XXIII Encuentro de Cooperación Farma-Biotech

28 de noviembre de 2023

Mimicking Nature to treat NASH.

EDL6D, a New Peptide that Imitates Human SHBG.

Window of opportunity for innovative NASH treatments with effect on fibrosis.

Albert Palomer PhD (CEO)

MINISTERIO DE CIENCIA E INNOVACIÓN
AGENCIA ESTATAL DE INVESTIGACIÓN
MEDICAMENTOS INNOVADORES
Plataforma Tecnológica Española
farmaindustria

Content

Summary

1. The Institution & Team.	*Spin-off from VHIR* *Experienced team.*
2. The Product.	
a) Target Indications.	*NAFLD/NASH ± fibrosis.*
b) Innovative mechanisms of action.	*Peptide mimicking nature mechanism (SHBG).*
c) Differential features facing the market.	*Effect on steatosis AND fibrosis.*
d) Current status of development.	*Preclinical development.*
e) IPR protection.	*WO patents.*
f) Pitfalls & Risks to be considered.	*Evaluation of fibrosis in clinical trials.*
3. Partnering Opportunities	
a) Clinical development of EDL6D in NASH.	*Partnering pharma company.*
b) Explore other indications.	*Peptides in PCOS and CKD.*

Team & Knowledge.

ENDOLIPID is a spin-off from VHIR dedicated to develop SHBG-mimic peptides that reduce ectopic fat.

Spin-off from VHIR (2021):

Rafael Simó, MD, Prof (CMO)
Head of Endocrinology & Nutrition
Deputy Director Clinical Research

Albert Palomer, PhD (CEO)
Drug developer and biotech manager
Marketed drugs and successful exits

David M Selva, PhD (CSO)
Experienced biologist. KOL in SHBG

Agustí Soler (CFO)
Start-up finances and tax specialist

Xavier Carbonell
(Board member)
CEO, Palex Medica

Josep Ll. Falcó
(Board member)
CEO, Genesis Biomed

Anna Alvarez, PhD
In vivo models

Laura Brianso, PhD
In vitro models

Pablo Gabriel
PhD Student

Lorena Ramos
Lab Technician

Target indication

NASH. A Largely Unmet Medical Need.

Fat accumulation in the liver leading to **FIBROSIS**.

NASH

A slow & silent liver disease with large prevalence associated to life-style but no specific treatment.

UNMET MEDICAL NEED

2B → 0,4B

NAFLD **NASH**

50B$

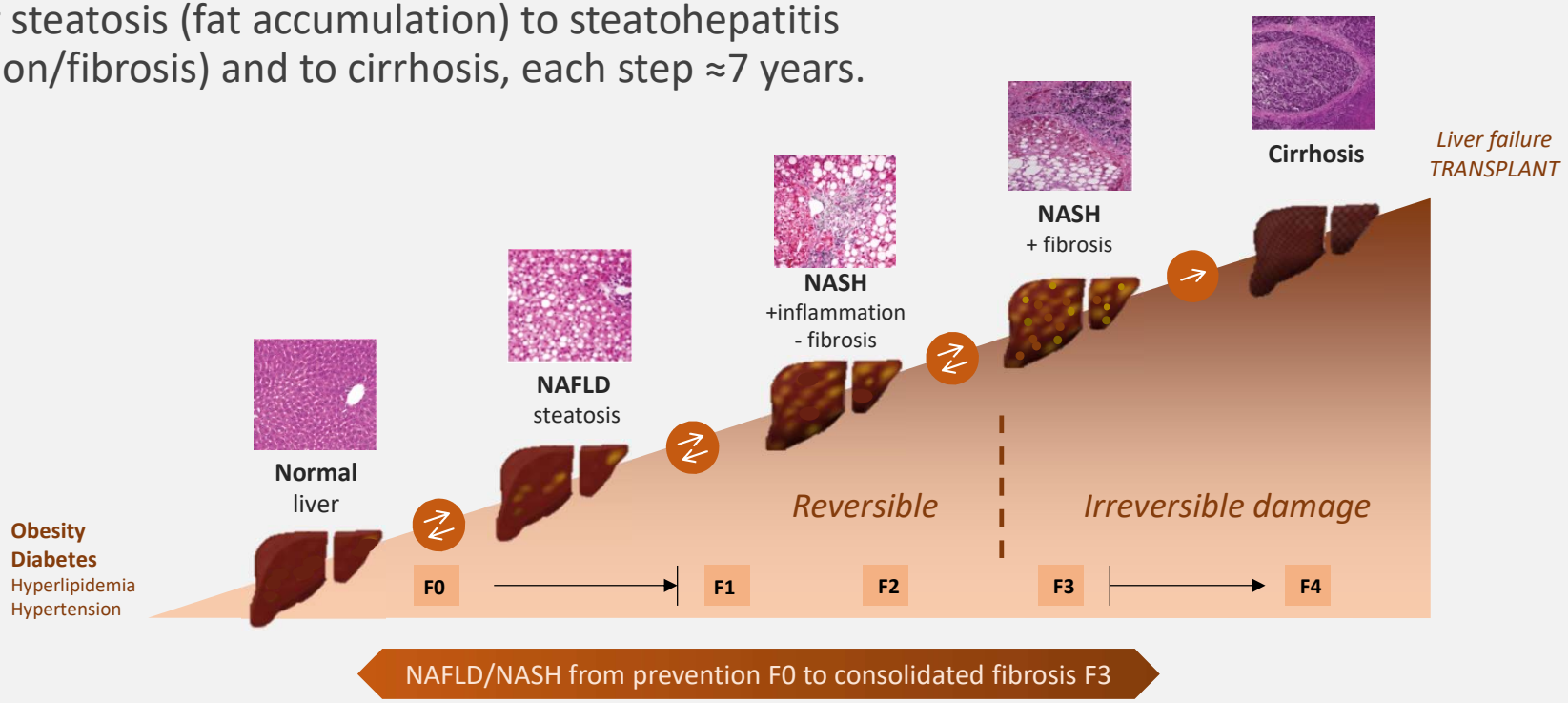
No treatment

Growing **Life style**

Non-Alcoholic Fatty Liver Disease (NAFLD) and Steatohepatitis (NASH)

Target indication

From liver steatosis (fat accumulation) to steatohepatitis (inflammation/fibrosis) and to cirrhosis, each step ≈7 years.



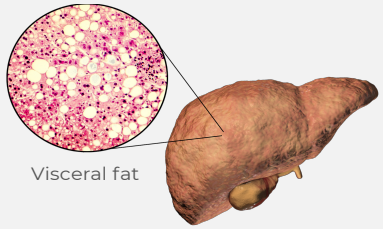
urtesy of S Kandpur (Jubilant Inc – Back Bay Lifescience Advisor, Nov 2020); sourced from J Clin Transl Hepatol 2021 and Estes, et al. Hepatology 2017; F Bessone, et al. (2019) Cellular and Molecular Life Sciences 76 (1) 112-121. .

Target indication

NASH is a Pathology Derived from Ectopic Fat in the Liver.

NASH

Fat accumulation in the liver leading to inflammation and fibrosis.



THE EDL APPROACH.

Sex Hormone-Binding Globulin (SHBG)

is one of our body endogenous mechanism that reduces ectopic fat, inflammation and fibrosis in the liver.

THE ADVANTAGE.

SMALL PEPTIDE that mimic the SHBG functions:

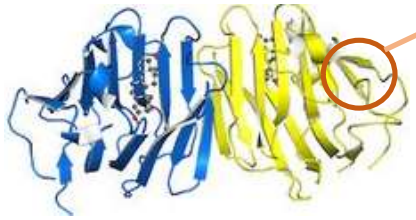
- Adequate profile for **high clinical efficacy**
- Effect in advanced stages of the disease with **fibrosis**.

The ENDOLIPID Technology®. SHBG-Mimic Peptides.

EDL6D is a new peptide that restores SHBG functions and reduces the main causes of NASH.

Innovative MoA. IP protection

SHBG



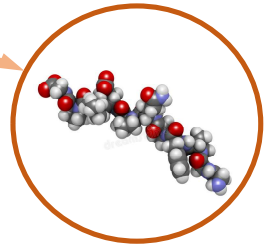
Reduce ectopic fat

Mimicking nature

"EDLs retain SHBG benefits"

- *Steatosis*
- *Fibrosis*
- *Inflammation*

EDL6D



Fatty Liver & NASH

SHBG is **reduced** in fatty liver, obesity, T2D and PCOS

Restoring natural SHBG functions

SHBG functions are **restored** by EDL6D

TECHNOLOGY PATENT
(Filed 2013, approved US & EU)

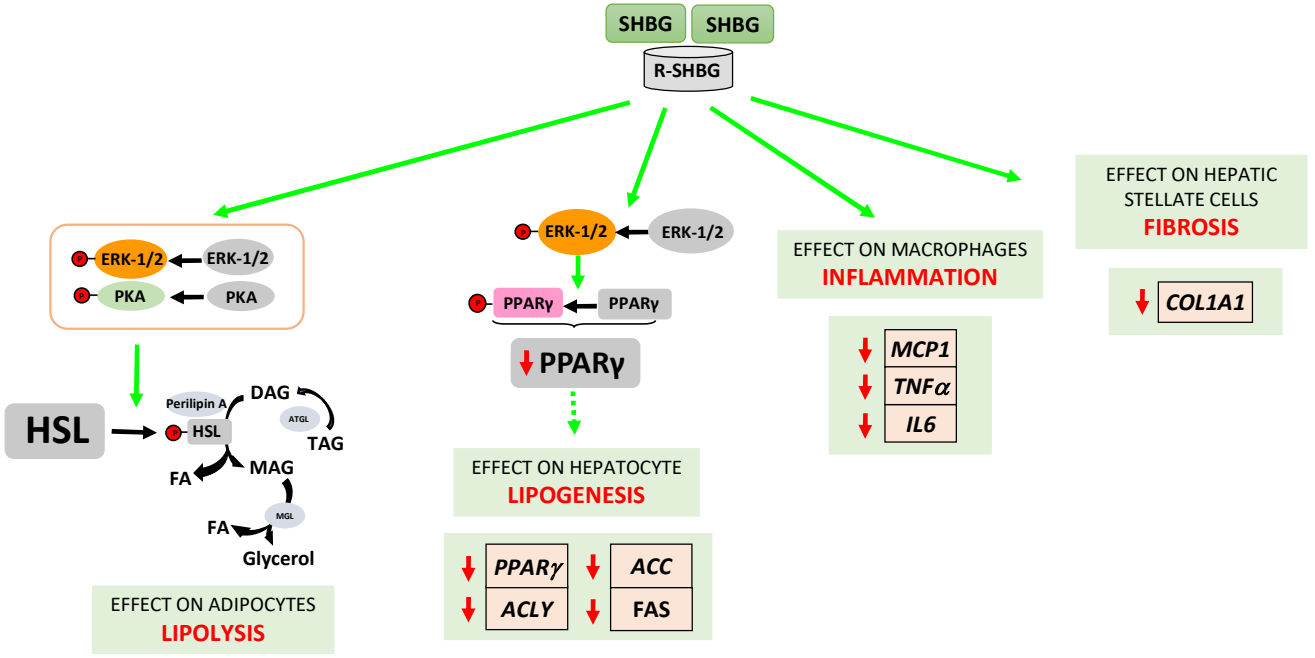
PRODUCT PATENT
(Filed June 2023)

Sex Hormone Binding Globulin (SHBG)

Mechanism of Action.

Molecular mechanisms of action in liver and adipose tissue.

ERK-1/2 and PKA pathways to PPARγ and HSL are major players in the regulation of lipolysis and lipogenesis.



ACC: Acetyl CoA-Carboxylase; ACLY: ATP Citrate Lyase; FAS: Fatty Acid Synthase; PPAR-γ: Peroxisome Proliferation Activator.

Opportunity in the NASH Pipeline?

Business Opportunity

	Drug	Clin. Phase	MoA	▼Steatosis	▼ Fibrosis	▼ Inflamm.
Before 2022 *Reposition*	*RESMETIROM*	Fast Track NDA (Aug '23)	THRβ	+	No worsening	-
	SEMAGLUTIDE	3	GLP-1	+	-	-
After 2022 *New molecules or combos*	*TERNS-101/TERNS-501*	*2/3*	THRβ & FXR	+	+	-
	ICOSABUTATE	*2/3*	PPARα & FFAR	+	+	+
	EDL6D		SHBG	+	+	+

Opportunity in NASH!!

Does Peptide EDL6D Fits the NASH Opportunity?

EDL6D has effect on steatosis, fibrosis and inflammation in mice and results are consistent with human cells.

After 2022
EDL6D
New molecule
3 activities

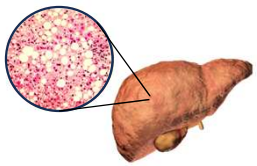
		▼ Steatosis	▼ Fibrosis	▼ Inflamm.
In vivo	*DIO-NASH (therapeutic)*	+	+	+
	DIO-NASH (preventive)	+		
	Cl_4C-Fibrosis		+	+
In vitro	*Human cells*	+	+	+

Hit also fibrosis.
↑ Clinical efficacy.

EDL6D hits the 3 pillars of NASH: Visceral fat (steatosis), connective tissue (fibrosis) and inflammation.

Peptide EDL6D. Headlines.

EDL6D reduces the main causes of NASH:



✓ Reduces STEATOSIS, FIBROSIS and INFLAMMATION.

✓ Results in mice confirm in human cells.

→ ***↑clinical efficacy.***

✓ Therapeutic and preventive.

✓ No observed adverse effects (inspired in nature).

→ ***Expanded use in advanced stages of the disease.***

EDL6D is in preclinical development in 2024.

XXIII Programa FarmaBiotech

farmaindustria

EU NextGen funds

Consult to agencies

agencia española de medicamentos y productos sanitarios

Pitfalls & Risks to be considered. Partnering Opportunity.

Partnering opportunities: EDL6D clinical dev.

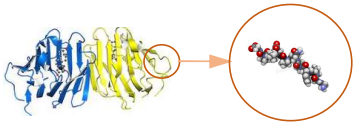
	Probability of occurring	**Impact** on project	**Effect** on project	Comments
Competition landscape				
• Resmetirom near to approval	High	+	↑ traction to project	Molecule with effect in steatosis AND fibrosis
• Emerging therapies acting on fibrosis	Medium	+/-	↑ real competition	
Development				
• Preclinical dev studies below industry standards	Low	-	Results not validated	Pharma partner
• How to enroll responder patients	High	+/-	SHBG as a clinical biomarker	
• Stratify patients and demonstrate effect in fibrosis.	Medium	+/-	Clinical tools to evaluate fibrosis	

The ENDOLIPID Technology® is a Scalable Platform.

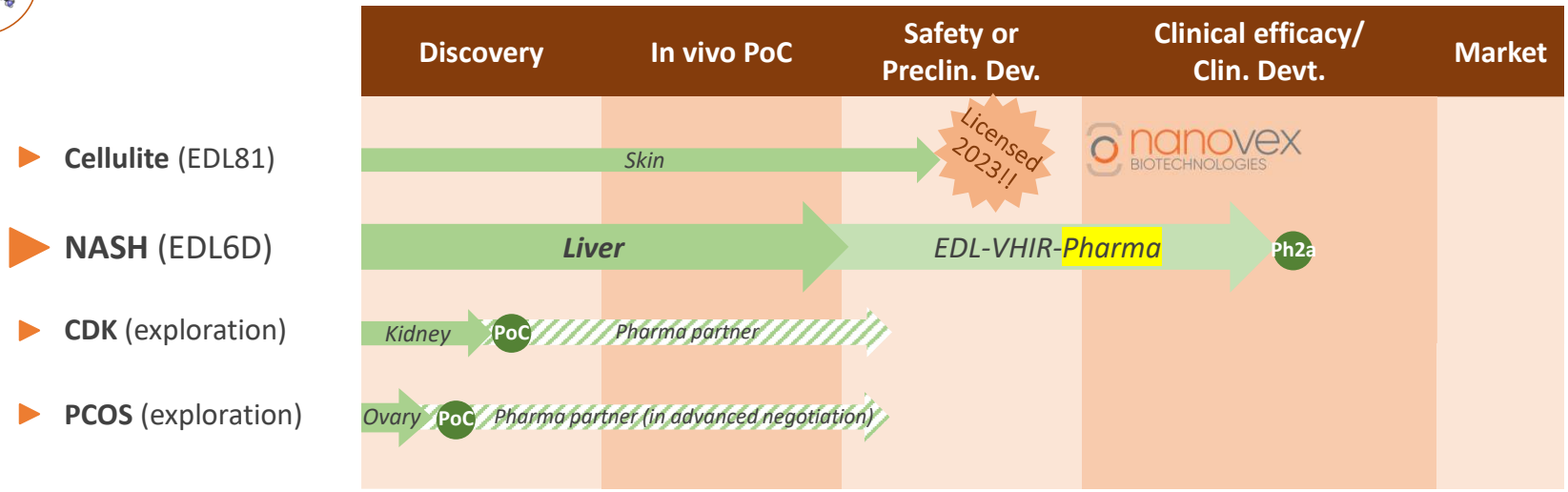
Mimicking SHBG, an innovative strategy to reduce ectopic fat, is scalable to other pathologies.

Explore other applications of the technology

ENDOLIPID Technology®
SHBG-mimic peptides



Reduce ectopic fat



Summary

Vall d'Hebron Institut de Recerca

Science

Team

Technology Platform

EDL peptide hitting **Fibrosis** is an opportunity in **NASH**

Pharma partner

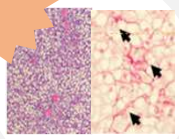
Licensed 2023!

1st peptide for ***Cellulite***

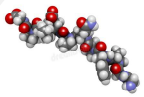
Grant

Public grant

Results!



Steatosis and FIBROSIS



2nd Peptide for ***NASH***


Thank You!
We look forward that you partner Endolipid and help us bring our NASH therapy closer to patients in need!
EndoLipiD Therapeutics
Vall d'Hebron
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With the support of: