Corvidane

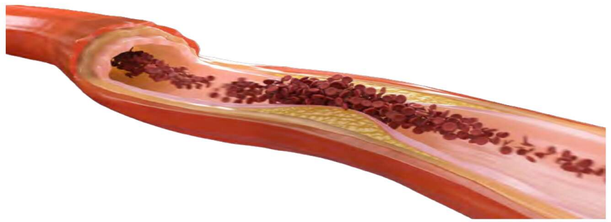
A novel approach to treating
Cardiovascular and Liver diseases

June 12th, 2023

PROBLEM

Diseases of lipid metabolism + inflammation:

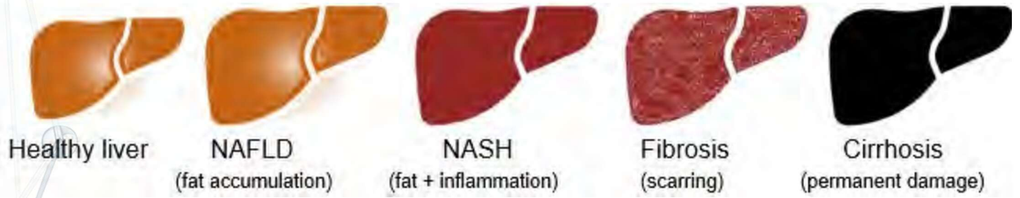
Atherosclerosis



The buildup of fats and cholesterol (i.e., plaque) in artery walls that, when accompanied by inflammation, obstructs blood flow.

A major factor in heart attacks and strokes, the leading causes of death globally

Nonalcoholic Steatohepatitis



An accumulation of excess liver fat accompanied by inflammation and cell damage, which can cause fibrosis and lead to cirrhosis and liver cancer.

NASH affects 5% of U.S. adults and is the leading cause of liver transplants in the U.S.

SOLUTION

A drug that is safe and can improve lipid metabolism and reduce inflammation

Corvida™ contains two fatty acids: an **Omega-7** and an **Omega-9**.
Both are Generally Recognized as Safe (GRAS) by the FDA.

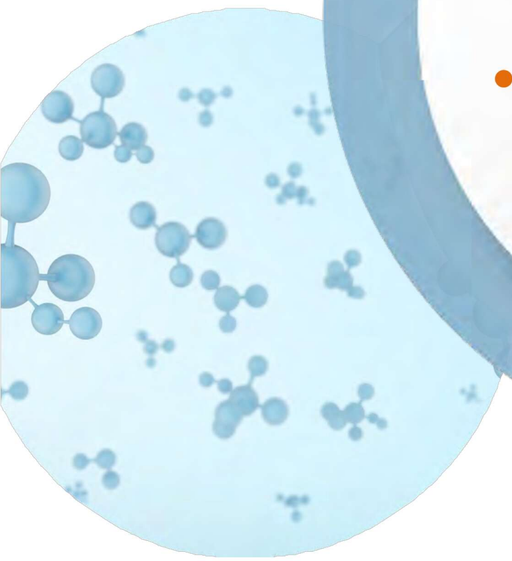
FDA GRAS APPROVED

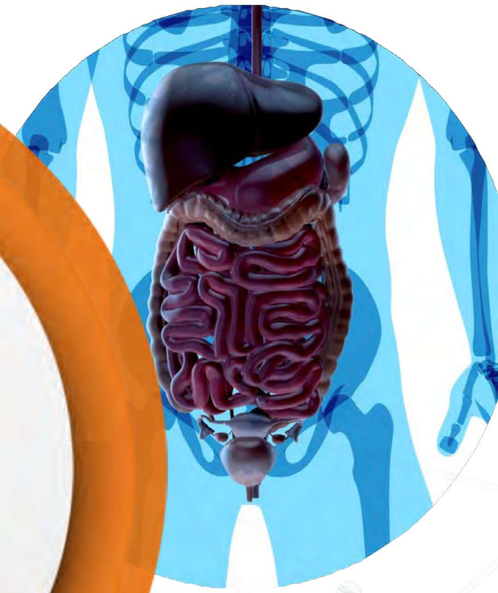
OMEGA-7 (palmitoleic acid)

- Associated with preventing atherosclerosis and non-fatal heart attacks.
- Improves metabolic function of the liver and associated with improved insulin sensitivity.

OMEGA-9 (oleic acid)

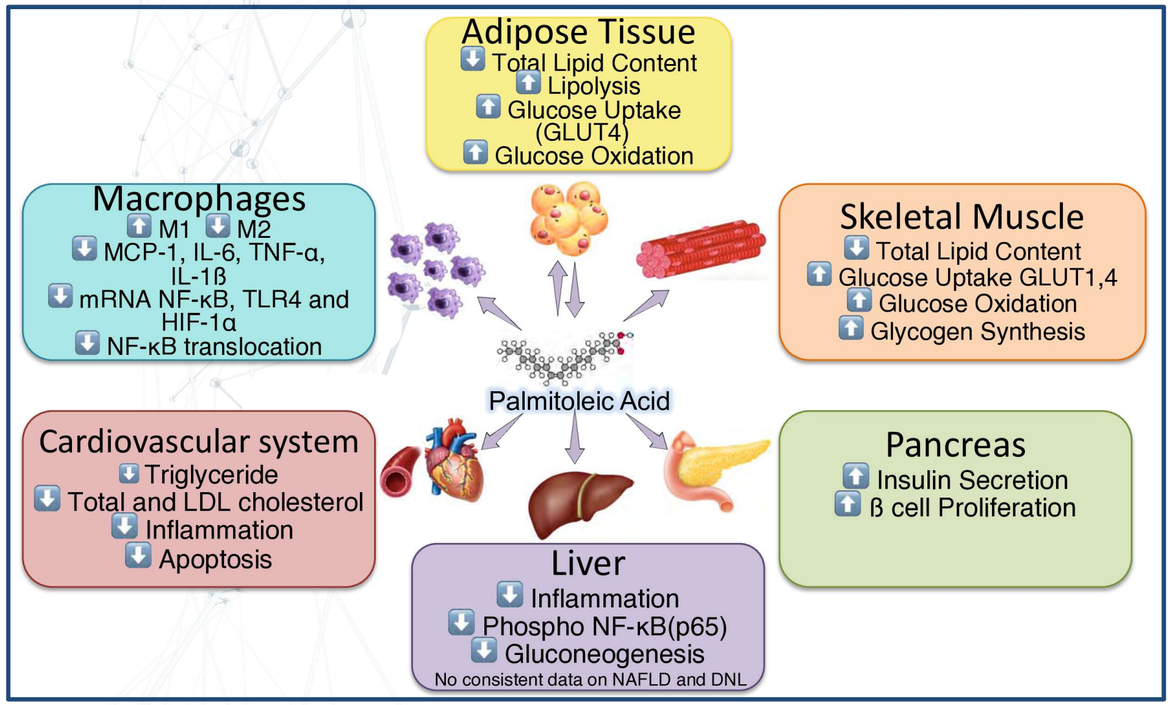
- Associated with low blood pressure.
- Has beneficial effects on autoimmune and inflammatory diseases.



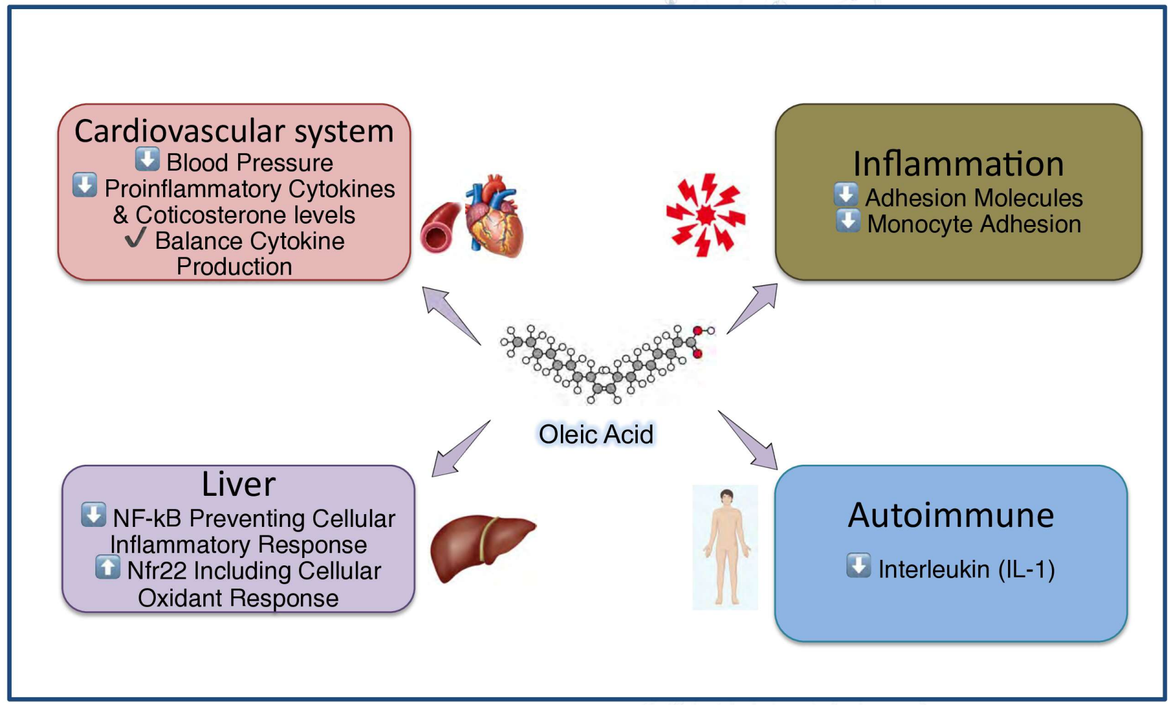


SOLUTION

Palmitoleic Acid (Omega-7)

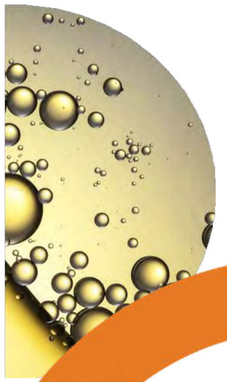


Oleic Acid (Omega-9)



SOLUTION

We selected Omega-7s and Omega-9s that improve lipid metabolism and have anti-inflammatory properties to maximize the health benefit **via multiple pathways.**



Fatty Acid	Omega	Size	Double Bonds
Palmitoleic	7	16 Carbon Atoms	1
Oleic	9	18 Carbon Atoms	1
EPA	3	20 Carbon Atoms	5
DHA	3	22 Carbon Atoms	6

Omega-7 and Omega-9 fatty acids are smaller and more capable of entering cells than Omega-3s.

Omega-7 and Omega-9 fatty acids have fewer double bonds (**Mono-unsaturated**) and are less easily oxidized or otherwise damaged.

Corvida™ is <u>not</u> an Omega-3 fatty acid drug, which is often used to reduce triglyceride levels in the body.

MARKETS

$30B (Peak)

ATHEROSCLEROSIS

Targeting at-risk population actively using cholesterol lowering (statin) therapies.

$27B (Est)

NASH

Targeting NASH patients with or without Type 2 diabetes.

UP TO 60% OF TYPE 2 DIABETICS HAVE NAFLD OR NASH

COMPETITION

ATHEROSCLEROSIS

AMARIN

Vascepa®
(Icosapent Ethyl)

- Purified Eicosapentaenoic Acid (EPA), an omega-3 fatty acid, **not Monounsaturated**
- Originally approved to lower triglycerides
- Shows most potential of approved drugs to treat atherosclerosis (EVAPORATE study)
- **Does not provide benefit in NASH**

NASH

northsea THERAPEUTICS

Icosabutate

- Modified Eicosapentaenoic Acid (EPA), an omega-3 fatty acid, **not Monounsaturated**
- Currently in Phase 2 human studies targeting NASH patients with F2-F3 fibrosis
- Reduces triglyceride levels, **but may increase LDL cholesterol levels**

M&A ACTIVITY

Corvida™:

SELL, LICENSE OR PUBLIC EXIT

Promising fatty acid therapeutics have fueled significant business development activity:

gsk

Reliant® PHARMACEUTICALS

GSK acquired Reliant Pharmaceuticals for **$1.7B** for their omega-3 fatty acid drug Lovaza®

AstraZeneca

Astra Zeneca acquired Omthera for **$343M** for their omega-3 fatty acid drug Epanova®

Ωmthera Pharmaceuticals

northsea THERAPEUTICS

PRONOVA BIOPHARMA

Northsea Therapeutics licensed Pronova's omega-3 compound (Icosabutate), raised ~ **€140M** since 2017

Pfizer

HLS Therapeutics Inc.

Pfizer enters into promotional agreement with HLS Therapeutics for Vascepa® in Canada

Gilead combined Amarin's omega-3 fatty acid drug Vascepa® for inclusion in their NASH combo therapy trials

AMARIN

GILEAD

VALIDATION

Corvida™ studies have shown promising results:

Ability to treat Atherosclerosis and NASH simultaneously in the LDLr-/- mouse model (awaiting results).

Reduction in Atherosclerotic Plaque in the ApoE-/- mouse model.

Improved metabolic processing of lipids in rodent model.

Effects on Atherogenic Lipids in Humans.

Effects on Atherogenic Lipids in ApoE3 mouse model.

INTELLECTUAL PROPERTY

Intellectual Property:

Patents to treat Atherosclerosis Issued:

- The United States
- Japan
- Brazil

…w/ applications pending in The EU, China, India and Canada.

- NASH provisional application filed in the U.S.

TEAM

Dr. Paresh Soni, MD, PhD – CEO & Chief Medical Officer

An expert in **NASH** with 20+ years executive pharmaceutical experience, including **Amarin**, Alexion, Pfizer and Albireo. Led NDA approval of Vascepa®.

Damion J. Boyer – Co-Founder & COO

6 years as Corvidane CEO. Initiated Corvidane's NASH program and forged strategic alliances in the U.S. and Europe.

Patrice Binay, PhD – Vice President of Chemistry and Manufacturing

32 years of pharmaceutical fine chemistry experience.

Menno Van Burken, PharmD – Vice President of Commercial Strategy

32 years of pharmaceutical experience, including 17 years with Pfizer.

John M. Burke - Co-Founder and Inventor of Corvida™

46 years chemical engineering expertise.

OFFERING

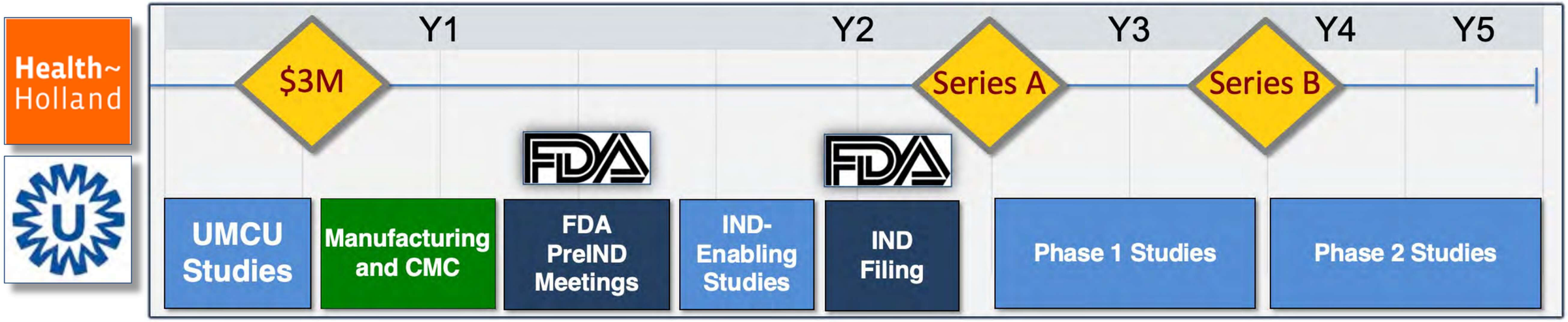
RAISING $3M USD to Submit an Investigation New Drug (IND) Application

- Equity or Convertible Note

Funds will be used to cover:

- Toxicological Studies
- Manufacturing/CMC
- Legal/Patents, Accounting, Market Research, Personnel

Raised $360k with RegCF and €600k from TKI Subsidy for collaboration with UMC Utrecht



CONCLUSION

- Low valuation for early investors with potential for upside with 2 large indications.
- Potential to treat millions of patients with common metabolic diseases.

Corvidane

THANK YOU

“We will meet the challenge.” – Dr. Oheneba Boachie-Adjei

paresh@Corvidane.com
damion@Corvidane.com

Research

Effects on Atherosclerosis in Rodents

The Cleveland Clinic

Mouse Atherosclerosis Progression Study

- Examined the effects Corvida™ (CCO) diet vs. Western Diet in ApoE-/- mice; a well-established model for atherosclerotic progression
- Corvida™ diet replaced 20% standard Western diet fat with Corvida™:
  - Corvida™ increased HDL cholesterol by 77% compared to the control group
  - Corvida™ reduced triglycerides by 11% compared to control group
  - Corvida™ produced significant reductions in atherosclerosis
    - Effect on atherosclerosis versus atherogenic lipid suggests beneficial effects beyond lipids

Table 2. Aortic sinus lesion size (mm^2)		
	Control	Treatment
Corvida™	0.33 ± 0.09	0.18 ± 0.07**

Table 3. Aortic lesion (%)		
	Control	Treatment
Corvida™	9.63 ± 2.8	3.17 ± 1.6**
†Rosuvastatin (20mg/kg/day[2]	21.9 ± 2.9	11.9 ± 1.9*

Compared to the Control group, *P<0.05, **P<0.001

†Enomoto S, Sata M, Fukuda D, et al., "Rosuvastatin prevents endothelial cell death and reduces atherosclerotic lesion formation in ApoE-deficient mice.", Biome Pharmacotherapy. 2007

Research

Effects on Atherogenic Lipids in Humans
The University of Hawaii

Human Dietary Study

- Used macadamia nuts (high in oleic and palmitoleic acids) compared to typical Western diet
- Subjects were relatively healthy volunteers with well-controlled lipids at baseline (mean baseline LDL-C levels of 130 mg/dl; mean baseline TGs of 80 mg/dl)
- With macadamia nut diet:
  - LDL-C was 5.9 mg/dl lower than American diet ($p<0.05$)
  - TGs were 7.1 mg/dl lower than American diet ($p<0.05$)
  - Non-HDL-C is calculated to be 7.4 mg/dl lower than American diet
- Macadamia nut diet was safe and well-tolerated

Research

Effects on Atherogenic Lipids in Rodents
TNO

<u>ApoE3* Leiden Mouse Model Lipids Study</u>

- ApoE3*Leiden mouse model is a well-established and validated model for human dyslipidemia and progression of atherosclerosis
- Martek algae oil was tested to western diet. Specifically, 6% Martek algae oil replaced 6% of cacao butter in the Western diet (which is 15% cacao butter).
    - Martek algae oil is highly enriched in palmitoleic acid and palmitic acid
- As compared to Western diet, Martek algae oil at 4 weeks
    - Reduced total cholesterol by 37%
    - Reduced TGs by 44%

Research

Improved Metabolic Processing of Lipids

Case Western Reserve University

Study of Corvida™ in an Animal Model

Double blind, 8-week study of 18 Sprague Dawley rats receiving 50% of calories from fat to resemble typical American diet (40%-45% of calories from fat). Three arms of 6 rats each:

1. Corvida™ Diet
2. Saturated Fat Diet - Lauric acid (C12:0) and Myristic acid (C14:0)
3. Oleic acid (C18:1)

Lead Investigator: Dr. Charles Hoppel, M.D.

Results/Conclusions:

- Corvida™'s constituents absorbed into the blood and heart, liver and adipose tissue
- Corvida™ improves metabolic processing of lipids and glucose resulting in reduced liver fat accumulation and sustained liver function.

Research

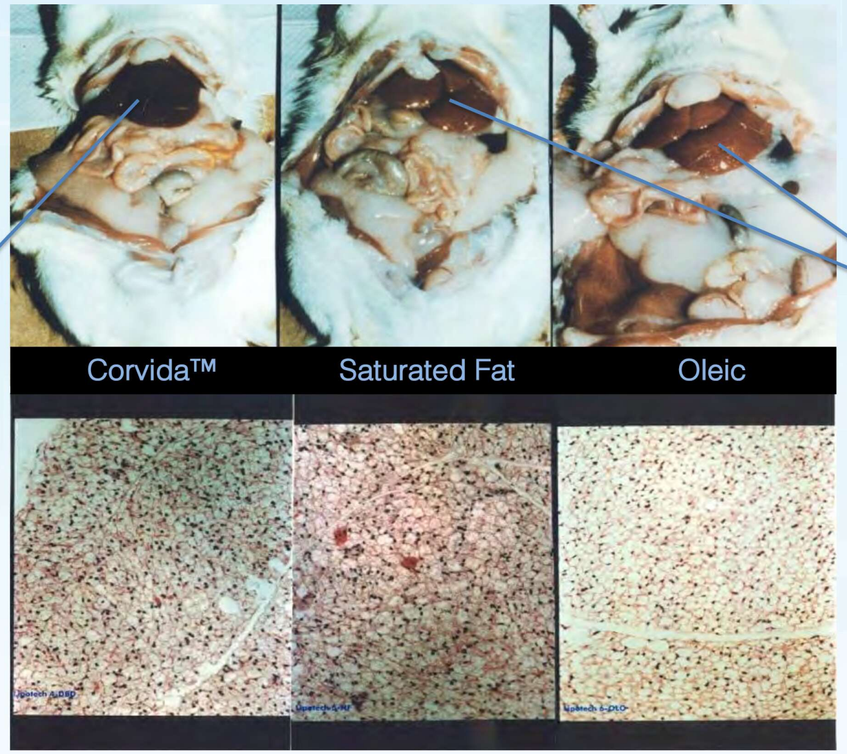
Improved Metabolic Processing of Lipids

Case Western Reserve University

Study of Corvida™ in an Animal Model

Analysis reveals the statistical and physical evidence of Corvida™'s ability to improve metabolic function:

Corvida™ Group livers are pristine



SF and Oleic Groups Became PreDiabetic