

Developing Novel DNA Decoy Therapeutics For Precision DDR Oncology Therapeutics

Corporate Presentation 4Q 2023



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Key Management Members





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A First-In-Class DDR, DNA Decoy Therapeutics Company



DNA Damage Repair Is Critical For Genomic Stability And Tumor Survival

DNA damage response (DDR) is a rapidly developing field in oncology, with approved PARP inhibitors and other clinically validated DDR targets including ATR and WEE1 inhibitors

First-In-Class DNA Decoy Therapeutics Mimicking DNA Damage And Trapping DNA Repair Proteins

PlatON[™] platform **mimics DNA damage and traps intracellular DNA binding targets with a unique MoA** - proteins in charge of detecting and signaling. ValerioTX has a clinical-stage pipeline of first-in-class DNA decoy drugs protected by several patent families in key territories until at least 2040

DNA Decoys Are Superior To Current DDR Inhibitors & Has Applicability Beyond DDR

ValerioTX's **DNA decoys do not rely on enzymatic active sites, thereby relieving evolutionary pressure** and the rapid development of resistance mutations. The DNA decoy therapeutics toolbox is being further expanded to include additional targeting moieties such as bispecific antibodies and aptamers to target transcriptional activation and epigenetic factors

VIO-01 Is A Pan-DDR Decoy Targeting Multiple Proteins & Repair Pathways

VIO-01 is a validated monotherapy with efficacy in late-stage IND-enabling studies. Favorable safety and a high anti-tumor activity

Strong Capabilities In End-to-end Product Development

Management team with proven track record and **20+ years of experience in Pharma/Biotech, including deep oncology drug expertise**, experience working with FDA and regulatory agencies, network of KOLs and partners including Gustave Roussy, Institut Curie & USO

Agenda



Overview Of Valerio Therapeutics

AsiDNA™ - Targeted Sequestering Of DNA-PK

VIO-01 - Multi-Modal DDR Decoy

DecoyTAC - 3rd Generation

Summary

Innovative Pipeline Of DNA Decoy Therapeutics



PlatON™	Program (Route Of Admin)	Target	Target Indication	Discovery	IND-Enabling	Phase 1/2	Phase 3	Partner(s)	Next Milestone
1 st Generation	AsiDNA™ 1.0 (IV)	DNA-PK	Recurrent ovarian, breast, prostate cancer (combination with PARPi)	US Clinical Trial					FPI U.S. trial Mar-23
			Maintenance for ovarian cancer with rising CA- 125 (combination with PARPi)	REVOCAN				GUSTAVE/ ROUSSY-	Readout in 1Q24
			Pediatric and adolescent glioma (combination with radiotherapy)	GLIOMA				institut Curie	Readout in 1Q24
2 nd Generation	VIO-01 (IV)	PARP1, MRN, KU70/80	mHRR or HRD+ solid tumors (monotherapy)						IND submission 2H23
3 rd Generation	DecoyTAC	DDR, Epigenetics, Transcription Factors	Undisclosed						IND enabling studies 2H24

Therapeutic Targeting Of The DNA Damage Response (DDR) To Treat Cancer

- The DNA repair process is a molecular mechanism activated to restore genomic integrity
- Mutations in genes found in cancer cells can lead to the loss in function of one or more DNA repair pathways, causing cells become hyper-dependent on the remaining pathways
- Inhibiting the remaining repair pathways (synthetic lethality) causes the further damage to the DNA, turning single-strand breaks into double-strand breaks and triggering cell death
- There are five PARP inhibitors (base excision repair mechanism) already on the market generating >\$3.5B (2022): olaparib (AZ), niraparib (GSK), rucaparib (Clovis Oncology), pamiparib (BeiGene) and talazoparib (Pfizer)



Addressing The Severe Limitations With Current DDR Therapies





DNA Decoy: Sequestering Key DNA Repair Proteins With A Differentiated Mechanism Of Action





Trapping DNA Repair Proteins

DNA decoys mimic DNA breaks in tumor cells, saturate them with false alarm signals (**decoy**), then traps key DDR proteins

Hindering DNA Repair Functions

This prolonged signaling, trapping and overactivation **depletes** the DDR and hinders DNA repair mechanisms

Cell Death

Actual lesions are not repaired and accumulate, cancer cells die when they divide with damaged DNA PlatON[™], Proprietary DNA Decoy Platform Targeting Intracellular DNA-Binding Targets



The platONTM DNA Decoy platform uses three components:



Imagining Beyond - Driven By The PlatON[™] Platform





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Overview Of 1st Generation PlatON™ Product, AsiDNA™





1 Key DNA Targeting Decoy

Targeting and sequestering:

1) DNA Protein Kinase (DNA-PK),

a key kinase required for DSB repair by NHEJ, which is the primary DNA repair pathway for DSBs in human cells DNA-PK is a key target for cancer therapies as genetic deficiencies sensitize cancer cells to radiotherapy and DNA damaging agents such as chemotherapy and PARP inhibitors



Trapping DNA-PK To Prevent Repair

AsiDNA™ traps DNA-PK and prevents a response to DNA damage



Potential Combination Therapy

AsiDNA[™] can be combined with other DNA damage therapies without additive toxicity



Unique MoA

AsiDNA[™] does not target the active site of DNA-PK, relieving the pressure to develop resistance mutations



Strong Patent Protection

A patent portfolio built on 9 different patent families, granted in major markets, covering compositions of matter, methods of use, and combinations

Preclinical Data Demonstrating Synergistic Effects Of AsiDNA™ With Standard Cancer Therapy





AsiDNA™ Clinical Proof Of Concept In Solid Tumors



Approx. n=80 patients have already been treated with AsiDNA[™] to date (completed and ongoing trials)

	Trial	Phase	No. Patients	Status	Key Results
	DRIIM IT admin in combo with RT in Melanoma	1	n=23	Completed	 ORR = 67% (CR-5%; PR-62%) Durable response (up to 12-month follow-up period) Favorable safety profile
	DRIIV Part 1 IV admin as monotherapy in advanced solid tumors	1	n=22	Completed	 4 out of 17 evaluable patients achieved SD Proof of mechanism shown through hyper-activation of DNA-PK at the cell level Favorable safety profile: No drug-related SAEs < 900 mg; No DLTs < 900 mg
	DRIIV Part 2 IV admin in combo w/wo Paclitaxel & Carboplatin	1	n=11	Completed	 Heavily pre-treated patients with advanced metastatic tumors, progressing at inclusion 1 PR and 4 SD yielding a DCR of 55.6% Favorable tolerability in combination therapy
GUSTAVE/ ROUSSY-	REVOCAN (IST) IV admin in combo with PARPi (patients progressing on prior PARPi)	1/2	n=15	Ongoing	 ✓ Interim analysis (10 patients): 1 CR, 6 SD showing a DCR of 70% ✓ No new safety signals identified
institut Curie	High Grade GLIOMA (IST) IV admin in combo with RT (children, adolescents & young adults)	1/2	n=5	Ongoing	 Not reported yet

IT, intratumoral; IN, intravenous; ORR, objective response rate; DCR, disease control rate; CR, complete response; PR, partial response; SD, stable disease

DRIIM: AsiDNA[™] Clinical Proof Of Concept Demonstrated In Melanoma

DRIIM: AsiDNA[™] Combination with Radiotherapy

- Intratumoral injection
- Combo with Radiotherapy in patients with skin metastases from Melanoma
- N = 23 patients (76 skin lesions)

Melanoma skin lesion responses to treatment

Before Treatment

90 Days After Treatment

Source: Le tourneau C. et al, Br J Cancer. 2016, Vol.114, Issue 11

Established Proof of Concept

- Favorable safety profile
- Overall response rate (ORR) of 67% in 21 evaluable patients
 - 1 patient (5%) experienced a CR to treatment
 - 13 patients (62%) experienced a PR to treatment
- **Durable response** (up to 12-month follow-up period)



AsiDNA[™]/Chemotherapy Combination Achieves Disease Control In Solid Tumors



DRIIV-Part 1: Favorable Safety Outcome

- Open-label, 3+3 dose escalation n =22
- 5 doses (200mg 1,300mg)
- Successful development of IV administration
- 600 mg dose selected for clinical development
- Mechanism of action demonstrated



yH2AX (DNA-PK biomarker) readout in tumor biopsies

DRIIV-Part 2: 56% Disease Control Rate

- Open label 3+3 cohorts: Patients eligible to carboplatin +/- paclitaxel
- Heavily pre-treated patients with advanced metastatic tumors, progressing at inclusion
- No DLT and very good tolerance of combo therapy in 8 evaluable patients
- Efficacy signals in 4 patients: disease controlled for significantly longer than with any of the prior lines

AsiDNA™ 600mg	Tumor	Treatment Line	Treatment Duration (Months)	Response
+ carboplatin	TNBC	6 th line	5.5	Stable Disease
	NSCLC (Epidermoid)	3 rd line	8.5	Stable Disease
+ carboplatin + paclitaxel	NSCLC (Adenocarcinoma)	4 th line	3.0	Partial Response - 40%
	NSCLC (Adenocarcinoma)	2 nd line	11	Stable Disease

Source: Kotecki N. Long Stabilization and Disease Control with AsiDNA[™], a first-in-class DNA Repair Inhibitor in Combination with Carboplatin. Oncology & Cancer Case Reports 2021, Vol.07, Issue 2, 001-007 - 03/2021; Final results to be published

REVOCAN Interim Analysis Shows Positive Efficacy Signals



REVOCAN: Phase Ib/II Study

- 26-patient, open label, multicentric, phase Ib/II to assess the safety and efficacy of AsiDNA[™], administered IV in combination to PARPi
- Patients with relapsed platinum sensitive ovarian cancer already treated with PARPi
- 15 patients enrolled to date
- AsiDNA[™] is combined with PARPi when patient have increased CA-125 level for two weeks

Interim Analysis On 10 Patients Shows 70% DCR

- One Complete Response (CR)*
- Six Stable diseases (SD)*
- Disease Control Rate: 70%
- Overall reduction in % of CA125 across responding patients: potential sign of disease stabilization



First US Clinical Trial Initiated: FPI Dosed On 21st March 2023



■ Evaluating AsiDNA[™] in combination with olaparib to resensitize patients who have progressed on a prior PARP inhibitor



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VIO-01 - Multi-Modal DDR Decoy

DecoyTAC - 3rd Generation

Summary

Overview Of 2nd Generation PlatON™ Product, VIO-01



VIO-01 Traps Several DDR Proteins Inhibiting Different Repair Pathways



Key DNA Targeting Decoy

Targeting and sequestering:

- 1) KU70/KU80, a part of the NHEJ machinery and is responsible for recruiting other proteins to assist in the NHEJ repair
- 2) PARP-1, a key DNA damage sensor protein that identifies and recruits DNA repair machinery to damage sites
- 3) MRN, a complex playing an important role in DDR recognition and signaling, and HR or NHEJ repair
- 4) MSH2, an important protein involved the recognition of single-base insertions

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Multi-Trapping

VIO-01 traps several DNA repair proteins (PARP1, KU70/80, MRN, MSH2)



Pan-Inhibition

VIO-01 inhibits SSB and DSB repair leading to extensive DNA damage accumulation



Independence Of Repair Mechanisms

VIO-01 Displays Antitumor Activity Independently From Repair Status



Higher Antitumor Activity Vs Competitors

VIO-01 Displays Higher Antitumor Activity Compared To PARP And DNA-PK Inhibitors And An Enhanced Tumor Accumulation



Strong Patent Protection

A patent portfolio built on 3 different patent families, focused on compositions of matter

VIO-01 Is A Pan-DDR Decoy Trapping Multiple Repair Proteins In Tumor Cells



VIO-01 reaches the nucleus and acts as a decoy for several DNA repair enzymes

VIO-01 Resists Endonuclease Degradation In Human Serum





VIO-01 has an increased resistance to nucleases and plasmatic stability

VIO-01 Accumulates In Tumors And Reaches The Nucleus





VIO-01 Nuclear Localization



Cholesterol-Attached VIO-01 Shows Superior Cellular Uptake And Drug Efficacy





VIO-01 (with Cholesterol) shows higher cellular uptake and lower % of free drugs after PARP interaction, compared with VIO-01 Folate VIO-01 (with Cholesterol) is more cytotoxic compared to naked VIO-01, as illustrated by lower cancer cell survival rates and IC50 values

Delivery Vector: VIO-01 With Cholesterol Shows Increased Uptake In Tumor Vs VIO-01 With Folate







VIO-01 Cholesterol shows superior ability to access and accumulate in the tumors

VIO-01 Cholesterol has a better biodistribution properties than VIO-01 Folate

VIO-01 Displays Higher Anti-Tumor Activity Compared To PARP And DNA-PK Inhibitors





Compared to PARP and DNA-PK inhibitors, VIO-01 is highly active independently of tumor type and genetic mutation

VIO-01 Anti-Tumor Activity In Ovarian Cancer Is Independent Of Genetic Mutations



- PARP inhibitors require defects in HRR to be active (ie: BRCA1/2 mutation)
- Compared to PARP inhibitors, VIO-01 display the same activity in tumor cells with no defects in DNA repair

VIO-01 Resensitizes Tumors That Have Acquired Resistance To Olaparib





- MDA-MB-436 CDXs developed a rapid acquired resistance to Olaparib (one to two months after treatment start)
- Addition of VIO-01 during early resistance delayed tumor progression

VIO-01 Displays Potent Antitumor Activity *In Vivo* Compared To Olaparib In HRD Models





VIO-01 significantly improved OS compared to Olaparib even at a cumulative 50 times lower dose

VIO-01 Displays Potent Tumor Shrinkage In Pancreatic Models Insensitive To Olaparib





VIO-01 is more active in HRP tumors despite a x4 lower dose compared to Olaparib

Preliminary Results From The IND-Enabling GLP Toxicology Study In NHP Demonstrates VIO-01's Favorable Safety Profile



4-week treatment / 4-week recovery IND enabling study

- No evidence of myelosuppression
- Transient increases in complement factors and cytokines
- No body weight loss
- Minimal neuro-toxicity at high doses
- No liver or kidney toxicities

Wide therapeutic window: minimal active dose 1.25mg/kg (equivalent to 5mg/kg in mice)

Clinical chemistry (Day 25, n=5)

	Vehicle	VIO-01 20mg/kg
AST _{U/L}	52	43 _{ns}
ALT _{U/L}	55	50 _{ns}
$ALB_{g/L}$	46	44 _{ns}
UREA _{mmol/L}	7	6.25 _{ns}

ns: Not significant compared to vehicle

Compared to Olaparib, VIO-01 did not induce neutropenia, thrombocytopenia or anemia

VIO-01 Does Not Induce Myelosuppression And Is Highly Selective In Its Cytotoxic Effects





- VIO-01 shows negligible cytotoxic effects on healthy PMBC and CD34+ cells
- Whilst demonstrating a stronger cancer-cell killing effect than Olaparib

Note: Figures compare cytotoxic effect on cancer and healthy cells 3 days of treatment with Olaparib vs. VIO-01 cholesterol

VIO-01 Transiently Delays Healthy Cell Proliferation (1/2)



* In tumor cells, cell cycle checkpoints are usually inefficient \rightarrow no cell cycle arrest \rightarrow no efficient DNA repair \rightarrow tumor cell death

VIO-01 Transiently Delays Healthy Cell Proliferation (2/2)





EdU assay :

- Incorporation of nucleoside analog to thymidine into DNA during active DNA synthesis, which allow to determined cells cycle step



VIO-01 induces a delay in cell cycle on normal cells and not in cancer cells

VIO-01's Broad Potential Therapeutic Applications Beyond DNA Repair





VIO-01 Proposed IND Opening Study: FPI Expected 2H23

- Pursuing tumors with HRR genomic alterations or HRD+ score
- (BRCA1, BRCA2, ATM, ATR, CHK1, CHK2, DSS1, RPA1, NBSI, FANCD2, FANCA, CDK12, PALB2, BRIP1, RAD51B, RAD51C, RAD51D, RAD54)





Overview Of Valerio Therapeutics

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VIO-01 - Multi-Modal DDR Decoy

DecoyTAC - 3rd Generation

Summary

Transcription Factors are proteins that **bind to DNA and mediate gene expression** programs involved in fundamental cellular processes such as differentiation, cell death, and proliferation.

Mutated or dysregulated transcription factors are frequently expressed in numerous cancers leading to aberrant downstream genes expression

Mutated transcriptions factors are key drivers of tumor formation and oncogenesis

Undruggable - traditional small molecule inhibitors and antibodies are limited in the ability to drug transcription factors due to their interaction with DNA

DNA decoys can bind and trap transcriptions factors overcoming the key limitations of other therapies

Transcription Factors, DDR, and Epigenetics Are A Unique Class Of Oncology Targets

DecoyTAC - Targeting Oncogenic DNA interacting proteins (such as Transcription Factors)





DecoyTAC can drug the "undruggable"

- Does not rely on an enzymatic binding pocket for activity
- Can enter the nucleus
- Can mitigate off-target effects through use of selective delivery technologies
 - Bispecific Small Molecule ligands PSMA, FOLRa, EphA2
 - Nanobodies
- Aptamers

DecoyTAC combines DNA decoy with protac and tumor specific vectorization for targeted suppression of oncogene expression

Mechanism of Action of DecoyTAC



Tumor development



Trapping Oncogene Transcription Factors (TF)

DNA decoys mimic TF binding site (**decoy**), then trap oncogene transcription factor. TF cannot bind to DNA and induce oncogene expression

Subsequent TF Degradation

DecoyTAC is linked to E3 ligand leading to ubiquitination of the Oncogene TF, which ultimately causes TF degradation through the proteasome

Degradation through proteasome

DecoyTAC Proof Of Concept Validated In Discovery Stage Assays





Formation Of Ternary Complex Analysis



DecoyTAC traps the target TF and recruits E3 ligase

DecoyTACs are efficiently delivered to tumor cells and form ternary complexes with the target TF and E3 ligase



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Financial Resources To Execute Key Development Milestones Objectives



- Net cash position of €14.6 million as of December 31, 2022*
- Financial visibility until the 2nd quarter of 2024



* - including EUR 14.3 million commitment from Invus, Financière de la Montagne and a new investor

Near Term Catalysts Driving Value Over The Next 18 Months



Valerio Therapeutics Investment Highlights



KIN	Unique MoA Sequestering DDR Proteins	 DNA fragments called DNA decoys mimic DNA damage and trap multiple proteins in charge of repairing DNA, leading to an accumulation of unrepaired DNA and tumor death
XUX	1st-In-Class DNA Decoy Therapeutics Pipeline	 AsiDNA™ (DNA-PK) - Phase I/II - x3 oncology trials ongoing in combination with PARP or radiotherapy VIO-01 (MRN, KU70/80, PARP-1) - IND - Highly promising pre-clinical monotherapy data and superior data in head-to-head studies with competitive landscape
X	PlatON [™] : A Versatile Toolbox And Library Of DNA Sequences	 DNA decoy capabilities beyond DDR proteins including transcription factors, and incorporating additional targeting moieties such E2/E3 ligases, aptamers and bispecific antibodies Early-stage PoC data using PROTAC-like approach to permanently degrade target proteins
KIK	Deep Industry Experience	 Management / Advisors: Strong management and R&D team located across France and US, supported by a world-class DDR-focused SAB Investors: Invus, Agenus, Financiere de la Montagne Cash Runway: Financial visibility until 2Q24
MM	Near Term Catalysts	 AsiDNA[™] (Phase I): Ovarian, breast, prostate cancer (with PARP) interim clinical trial readout in 2Q24 AsiDNA[™] (Phase I/II): Ovarian (with PARP) clinical trial readout at the end of 1Q24 AsiDNA[™] (Phase I/II): Glioma (with radiotherapy) clinical trial readout at the end of 1Q24 VIO-01 (Phase I): Entering Phase I in 4Q23