XXIII Encuentro de Cooperación Farma-Biotech

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IDP-121, a first-in-class drug blocking and degrading cMyc oncoprotein

Santiago Esteban, CEO

MINISTERIO DE CIENCIA E INNOVACIÓN

MEDICAMENTOS INNOVADORES
Plataforma Tecnológica Española

farmaindustria

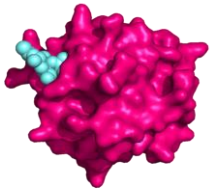
IDPs, "the invisible proteins"

Intrinsically Disordered Proteins (IDPs)

- Represent half of the human proteins
- Play key roles in human disease
- Are labelled as **undruggable targets**

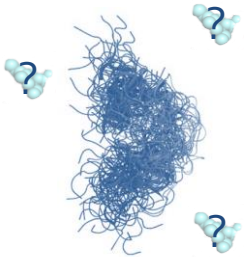
→ The structural & functional properties of IDPs depart from classical drug target standards

Classical drug target (visible)



- 3D structure
- Cleft/Cavities
- Enzyme (substrate mimetic)
- Extracellular

IDP target (<u>invisible</u>)



- No 3D structure
- No cleft/cavities
- Protein-Protein (Flat/Large surface)
- Intracellular

Pipeline of first-in-class drugs

Internal pipeline focused on **incurable cancers by targeting their underlaying disease drivers**

Product	Target	Therapeutic Indication	Development phase	Status
IDP-121	cMyc	Haematological cancers Broad potential in liquid and solid tumours	Phase I	**On-going**
IDP-233	ASCL1	Neuroendocrine tumours (SCLC, nePC)	Pre-Tox/formulation	-
IDP-601	HIF	HCC, RCC, TBNC	Pre-Tox/formulation	-
IDP-410	nMyc	Brain tumours	Preclinical	-

IDP management team

Santiago Esteban, PhD (Founder, CEO)

Technology inventor & expert in IDPs

Laura Nevola, PhD (Founder, CSO)

Tech. inventor & expert in drug development

Tim Hammond, PhD (CDO)

Experienced toxicologist & pharmacologist

Kevin Lynch (CMO)

Seasoned oncologist

Laura Orozco (Head of Finance)

Biotech and startup finance

KIT Karlsruher Institut für Technologie

Yale

AstraZeneca

ANTENGENE

Celgene

Vantum CORPORATE

BSC Barcelona Supercomputing Center Centro Nacional de Supercomputación

INSTITUTE FOR RESEARCH IN BIOMEDICINE IRB BARCELONA

NOVARTIS

netipbox TECHNOLOGIES CONTENT INTERACTION DATA

Scientific advisory board

IDP Pharma is supported by a prestigious scientific advisory committee, including the 2019 Nobel Laureate in medicine

Sir Peter Ratcliffe, MD (Nobel Laureate)

UNIVERSITY OF OXFORD

Prof. Dean Felsher, MD, PhD

Stanford MEDICINE

Prof. Jane E. Johnson, PhD

UT Southwestern Medical Center

Tomi Sawyer, PhD

Pfizer MSD

Andrew Spencer, MBBS,DM

AlfredHealth

IDP-121:

The first drug that directly binds and degrades cMyc, a Holy Grail in cancer

Current status: Phase I/II clinical trial ongoing

Leading Hospitals:

VHIO VALL D'HEBRON Institute of Oncology

Valdecilla Instituto de Investigación Sanitaria IDIVAL

Hematología HOSPITAL UNIVERSITARIO SALAMANCA

Arrixaca

SaludMadrid Hospital Universitario 12 de Octubre

ONGOING	Phase I/II
Indication	Haematological cancers
Patients population	Relapsed/Refractory
Posology	2xW i.v.
Cycle duration	28d cycle
Patient number	22 (dose escalation) + 17 (expansion)
Country	Spain (PI Dr. Enrique Ocio)
Objectives	Primary: Safety, Efficacy (expansion) Secondary: PK Exploratory: Proof of Mechanism, Proof of Concept
Study duration	24 + 12 months

Target indications: cMyc driven haematological malignancies

- Myc protein is overexpressed in >50% of all tumors (amplification/traslocation/protein stabilization,…)

Hematological tumor type	% Patients with high levels of Myc protein	% Patients with Myc mutations#
Multiple Myeloma[1]	70-84	15-20
HGL SH/DH/TH (20-30% of all DLBCL) [2]	100	100
DLBCL[3]	90 (Myc^{+}) ; 70 (Myc^{high})	10-20
AML[4]	90	Sparse data
Burkitt lymphoma[5]	>80	80
CLL[6]	>60 (mRNA in cells)	Rare

(1) Jovanovic K. et al. 2017; Xiao et al. 2014. (2) Amrallah M. et al. 2019; Li S. et al. 2016. (3) Xu-Monette et al. 2015. (4) Cortes J. et al. 2019. (5) Nguyen L. et al. 2017. (6) Huh y. et al. 2008; Zhang W. et al. 2010. # Amplification/traslocation/rearrengment.

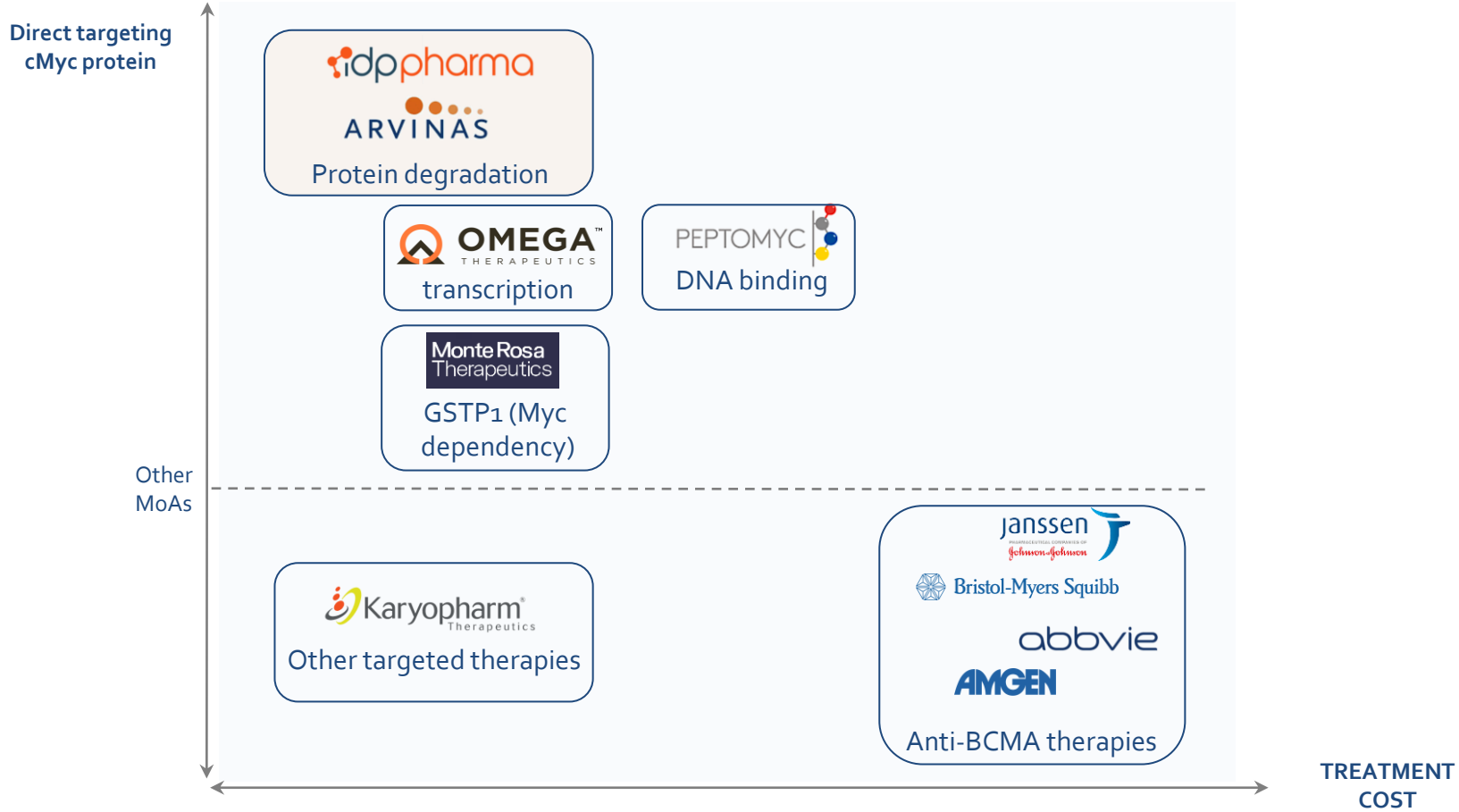
- Patient selection is implicit in haematological cancers.

Multiple myeloma: best suited indication to achieve PoC

- ✓ cMyc is key driver of disease (Hallmark transition MGUS into MM)
- ✓ Direct PD/activity read out (blood/urine first weeks of treatment)
- ✓ Access to sequential biopsies (Biomarker; PoM via PD effect)
- ✓ Patient progression acceptable (heavily pre-treated)
- ✓ Extensive clinical and market in-house disease knowledge

Strong biological rationale for utility of a MYC inhibitor in MM, and an excellent model for early confirmation of IDP-121 MoA. Provides segue for exploration in broad range of other malignancies.

IDP-121, the only direct cMyc protein inhibitor/degrader



IDP-121 IPR protection

- ✓ All patents are composition of matter
- ✓ Positive FTO: No risk of patent infringement

Patent	Priority	Granted
WO/2017/157990	2016	EU, AUS, USA, JAPAN, CHINA. Under examination in CANADA and INDIA.
WO/2019/048679	2017	Under examination KOREA
WO/2019/025432	2017	USA (under examinaitno INDA and KOREA)
WO/2019/025433	2017	Abandoned
US10639348	2020	USA

Challenges and Risks to be considered

Challenges & Risks	Objective	Mitigation	Status
Complex treatment panorama in MM	Position IDP-121	• Combinations with SoC • Lymphomas	• IDP-121 and SoC deliver synergy • Lymphomas in Phase I included
Improve TPP	Improve dosing schedule (patient adherence, clinical acceptance)	• Slow-release subcutaneous formulation 1/2 month	• IDP-121 behaves intrinsically as a SC depot
Solid tumours	Selection of tumours & patients	• cMyc mutations (amplification, rearrangement, translocation)	• Competitors' strategies (Phase I) • Omega, Monterrosa & Peptomyc (NSCLC, SCLC, Pancreas, HCC)

Partnering opportunities

Current programs

Platform

Partnering current programs in ONCOLOGY

Product	Target	Indications
IDP-121	cMyc	Lymphomas and Multiple Myeloma (on going) NSCLC, SCLC, HCC, Pancreas, …
IDP-233	Ascl1	Neuroendocrine cancers (NE-Prostate, SCLC)
IDP-601	HIF1/2	TBNC, HCC, RCC
IDP-312	MITF	Melanoma
IDP-410	nMyc	Glioblastomas

Partnering current programs BEYOND oncology

Product	Target	Therapeutic indication	Status
IDP-121	cMyc	• Derma (Atopic dermatitis) • Renal (Polycystic kidney disease) • Respiratory (IPF/COPD)	• **Partnering Opportunities**
IDP-601	HIF	• Derma (hidradenitis suppurativa, vitiligo) • Respiratory (IPF, COPD) • Ophthalmology (wet/dry AMD)	• **Partnering Opportunity** • Partnered (EU Pharma) • License Option (USA biotech)
IDP-312	MITF	• Dermatology , Cosmetics	• Licensed (stealth; EU Biotech)

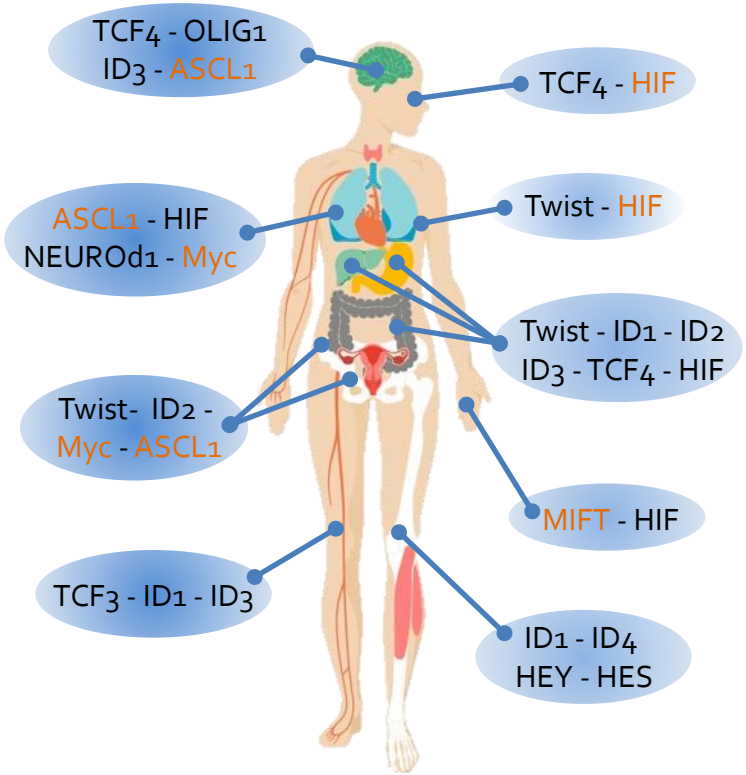
Partnering intrametics™ platform

Glioma/ neuroblastoma
Schizophrenia
Parkinson

Chronic obstructive pulmonary disease
Pulmonary hypertension
Pulmonar fibrosis
Lung cancer

Cancer (prostate, ovaric, endometrial)
Renal (Hydronephrosis, fibrosis)

Arterial vascular disease
Atherosclerosis



Macular degeneration
Diabetic retynopathy
Corneal dystrophy

Breast cancer

Cancer (gastric, pancreas, oesophageal)
Metabolic disorders
Diabetes

Atopic dermatitis
Melanoma
Psoriasis
Melasme

Osteoporosis

*Successfully targeted pipeline programs

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