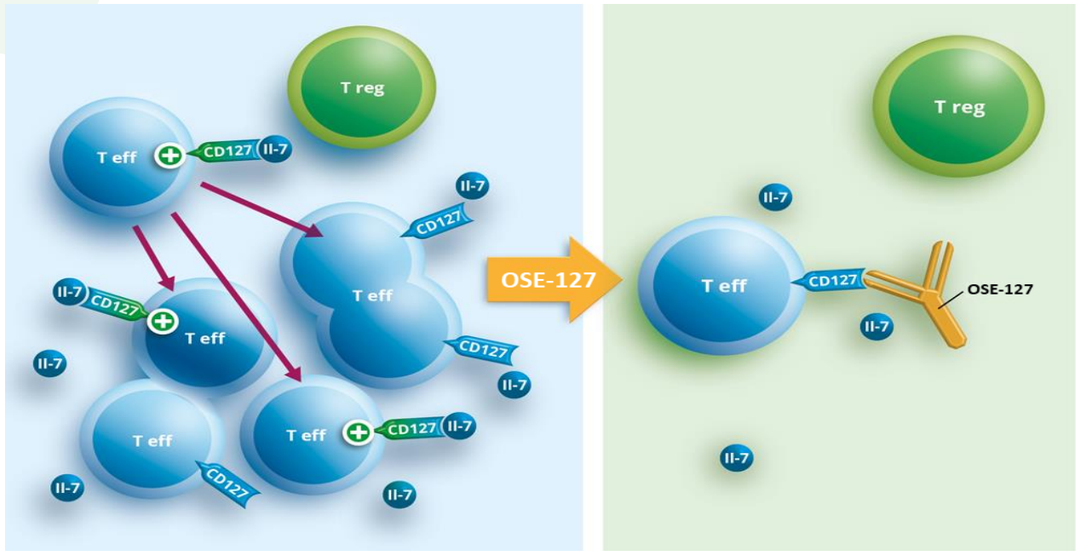
Lusvertikimab controls pathogenic memory T-cell persistence



Schluns et al. Nat Rev Immunol 2003

Lusvertikimab/OSE-127 - **Differentiated MoA** as full IL-7 receptor antagonist

Tackling the fuel of memory T-lymphocytes while sparing Tregs



A differentiated and highly qualified candidate

- Lusvertikimab, first non-internalizing (fully antagonist) anti-IL-7R mAb[1] and **most advanced** IL-7R antagonist in clinic
- IL7 produced by inflamed tissues sustain **T-cell survival and chronicity**
- IL-7R pathway overexpression in anti-TNF IBD non-responders[2]
- Good safety, PK/PD profile in Phase 1[3], no cytokine release, confirmed target-engagement
- High preclinical activity in acute leukemia (T and B-ALL)[4] **ASH Merit Award**

- **Ongoing Phase 2 study in UC with clinical readout H1-2024**

1: Belarif et al. Nature Communication (2018). **2:** Belarif et al. JCI 2019. **3:** Poirier et al. In revision. **4:** https://www.ose-immuno.com/wp-content/uploads/2022/11/EN_221103_ASH_OSE-127.pdf

Lusvertikimab **most advanced** first-in-class anti-IL-7R mAb

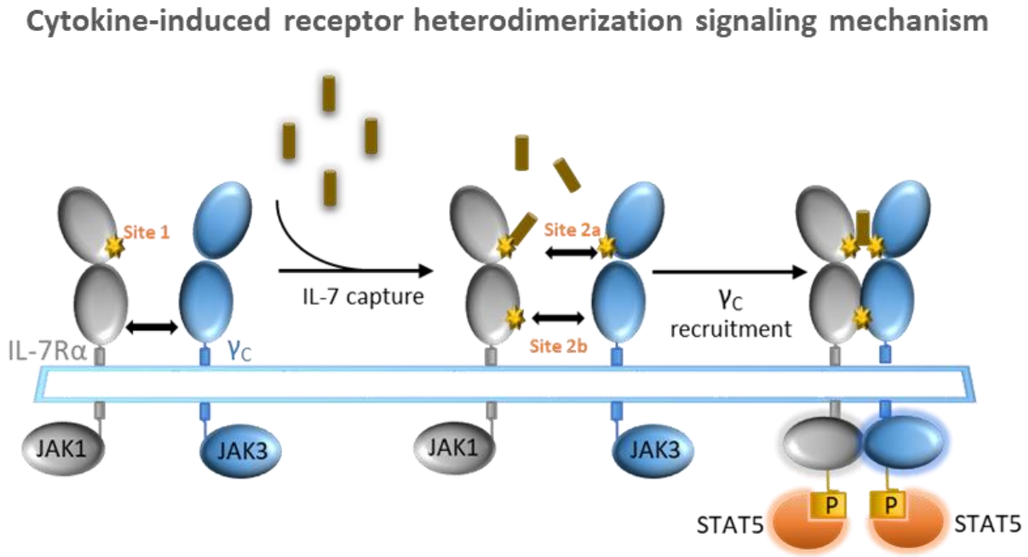
Differentiated by its Mechanism of Action

	OSE IMMUNO THERAPEUTICS	zurabio / Pfizer	Q32 BIO / Bristol Myers Squibb™	gsk
Isotype	**IgG4**	**IgG1**	**IgG1**	**IgG1**
MoA	- **Non-Internalizing**[1] - **Full antagonist IL-7R**	- Internalizing - Antago + Partial Agonist IL-7R - TSLP Antago - T-cell Depletion[2]	- TSLP Antago - Potential depletion	- Internalizing - Antago + Partial agonist IL-7R
Phase	**2**	**1b**	**2a**	**1**
Indication	**Ulcerative Colitis (IBD)** ***(Top line results 2024)***	Alopecia Areata *(not initiated)*	Atopic Dermatitis *(Initiated Q4 2022)* Alopecia Areata *(Initiated Q3 2023)*	Multiple Sclerosis *(Discontinued, High Immunogenicity[3,4])*

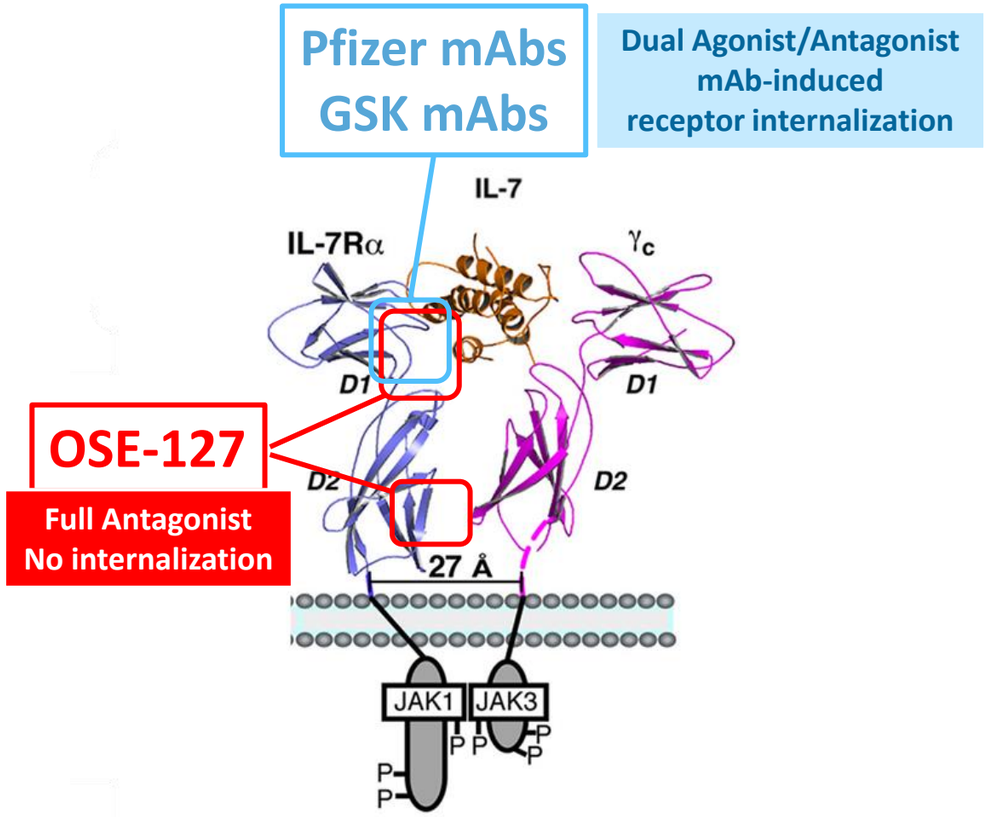
1. Belarif et al. Nature Com 2018; 2. Herold et al. JCI Insight 2019; 3. Ellis et al. Br J Clin Pharmacol 2019; 4. Liao et al. PlosOne 2021

Lusvertikimab – Targets a specific "site 1/2b" Epitope

Full antagonist, preventing receptor internalization & signaling



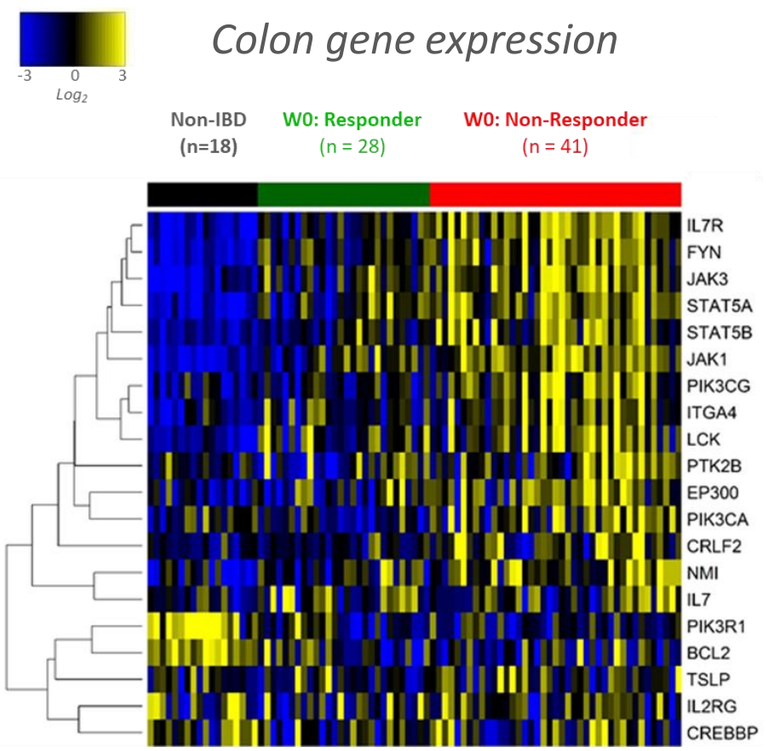
Walsh ST et al Immunol. Rev. 2012

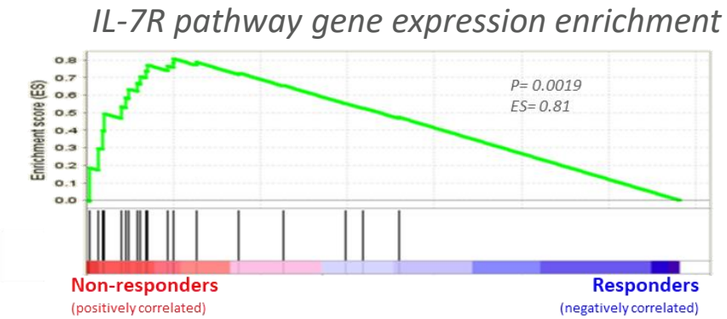


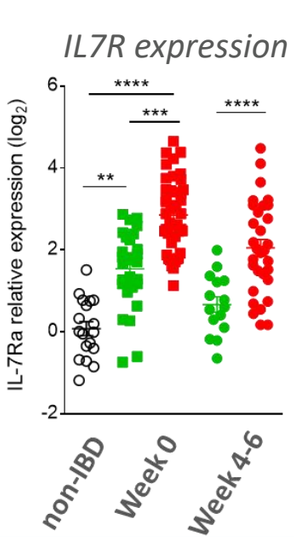
Belarif et al. Nature Com 2018

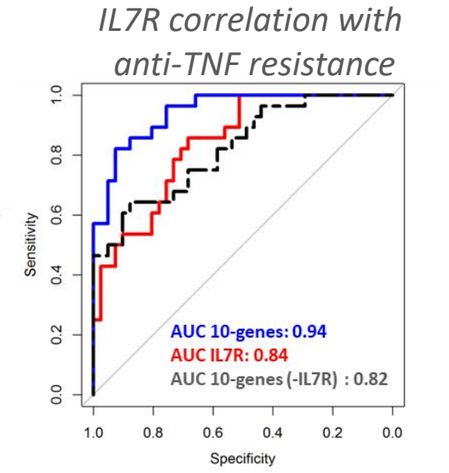
Mucosal IL-7R pathway over-expression in IBD tissues

High IL-7R expression in anti-TNF refractory patients





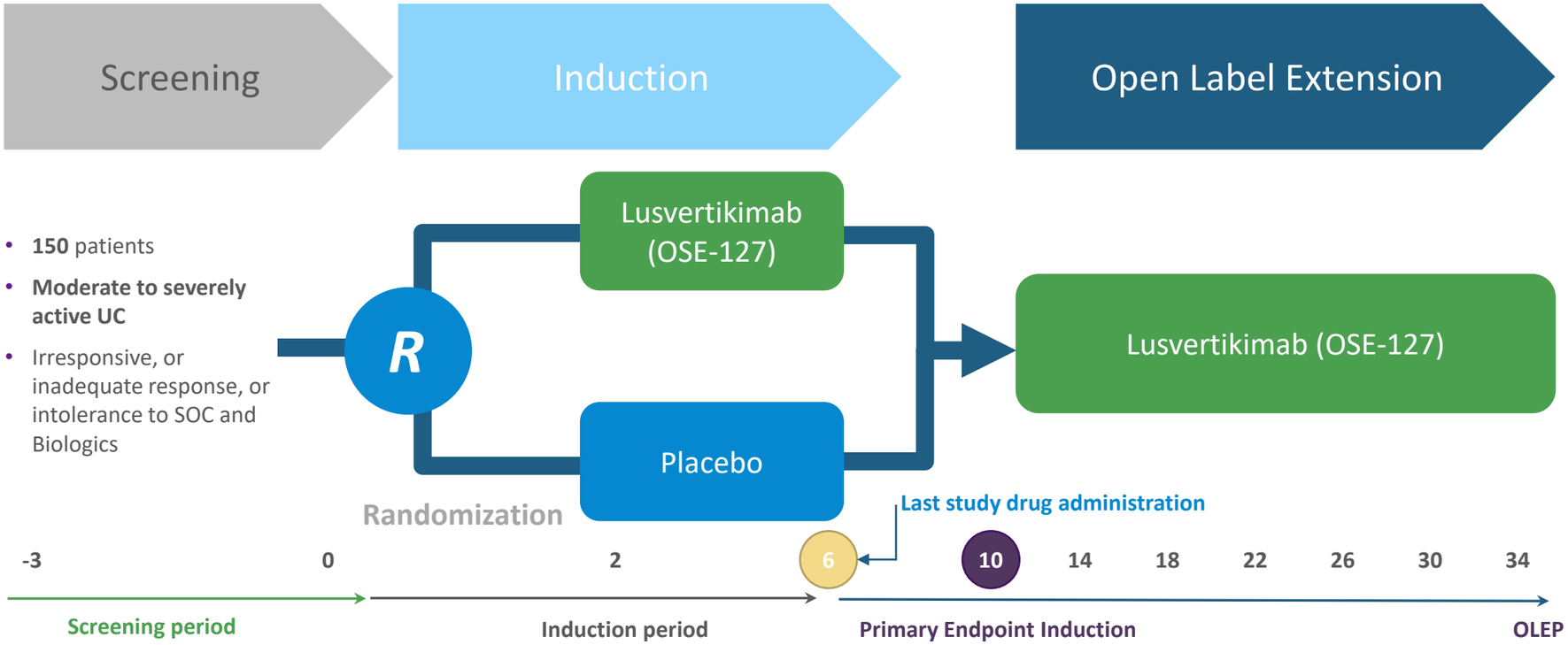




Anti-TNF Responder patients
Anti-TNF Refractory patients

Belarif et al. JCI 2019

Lusvertikimab in moderate-to-severe **Ulcerative Colitis**



Positive Recent Futility Analysis[1]

- Futility analysis conducted on 33% of the total patient enrolment (n=150)
- Primary endpoint is the efficacy assessment of Lusvertikimab vs. placebo on the reduction of the modified Mayo Score at W10
- 24 weeks open-label extension study planned (NCT04605978)

Top line results 2024

OSE IMMUNO THERAPEUTICS

- OSE Immunotherapeutics is Pleased to Announce the Continuation of its Phase 2 Trial Testing Anti-IL-7 Receptor Antagonist OSE-127/S95011 in Ulcerative Colitis after the Interim Futility Analysis

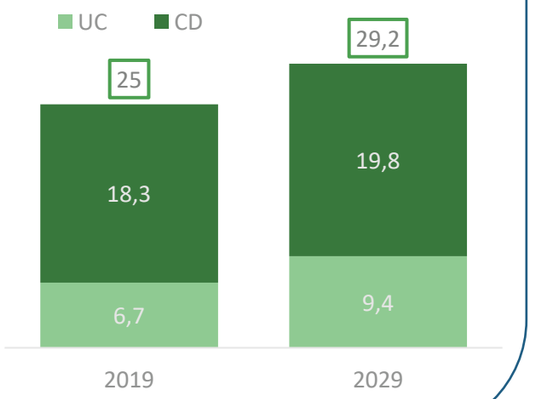
Secondary endpoints at Week 10 include:
1/ Clinical Remission by adapted Mayo score components: a stool frequency score of 0 or 1, a rectal bleeding subscore of 0, and a Mayo endoscopy subscore of 0 or 1.
2/ Clinical Response by adapted Mayo Score: reduction in adapted Mayo score ≥ 3 and ≥ 30%, with a reduction in the rectal bleeding subscore ≥ 1 or an absolute subscore ≤ 1
3/**Endoscopic Remission**: Mayo endoscopic subscore = 0; 4/**Endoscopic Healing**: Mayo endoscopic subscore ≤1

Significant opportunity in Ulcerative Colitis and Acute Lymphoblastic Leukemia targeted markets

Ulcerative Colitis (UC)

- UC affects 3.3 million patients in US, Europe and Japan
- ~50% UC patients "moderate to severe", requiring methotrexate, corticosteroids, anti-TNFa, JAK etc.
- Despite broad options, remission rates are of only 25-30% leaving most patients without satisfactory treatment

IBD Global market projections for G7 major markets (USDbn[1])



Acute Lymphoblastic Leukemia (ALL)

- ALL is a rare disease with a diagnosed incident cases in EU, US, China, Japan estimated to achieve 26,482 in 2029[2].
- 40% cases of ALL diagnosed are in adults and among them about 50% present refractory disease or undergo relapse under current conventional therapies[3].
- IL-7R expression in >84% of B-ALL and T-ALL samples[4]

ALL Global market projections for G7 major markets (USDbn[5])

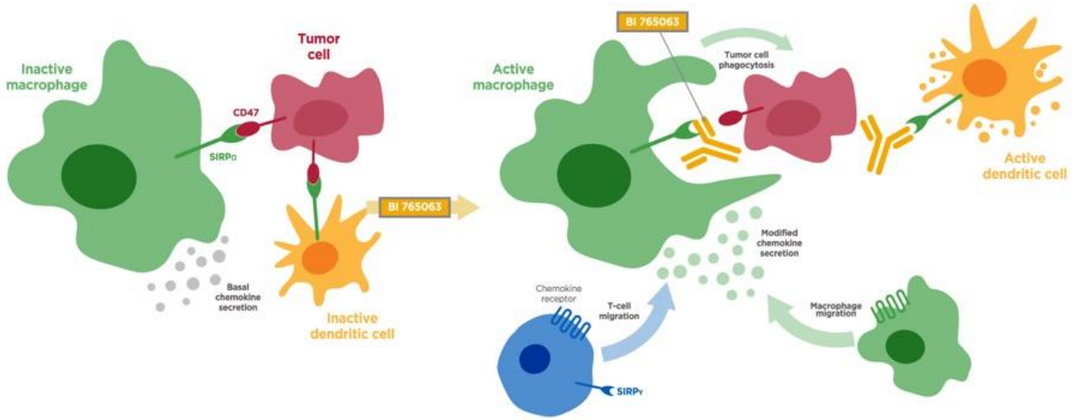
1: DRG UC Disease Landscape & Forecast 2021 **2:** Global Data **3:** Childhood Acute Lymphoblastic Leukemia Treatment (PDQ®)–Health Professional Version, accessed October 2022
4: OSE internal data released at ASH2022 **5:** Researchandmarkets.com/reports/4857889

Partnered clinical programs

SIRPα inhibition may have a synergistic antitumour effect when combined with ICIs

- Infiltrating **myeloid cells promotes immune evasion**, and this has generated interest in **myeloid-immune targets**[1,2]
  - The CD47–SIRPα interaction transduces inhibitory signals on macrophages and other myeloid cells[2]
- Preclinical studies have indicated that **CD47 or SIRPα blockade in combination with ICIs** may have a synergistic antitumour effect[3]

The use of SIRPα antagonists to enhance antitumour immunity is currently being explored[4]



	Anti-CD47	Anti-SIRPα	
Broad/restricted expression	Broad	Restricted to cells of the myeloid lineage	Limited **side effects** expected and less frequent dosing
Safety signals	Acute anemia, Thrombocytopenia	**No hematotoxicity**	Higher therapeutic window expected
Interaction CD47/SIRPγ	**Inhibit human T cells**	OSE-172 is SIRPα specific	Favors T cell responses in solid tumors

CD: cluster of differentiation; ICI: immune checkpoint inhibitor; SIRPα: signal regulatory protein-α.

1: Khair DO, et al. Front Immunocol 2019;10:453; **2:** Weiskopf K, et al. Eur J Cancer 2017;76:100-9; **3:** Murata Y, et al. Cancer Sci 2018;109(8):2349-57; **4:** Boehringer Ingelheim. Data on file.

Clinical development overview

Most advanced clinically-tested SIRPα

	Dose Escalation & Expansion studies		ONGOING Studies	
Trial number	**NCT03990233**	**NCT04653142**	**NCT05249426**	**NCT05327946**
Phase	Ia + Ib	Ib	Ib	Ia
N	108	36	150	42
Treatment	**BI 765063** +/- Ezabenlimab	**BI 765063** +/- Ezabenlimab	**BI 765063** + Ezabenlimab ± chemotherapy, cetuximab or VEGF/Ang2 inhibitor	**BI 770371** +/- Ezabenlimab
Patient population	Solid tumors	Solid tumors	HNSCC HCC	Solid tumors
Region				

Key takeaways from dose escalation

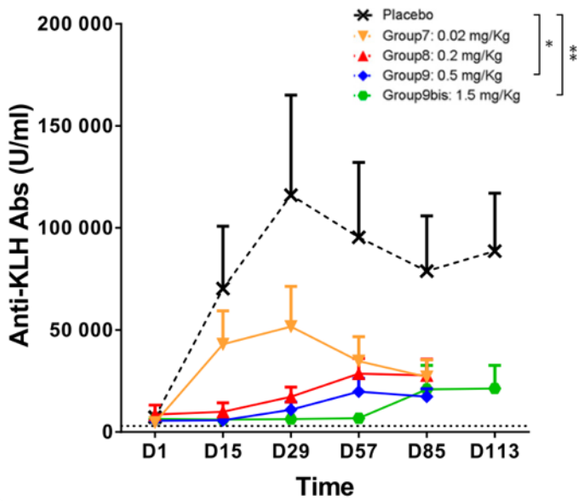
- **Safety**
  No hematotoxicity reported, no DLTs, MTD not reached[1,2]
- **Efficacy BI 765063**
  - **1 PR** in HCC, **45% clinical benefit rate as a single agent**[1]
  - **3 PRs** in MSS endometrial cancer and CRC in combination with a checkpoint inhibitor[2]

MSS: Microsatellite stable. **HNSCC:** Head and Neck Squamous Cell Carcinoma. **CRC:** Colorectal Cancer. **1:** Champiat S, et al. J Clin Oncol 2021;39(Suppl15) #2623. **2:** Kotecki N. et al. ESMO 2021; #983. **3:** Boehringer Ingelheim and OSE Immunotherapeutics Announce First Patient Dosed in a Phase 1 Expansion Trial of SIRPα Antagonist Monoclonal Antibody BI 765063, Targeting Myeloid Cells in Immuno-Oncology Initiation of the Phase 1 clinical expansion trial triggers a €10 million milestone payment from Boehringer Ingelheim to OSE Immunotherapeutics

FR104/VEL-101
CD28 antagonist in transplantation

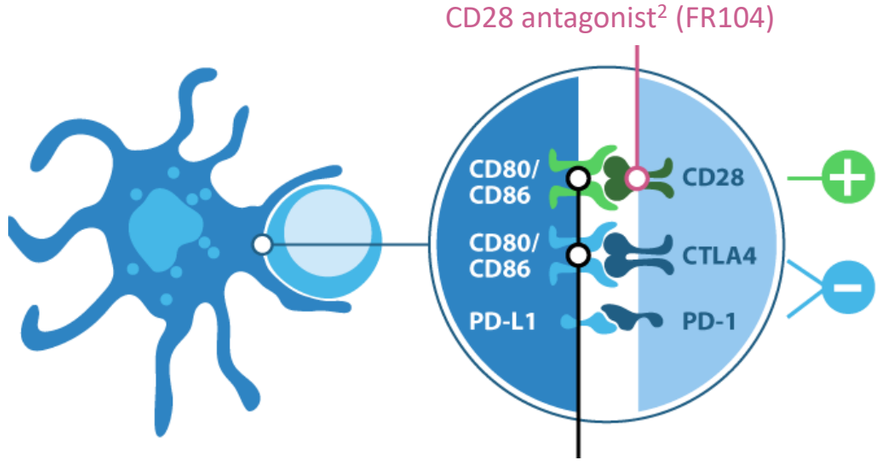
Veloxis PHARMACEUTICALS
an Asahi Kasei company

Phase 1 results: Selective CD28 antagonist FR104 persistently reduces antibody responses



- **Good safety**[1] - demonstrated
  - Absence of clinical or biological events
  - No change in total lymphocyte counts
- No cytokine elevation
- Controls model IgG (anti-KLH) response for up to 57 days
- Controls T follicular helper and IgG responses
- Tfh cells correlated with autoimmune diseases activity

Ongoing Phase 1/2 trial in kidney transplantation



OSE IMMUNO THERAPEUTICS

1: Poirier N. et al, Journal of Immunol, (2016), doi: 10.4049/jimmunol.1601538. **2:** Watkins, BK et al. J Clin Invest. 2018

FR104/VEL-101 – **Transforming** kidney transplant management

Ambitious Partnership with Veloxis

- Deal value: EUR 315m[1] and tiered royalties on sales
  - **Veloxis** is a global leader in transplantation with leading product Envarsus XR (tacrolimus) realizing **c. USD 140m[2]** turnover
  - Joined **Asahi Kasei** in 2019[3], a **USD 17bn** annual turnover conglomerate with healthcare representing 17% of sales
  - First patient dosed by Veloxis[4]
- **Phase 1/2 in kidney transplantation**, sponsored and conducted by the Nantes University Hospital, patient enrolment completed

Kidney Transplant Market Opportunity

- **40k+** new kidney transplant annually for an estimated **500k+** people living with a functioning kidney graft in G7 countries
- Chronic exposure to **CNIs** is associated with **renal toxicity**, cardio-metabolic complications, **insufficient** graft protection as well as **cancer** and **infections**
- FR104/VEL-101 seeks to address challenges associated with current immunosuppressive transplantation regimens using CNI-based therapies
- Potential to provide "One Transplant for Life" with improved patient and graft survival and become the new SoC in transplant

1 – OSE Immunotherapeutics and Veloxis Pharmaceuticals Enter Into Global License Agreement to Develop, Manufacture, and Commercialize FR104, a CD28 Antagonist, in the Organ Transplantation Market
2 – https://www.asahi-kasei.com/ir/library/presentation/pdf/211005.pdf
3 – https://www.asahikasei.com/ir/library/presentation/pdf/191125eng.pdf
4 - OSE Immunotherapeutics Announces Dosing of the First Participant in a Phase 1 Study of VEL-101/FR104, a Novel Investigational Drug for Kidney Transplant Immunosuppression

Our Innovative Discovery Engines

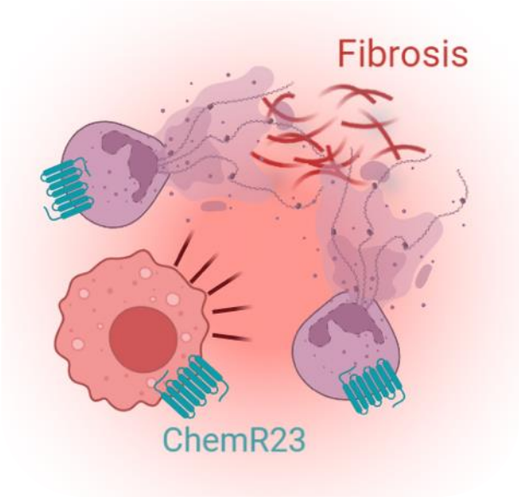
Designed to deliver next generation first-in-class immunotherapies

OSE-230 - **Resolving inflammation** is an active immune process

Pro-resolutive mAb

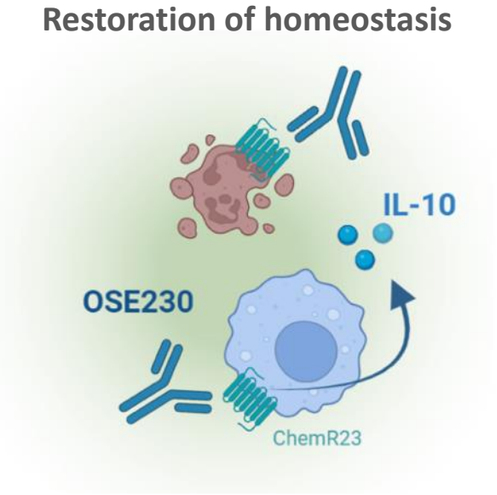
During chronic inflammation

Dying neutrophils **send out inflammatory signals (e.g. NETosis)** that are important in maintaining chronic inflammation & fibrosis



With ChemR23 agonistic mAbs

OSE-230 limits recruitment, survival & NETosis of inflammatory neutrophils & reprograms macrophages, **removing further chronic inflammatory signals**



First-in-class pre-IND candidate

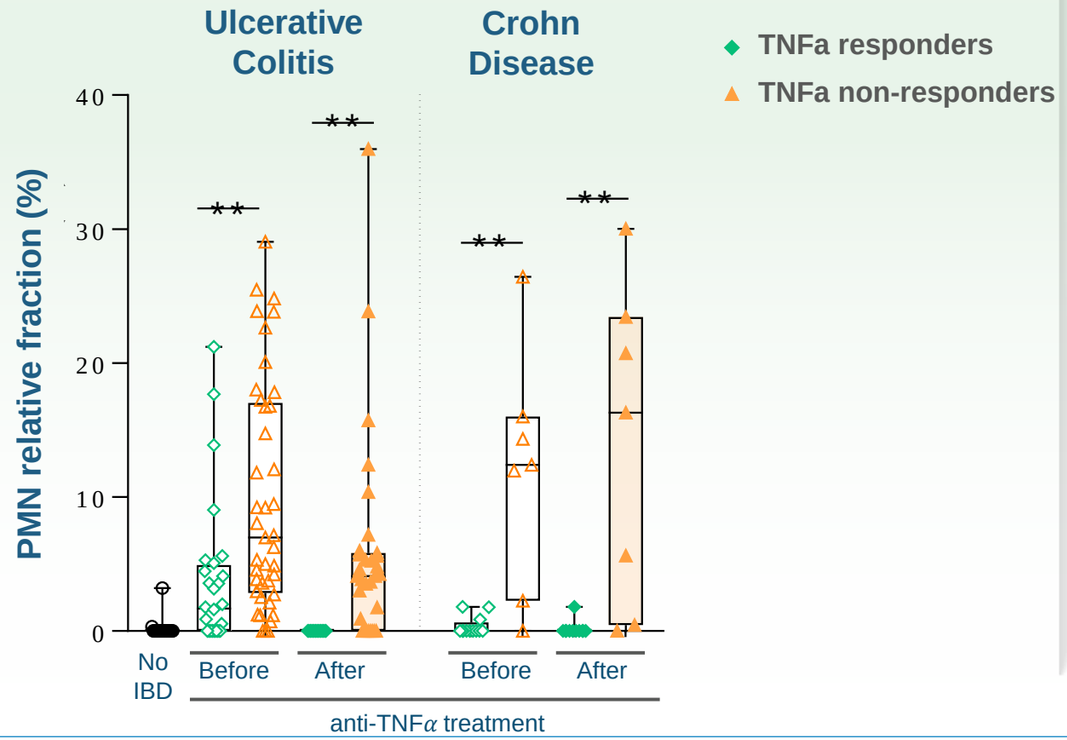
Published in Science Advances AAAS

OSE IMMUNO THERAPEUTICS

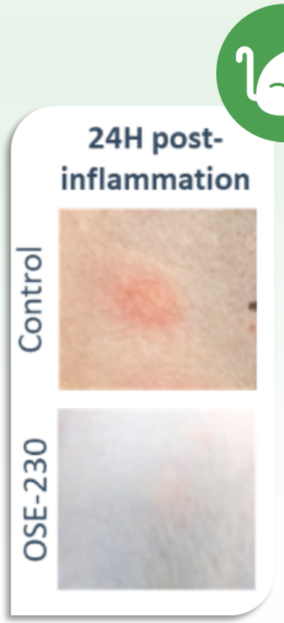
Trilleaud et al; Science advances 2021

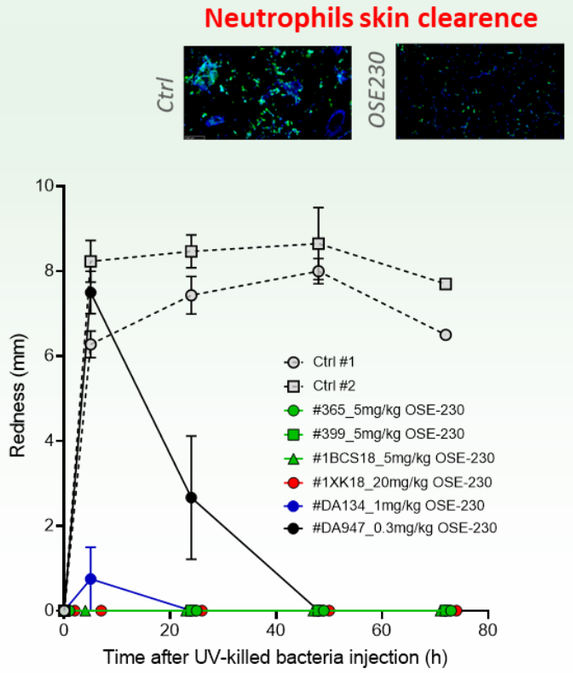
OSE-230 – Preclinical data demonstrate **strong effect** on neutrophils and leucocytes

Higher ChemR23 expression in anti-TNFα refractory patients



OSE-230 significantly reduces skin erythema & Neutrophils infiltrates in cynomolgus monkeys

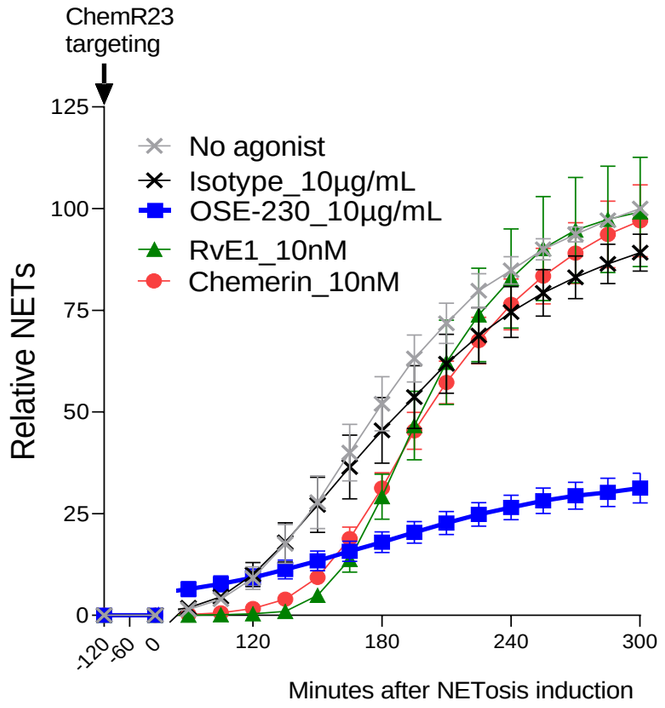




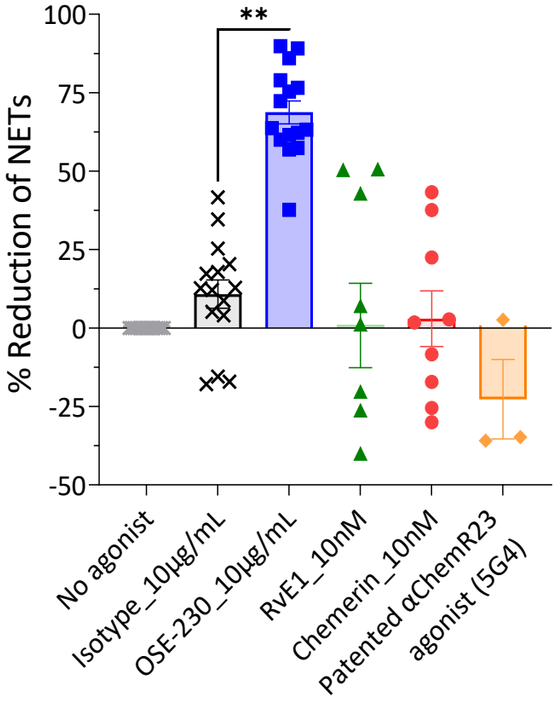
Trilleaud et al. Science Advances 2021

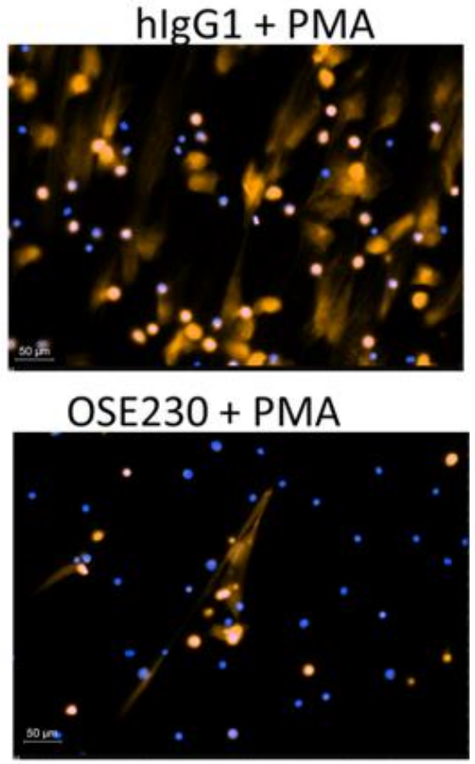
OSE-230 significantly inhibits human neutrophils NETosis

NETosis time-course



NETosis inhibition

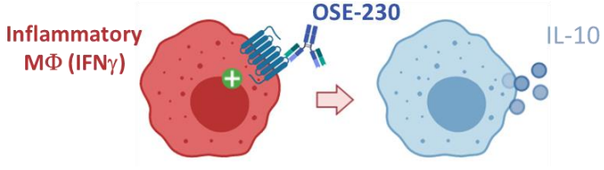


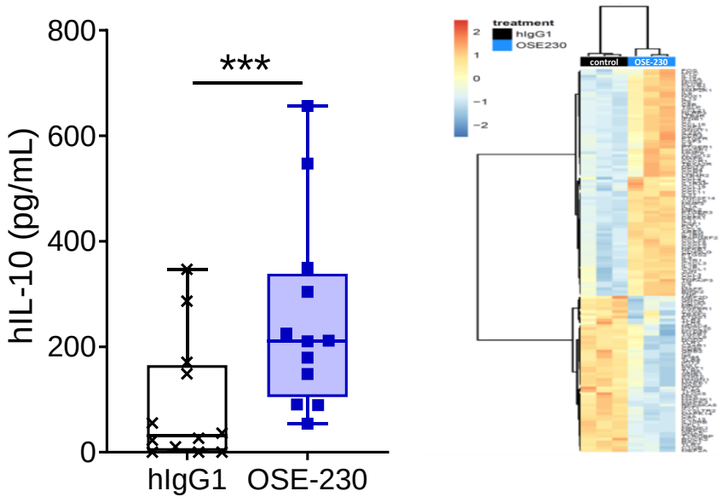


OSE-230 promotes pro-resolutive human **Macrophages reprograming**

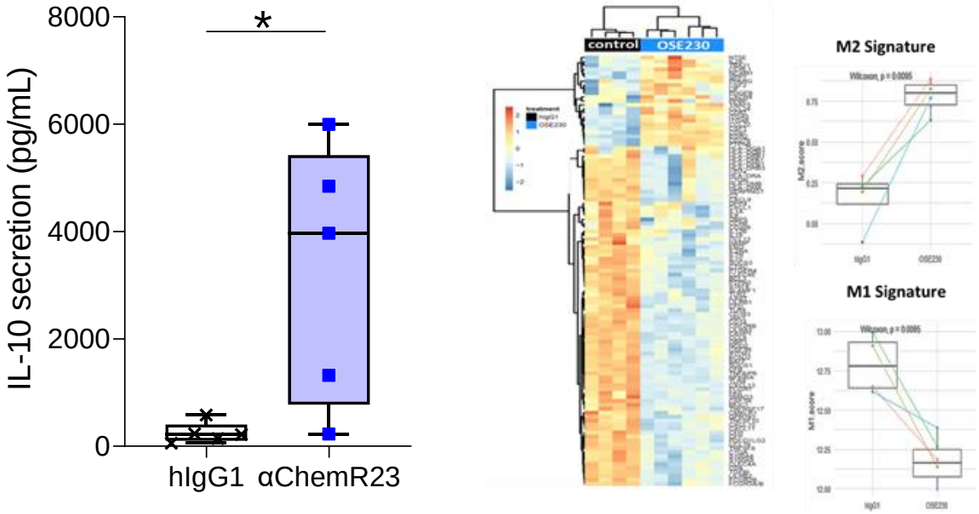
Deep macrophage transcriptomic reprograming, Increases IL-10 secretion

Inflammatory Macrophages





Pro-resolutive Macrophages



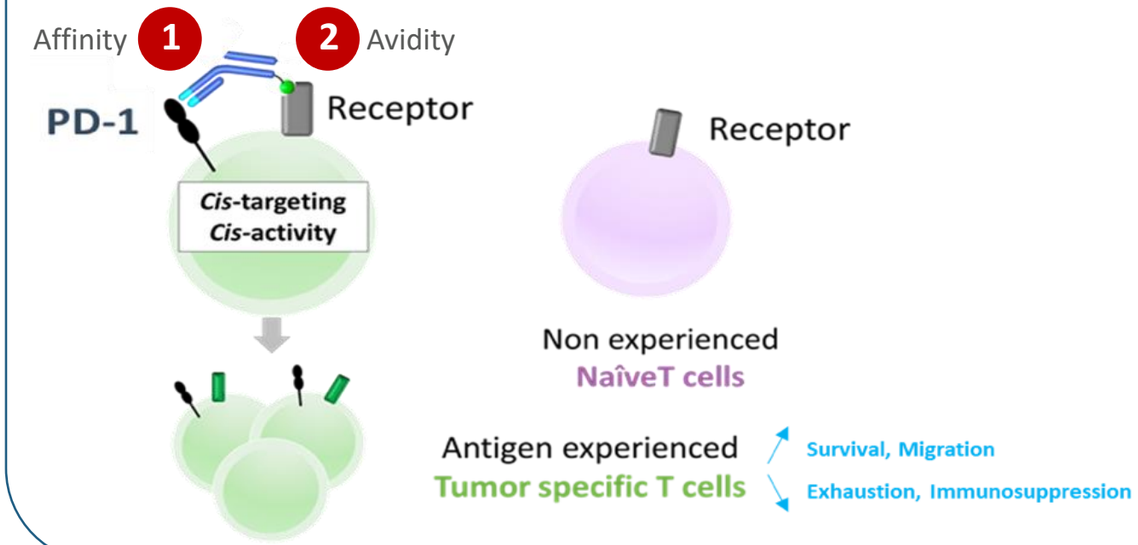
Next-generation anti-PD1 bispecifics

Improving the quality of tumor-specific T-cell responses both in TME & lymph nodes

Anti-PD1 bispecifics

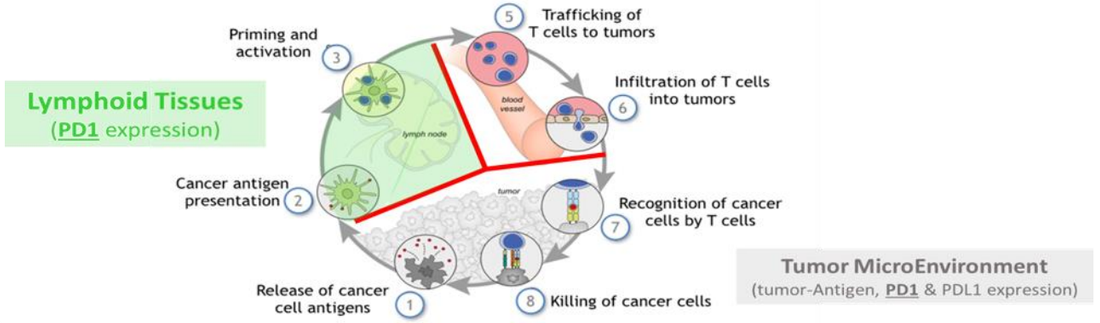
Targeting the RIGHT T-cells…

Selective targeting of tumor-specific PD1+ T cells



…at the right place

Selective biodistribution in TME + lymphoid tissues



BiCKI®-IL-7v* candidate highlighted at AACR 2022*

OSE IMMUNO THERAPEUTICS

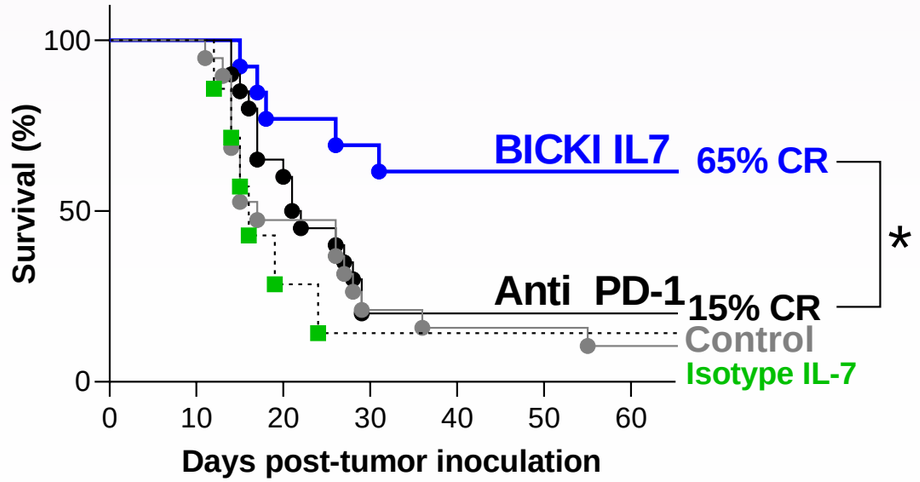
OSE Immunotherapeutics Invited to Present Preclinical Data on its PD-1/IL-7 Bifunctional Program BiCKI®-IL-7 Cancer Immunotherapy (AACR 2022, Morello et al)

BiCKI® OSE-279/IL-7 demonstrates **high preclinical efficacy**

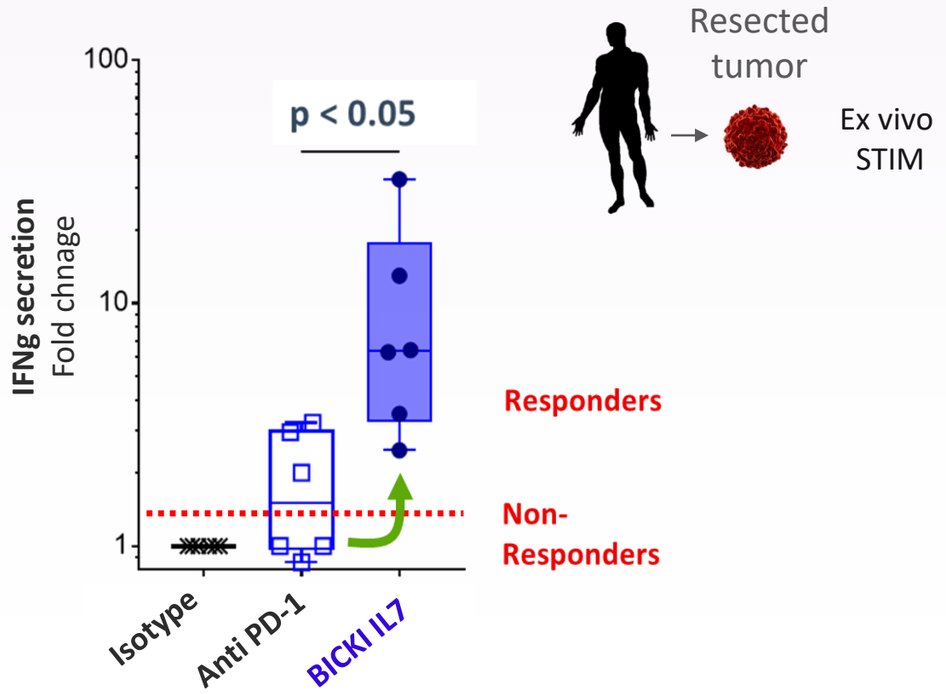
Superior efficacy in PD1 resistant models

In vivo preclinical efficacy in PD1 resistant mouse model

HCC orthotopic model
hPD1 humanized mice



Ex vivo reactivation of anti-PD1 resistant human TILs



OSE IMMUNOTHERAPEUTICS

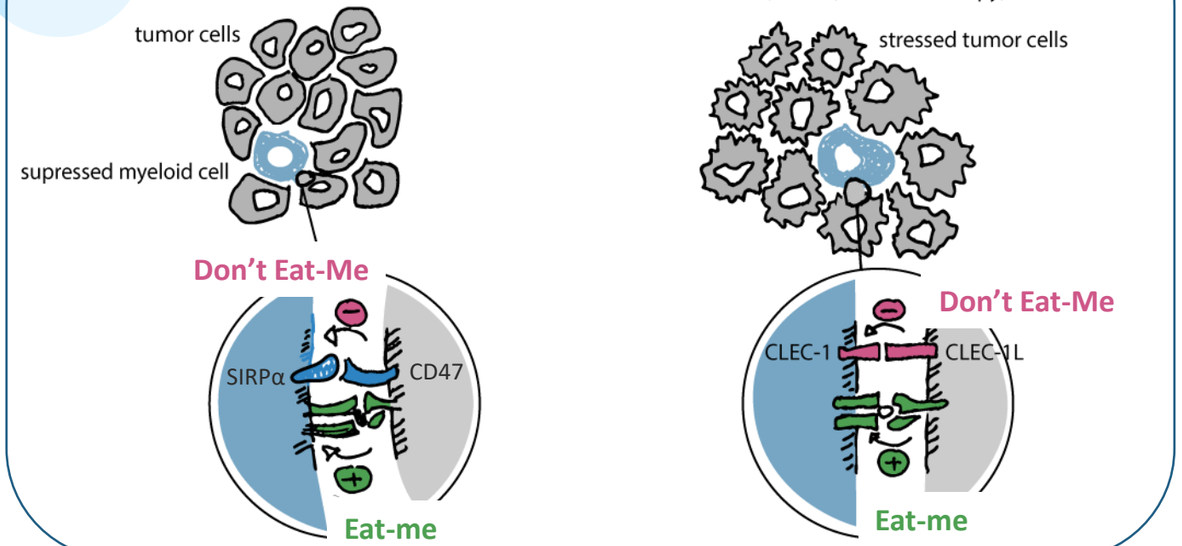
Poster #910 SITC 2020 – *"A novel bifunctional anti-PD-1 / IL-7 fusion protein potentiates effector function of exhausted T cell and disarms Treg suppressive activity"*

CLEC-1 - Another way to not get eaten

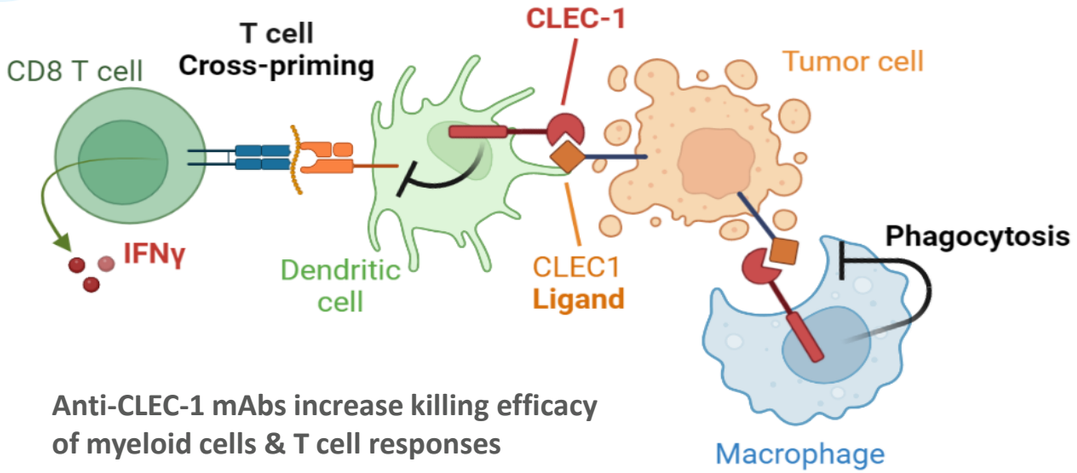
Blocking myeloid immune checkpoint from delivering another "Don't-eat-me" signal

Myeloid checkpoint

Tumor homeostasis



CLEC-1 mAbs disrupt tumor homeostasis[2]



Anti-CLEC-1 mAbs increase killing efficacy of myeloid cells & T cell responses

First-in-class preclinical LEAD validation[1]

Published in Science Advances AAAS

OSE IMMUNOTHERAPEUTICS

Drouin et al, Science Advance 2022
1: A new protection covering CLEC-1 antagonists until 2037
2: OSE Immunotherapeutics Presented the First Positive Preclinical Efficacy Data on CLEC-1, a Novel Myeloid Immune Checkpoint Target For Cancer Immunotherapy

The OSE team

An experienced executive leadership committee supported by an expert team

Nicolas Poirier, PhD
Chief Executive Officer, Chief Scientific Officer

- 18+ year experience in biotech/immunotherapy
- Advanced 5 novel immunotherapies to clinic
- Leading to 4 pharma deals
- Global Management & Finance (INSEAD, HEC)

Anne-Laure Autret-Cornet
Chief Financial Officer

- 15+ year experience in Finance / Biotech
- Graduated from ESSCA Management school
- Corporate Finance, HEC

Dominique Costantini, MD
Chief Development & Strategy

- 30+ years in product development/ marketing
- Chairwoman, Co-founder
- IPO completion in 2015

Aurore Morello, PhD
Head of Research

- 13+ year experience in Immunotherapy
- International Post-doctoral Fellowship (MSKCC, NYC)

Silvia Comis, MD
Head of Clinical

- 30+ year experience in Pharma
- Previously Senior Medical Director IQVIA, and European Head of Early Products Medical Affairs in oncology at Novartis

Jean-Jacques Mention, PhD
Chief Business Officer

- 15+ years of Research in Immunology at King's College London, Institut Pasteur
- 7+ years experience in Business Development

Valérie Gabarre, PharmD
Medico-Marketing Director

- 25+ years of experience in Pharma/Biotech, in Medico-Marketing & Sales - EU & Global, Immunotherapy & Oncology
- Global Network of Leaders & Corporative Groups in Onco
- PharmD

A Board of Directors combining international expertise in drug development, industry & finance & experience in listed biotech companies

Dominique Costantini, MD
Chairwoman, Chief Development & Strategy
- 30+ years in product development/ marketing
- Chairwoman, Co-founder
- IPO completion in 2015

Maryvonne Hiance
Vice Chairwoman
- Founder and CEO of Effimune
- General Manager SangStat Atlantic, DrugAbuse Sciences
- Former President & Vice President of France Biotech

Nicolas Poirier, PhD
Director, Chief Executive Officer & Chief Scientific Officer
- 15+ year experience in biotech/immunotherapy
- Advanced 5 novel therapies to clinic
- 4 pharma deals
- Global Management, INSEAD

Elsy Boglioli
Independent Director
- Founder & CEO of Bio-Up
- Healthcare advisor
- 10+ years Partner & Managing Director at the Boston Consulting Group (BCG)

Eric Leire, MD
Independent Director
- Genflow Bioscience CEO
- Previously chairman & CEO of several biotech listed in US
- Previous Marketing Director position in Pharma US & EU

Brigitte Dréno, MD
Independent Director
- Head Depart of Dermatology Nantes
- Director of Biotherapy Clinical Investigation Centre
- Operational functions and research responsibilities

Didier Hoch, MD
Independent Director
- 25+ years in pharma and vaccine industry
- Several functions incl. commercial, marketing, general management

Alexandre Lebeaut, MD
Independent Director
- 25+ years experience and leadership in innovation, research and devpt in immunology, oncology, immuno-inflammation
- Global positions in the US (Sanofi, Novartis, IPSEN Schering Plough)

Anne-Laure Autret-Cornet
Director representing the employee shareholders,
Chief Financial Officer
- 15+ years in Finance & Biotech
- ESSCA Management School
- Finance Corporate, HEC

Nomination and Remuneration Committee: M. Hiance, E. Boglioli
Audit Committee: D. Hoch, E. Leire

International SAB - **Renowned experts in IO and I&I**

Wolf-Hervé Fridman, MD
Chairman of the SAB, Professor Emeritus of Immunology at the Université de Paris, France

Myriam Merad, MD, PhD
Director of the Precision Immunology Institute at Mount Sinai School of Medicine in New York and the Director of the Mount Sinai Human Immune Monitoring Center (HIMC)

Charles N. Serhan, PhD, DSc
Professor of Anaesthesia (Biochemistry and Molecular Pharmacology) at Harvard Medical School, Professor of Oral medicine, Infection and Immunity at Harvard School of Dental Medicine

Jennifer Wargo, MD, M.M.Sc
Professor of Genomic Medicine & Surgical Oncology, UT MD Anderson Cancer Center

Bernard Malissen, PhD
Group Leader at Centre d'Immunologie de Marseille-Luminy and Founding-Director of Center for Immunophenomics, Marseille, France

Sophie Brouard, PhD
Immunologist and Director in Veterinary Sciences, Director of Research at the Institut National de la Santé et Recherche Médicale (inserm, National Institute for Health and Medical Research) in Nantes

OSE IMMUNO THERAPEUTICS

Breaking through the therapeutic ceiling with first-in-class immunotherapies

Immuno-Oncology & Immuno-Inflammation

Head Office
22, boulevard Bénoni Goullin
44200 Nantes, France

Paris Office
10, Place de Catalogne
75014 Paris, France

Company Information: http://ose-immuno.com/en/