

Tech Deck



Corvidane

An Innovative Approach to Treating
Heart and Liver Diseases

November 19th, 2021

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Risk

Like any investment, an investment in Corvidane involves risk.

The primary risk of any drug in development is Regulatory approval (e.g. FDA).

Two leading causes of failure in drug development are safety and efficacy. To minimize safety risks, Corvida™ uses molecules that are Generally Regarded As Safe (GRAS) by the FDA. These molecules are well tolerated in humans with minimal side effects as supported by a number of independent, peer-review, published studies.

To minimize the risk associated with efficacy and to improve the likelihood of Regulatory approval, Corvidane has assembled a team involved with the successful development and approval of a similar drug.

Investor risk has been further reduced through the use of non-dilutive funding.

Forward-Looking Projections Cannot be Guaranteed



Mission

Maximize Investor ROI

Develop Corvida™ into two Phase 3-ready drugs for sale or license within 5 years.

Forward-Looking Projections Cannot be Guaranteed

Non Confidential



Approach

Novel and innovative

Chemical Engineers theorized that industrial lipid management principals could be used to treat disease in humans by improving lipid metabolism and reducing inflammation.

This approach requires fatty acids with specific chemical properties and molecular structures that are also safe for humans and possess anti-inflammatory properties



What Corvida™ is

Corvida™ is a novel, patented mixture of Omega-7 and Omega-9 fatty acids with established safety profiles, health benefits and anti-inflammatory properties.

- Palmitoleic Acid – (C16:1n7) is associated with preventing atherosclerosis, inversely associated with non-fatal myocardial infarctions^{9,10,12}, improves metabolic function of the liver and is associated with improved insulin sensitivity^{7,14}.
- Oleic Acid – (C18:1n9) is associated with low blood pressure, beneficial effects on autoimmune and inflammatory diseases^{1,2}.
- Both can be sourced from natural materials leading to effective and safe therapy. Both are FDA GRAS.

1) "Oleic acid content is responsible for the reduction in blood pressure induced by olive oil", S. Terés,* G. Barceló-Coblijn, Proc. Natl. Acad. Sci. U S A. 2008 Sep 16; 105(37): 13811–13816. 2) "An overview of the modulatory effects of oleic acid in health and disease", Helioswilton Sales-Campos, Patricia Reis de Souza, PMID: 23278117 Mini Rev Med Chem 2013 Feb;13(2):201-10. 7) "Is Palmitoleic Acid a Plausible Nonpharmacological Strategy to Prevent or Control Chronic Metabolic and Inflammatory Disorders?", Camilla O. de Souza,* Gretchen K. Vannice, DOI: 10.1002/mnfr.201700504, Mol. Nutr. Food Res. 2018, 62 9) "Prevention of atherosclerosis by bioactive palmitoleate through suppression of organelle stress and inflammasome activation", Ismail Çimen, Begüm Kocatürk, Science Translational Medicine 28 Sep 2016: Vol. 8, Issue 358, pp. 358ra126 DOI: 10.1126/scitranslmed.aaf9087 10) "Dietary Palmitoleic Acid Attenuates Atherosclerosis Progression and Hyperlipidemia in Low-Density Lipoprotein Receptor-Deficient Mice", Zhi-Hong Yang 1, Milton Pryor, Mol. Nutr. Food Res. 2019 Jun;63(12):e1900120 12) "Adipose tissue palmitoleic acid is inversely associated with nonfatal acute myocardial infarction in Costa Rican adults", D Luan, D Wang, Nutrition, Metabolism and Cardiovascular Diseases, PMID: 30207271 PMCID: PMC6136248 DOI: 10.1016/j.numecd.2018.05.004 14) "Circulating palmitoleate strongly and independently predicts insulin sensitivity in humans", Stefan N, Kantartzis K, (2010) Diabetes Care 33:405–407



What Corvida™ is not

Corvida™ is NOT Omega-3 fatty acids:

- Eicosapentaenoic acid (EPA) like **Amarin's Vascepa®**
- Eicosapentaenoic acid (EPA) derivatives like **NorthSea Therapeutics' NST-4016**
- Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) mixtures like **Epanova® (Astra Zeneca)** or **Lovaza® (GlaxoSmithKline)**



Unmet Need 1

Cardiovascular disease

Atherosclerosis

Closely associated with inflammation, the build up of fats, cholesterol and cellular waste in arterial walls and the major factor in heart attacks and 50% of all strokes:

Heart Attack



#1

cause of death globally^{1, 2}

9M

lives lost annually²

Stroke



#2

cause of death globally^{2,3}

6M

lives lost annually²



Unmet Need 2

Metabolic disease

NASH

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

#1
cause of
liver
transplants
by 2021⁵

Affects
5%
of U.S.
adults⁶

5) "Nonalcoholic Fatty Liver Disease 2020: The State of the Disease", T.G. Cotter, M. Rinella, Gastroenterology, 2020 May;158(7):1851-1864 6) "Global epidemiology of nonalcoholic fatty liver disease -Meta-analytic assessment of prevalence, incidence, and outcomes", Younossi ZM, Koenig AB, Hepatology 2016;64:73-84



A Novel Solution

Corvida™. One drug capable of improving the metabolic processing of lipids to treat Atherosclerosis and NASH.

Atherosclerosis

Corvida™

Potentially Best-in-Class, orally administered therapeutic indicated to slow the progression of atherosclerosis.

An adjunct to cholesterol-lowering drugs (statins) to address atherosclerotic plaque, which represents significant cardiovascular risk beyond cholesterol.

NASH

Corvida™

Potentially Best-in-Class, orally administered therapeutic for the treatment of NASH with no worsening of liver fibrosis.

A monotherapy or in combination with other NASH agents and type 2 diabetes management that may reduce cardiovascular risk and improve insulin sensitivity in this population.

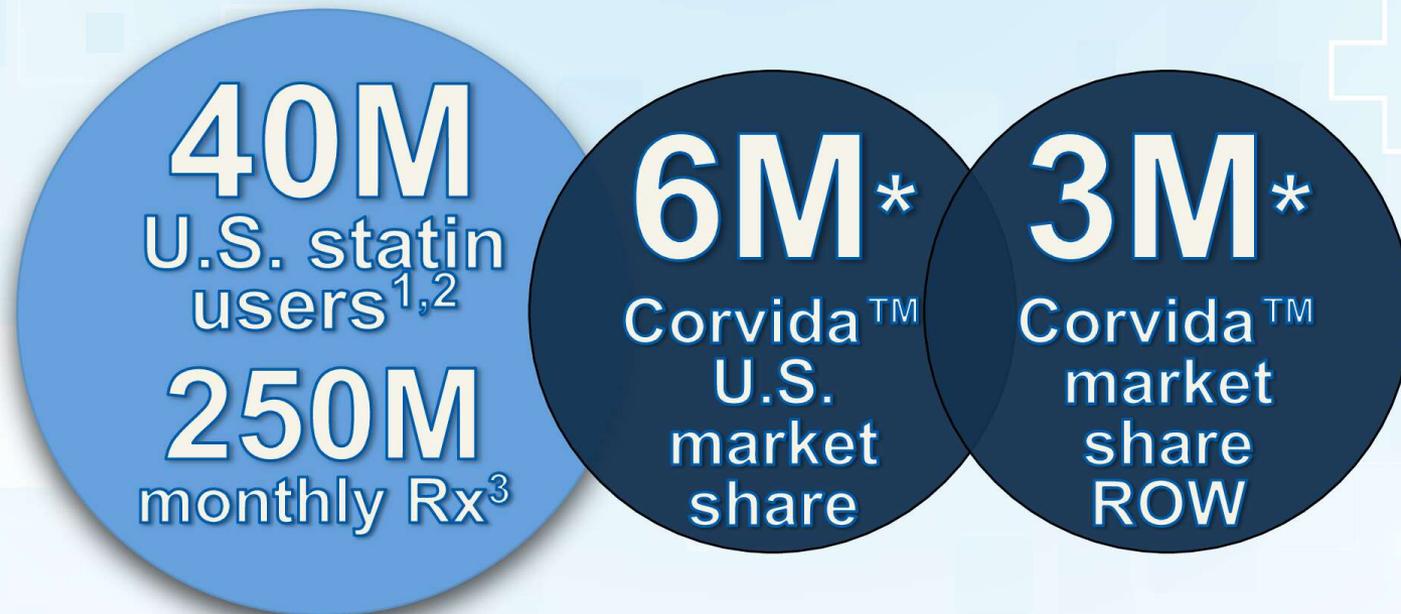


Markets

Atherosclerosis  

CorvidaTM

Targeting at-risk population actively using lipid management (statin) therapies.



*Patients with known atherosclerotic cardiovascular disease.

1) Centers for Disease Control and Prevention 2) American Heart Association 3) "Medicine Use and Spending in the U.S.: A Review of 2018 and Outlook to 2023", IQVIA Institute Report, May 09, 2019



Markets

NASH

Corvida™

Targeting Type2 Diabetes patients due to increased NASH/CV Risk.
Additionally, in combination with other NASH drugs that increase Triglycerides (Acetyl CoA Carboxylase inhibitors) or LDL (Farnesoid X Receptor agonists)

22M

in U.S. w/
type2
diabetes¹

60%

of type 2
diabetics
have NAFLD
or NASH²

4M

in U.S. w/
NASH and
stage F2-F3
fibrosis³

1M

Corvida™
U.S.
market
share

350k

Corvida™
market
share
ROW

ACCis
FXRs

1) American Diabetes Association 2) "NAFLD as a continuum: from obesity to metabolic syndrome and diabetes", A. Godoy-Matos, W. Silva Júnior, Diabetol Metabolic Syndrome 2020; 12: 60. PMID: PMC7359287 3) "Modeling NAFLD disease burden in China, France, Germany, Italy, Japan, Spain, United Kingdom, and United States for the period 2016–2030", C. Estes, Quentin Anstee, Joern Schattenberg, Journal of Hepatology, Volume 69, Issue 4, October 2018, Pages 896-904

Competitive Landscape



Atherosclerosis



Amarin – Vascepa® (Icosapent Ethyl)

Derived from Eicosapentanoic Acid (**C20:5n3**), an Omega-3 Polyunsaturated Fatty Acid sourced from fish.

- Originally approved to lower Triglycerides
- The EVAPORATE study shows the most potential of approved drugs to to treat Atherosclerosis
- Generic market entry by 2021

Corvida™

Omega-9 and Omega-7 Monounsaturated Fatty Acids (**C18:1n9 and C16:1n7**), sourced from algae.

- Developed to target vulnerable, high risk plaques
- MUFAs more capable of entering/improving endothelial cell function, improving cellular fluidity
- Has the ability to treat both Atherosclerosis and NASH



Competitive Landscape

NASH



Northsea Therapeutics - Icosabutate

Derived from Eicosapentanoic Acid (**C20:5n3**), an Omega-3 Polyunsaturated Fatty Acid sourced from fish.

- Currently in Phase 2 studies targeting NASH with F2-F3 fibrosis
- Reduces Triglyceride-rich VLDL Cholesterol, but may increase LDL

Corvida™

Omega-9 and Omega-7 monounsaturated Fatty Acids (**C18:1n9 and C16:1n7**), sourced from algae.

- Targets fat accumulation, inflammation and fibrosis while reducing Triglycerides and LDL
- MUFAs more capable of entering/improving endothelial cell function, improving cellular fluidity
- More stable, less susceptible to oxidize/polymerize due to 4 fewer double bonds



Research

A series of studies* has demonstrated Corvida™'s potential as a new therapy for Cardiovascular and Metabolic diseases.

Completed Studies



CWRU – Improved metabolic processing of lipids



University of Hawaii – Proven human safety of diet high in MUFAs



TNO – APIs sourced from algae reduce LDL-c and Triglycerides



The Cleveland Clinic – Corvida™'s positive effects on Atherosclerotic plaque

*Study summaries in the Appendix



Next Steps

Planned Research



A series of studies has been planned with the University Medical Center Utrecht for:

- Preclinical validation of Corvida™'s ability to treat Atherosclerosis in genetically sequenced LDLr^{-/-} mice
- Gathering mechanistic data of Corvida™'s effects on genetically sequenced human plaque tissues and cells

Combined, these studies serve as a performance-prediction model to further de-risk development.

This data will be used in combination with previous studies to gain FDA support for our Regulatory strategies.

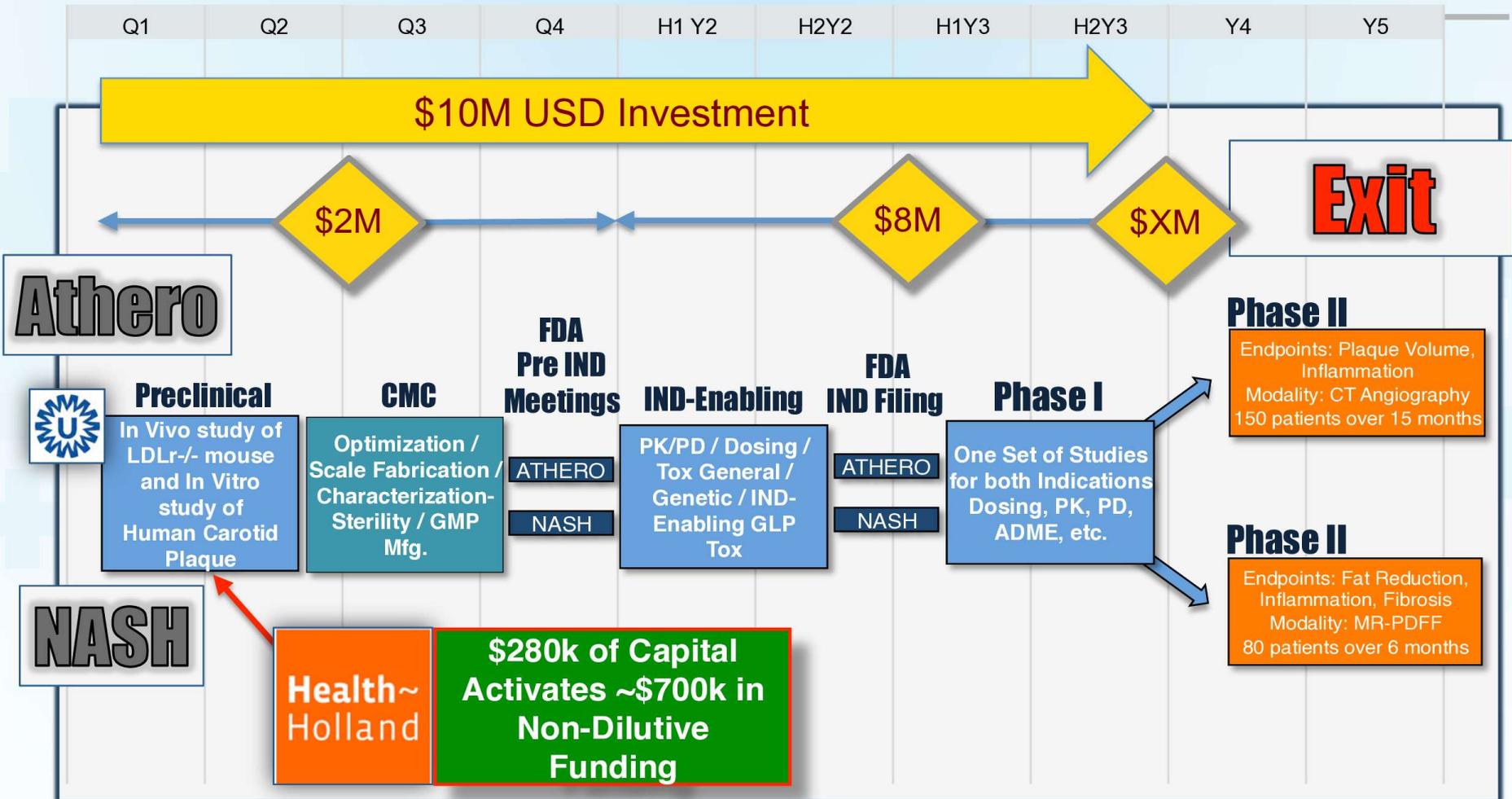


Intellectual Property

Composition and Use patents Issued

- U.S. Patent #9,808,437 issued for “...a composition and method to treat Atherosclerosis...” and is valid through 2035.
- Japan Patent Application 2017-539510 Granted for “Composition and Use for Treating Atherosclerosis”.
- Atherosclerosis patent applications pending in The EU, China, India, Brazil and Canada.
- NASH Provisional application filed in the U.S.

Corvida™ Development Plan



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Non Confidential



Development Plan: Atherosclerosis

- Phase 1:
 - Healthy Volunteers, Obese dyslipidemic patients – Pharmacokinetics (PK), Pharmacodynamics (PD), Absorption, Distribution, Metabolism and Excretion (ADME), dose frequency
- Phase 2:
 - Patients with Acute Coronary Syndrome (ACS)
 - Coronary CT Angiography imaging at baseline & 12 months
 - Measure coronary plaque volume: Low Attenuation Plaque, Fibro Fatty Plaque, Fibro Calcified Plaque, Dense Calcified Plaque
 - Lipid changes with Corvida™: LDL-c, TG, HDL-c, ApoB, non-HDL-c
 - Dose 1, dose 2, placebo N ~ 100
- Ref: *Matsumoto, Budoff et al, Clinical Cardiology 2016. VIA-2291 vs. placebo*
- Propose plan to FDA: approval based on lipid biomarkers + imaging results
 - CV Outcomes Trial as post approval to confirm outcomes benefit



Development Plan: NASH

Noncirrhotic Nonalcoholic Steatohepatitis With Liver Fibrosis: Developing Drugs for Treatment - Guidance for Industry, Dec 2018

<https://www.fda.gov/regulatory-information/search-fda-guidance-documents/noncirrhotic-nonalcoholic-steatohepatitis-liver-fibrosis-developing-drugs-treatment>

Nonalcoholic Steatohepatitis with Compensated Cirrhosis: Developing Drugs for Treatment - Guidance for Industry, June 2019

<https://www.fda.gov/regulatory-information/search-fda-guidance-documents/nonalcoholic-steatohepatitis-compensated-cirrhosis-developing-drugs-treatment-guidance-industry>



M&A Activity

Promising Fatty Acid therapeutics have fueled significant business development activity.



Astra Zeneca acquired Omthera for \$443M USD for their EPA/DHA (DocosaHexaenoic Acid) drug Epanova®.



GSK (Lovaza) acquired Reliant Pharmaceuticals for \$1.7B USD for their EPA/DHA (DocosaHexaenoic Acid) drug Lovaza™.



Northsea Therapeutics licensed Pronova's EPA drug, raised €25M Series B for Phase 2 studies in 2017, raised €40M in January 2020.



Gilead included Amarin's Vascepa to neutralize the negative effects of their ACC NASH drug.



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



Forward-Looking Projections Cannot be Guaranteed



Team Management



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

20+ years of executive pharmaceutical experience in Cardiovascular diseases and NASH that includes **Amarin**, Alexion, Pfizer and Albireo. Led the NDA submission and approval of **Vascepa®**, designed and launched the landmark **REDUCE-IT** study. Led Regulatory negotiations with the FDA, EMA and international medicines agencies from IND to label and NCE approvals.



Damion J. Boyer – Co-Founder & Chief Operating Officer

6 years experience as CEO of Corvidane. Responsible for initiating Corvidane's NASH program and forging strategic alliances in the U.S. and Europe, which includes UMC Utrecht and resulted in a non-dilutive subsidy from the Dutch government.



Peggy J. Berry – Vice President of Regulatory Affairs

28 years of Regulatory experience that includes 5 years with **Amarin**. Developed and operationalized Regulatory strategy for **Vascepa®**. Established and lead Global Regulatory, Quality and Pharmacovigilance functions. Managed clinical trial submissions in the U.S., the EU and Canada. Led meetings with Regulatory authorities globally, including an Advisory Committee meeting at the FDA.



Patrice Binay, PhD – Vice President of Chemistry and Manufacturing

32 years of pharmaceutical Fine Chemistry experience. Synthesis and analytical characterization of Active Pharmaceutical Ingredients, Quality auditing, Industrial Transfer. Development of a new class of anti-inflammatory (H4 Receptor).



Menno Van Burken, PharmD – Vice President of Commercial Strategies

32 years of pharmaceutical experience that includes 17 years with Pfizer. Lead Cardiovascular and Metabolic therapeutic disease initiatives across R&D, Clinical Development, Medical Affairs, Regulatory and Commercial functions.



John M. Burke – Co-Founder

Inventor of Corvida™ with 46 years Chemical Engineering expertise



Appendix

- What Corvida™ is (cont'd)
- Study Summaries



What Corvida™ is (cont'd)

Corvida™ is a patented mixture of Monounsaturated fatty acids: Oleic Acid and Palmitoleic Acid. Both have established safety profiles and health benefits.

Palmitoleic Acid

In cell culture and rodent models:

- Prevention of atherosclerosis by bioactive palmitoleate through suppression of organelle stress and inflammasome activation^{6, 7}
- Protective effects on cell viability in pancreatic β cells⁸, stimulates insulin secretion by β cells and enhances whole body insulin sensitivity⁷
- Increases hepatic fatty acid oxidation⁹
- Improves the blood lipid profile⁹
- Alters macrophage differentiation¹⁰
- Improves Metabolic Functions in Fatty Liver by PPAR α -Dependent AMPK Activation¹¹

6) "Prevention of atherosclerosis by bioactive palmitoleate through suppression of organelle stress and inflammasome activation", Ismail Çimen, Begüm Kocatürk, Science Translational Medicine 28 Sep 2016; Vol. 8, Issue 358, pp. 358ra126 DOI: 10.1126/scitranslmed.aaf9087 7) "Dietary Palmitoleic Acid Attenuates Atherosclerosis Progression and Hyperlipidemia in Low-Density Lipoprotein Receptor-Deficient Mice", Zhi-Hong Yang 1, Milton Pryor, Mol. Nutr. Food Res. 2019 Jun;63(12):e1900120 8) "Differential protective effects of palmitoleic acid and Camp on caspase activation and cell viability in pancreatic beta-cells exposed to palmitate", H.J. Welters, E. Diakogiannaki, (2006) Apoptosis 11:1231–1238 9) "Is Palmitoleic Acid a Plausible Nonpharmacological Strategy to Prevent or Control Chronic Metabolic and Inflammatory Disorders?", Camila O. de Souza,* Gretchen K. Vannice, DOI: 10.1002/mnfr.201700504, Mol. Nutr. Food Res. 2018, 62 10) "Palmitate differentially regulates the polarization of differentiating and differentiated macrophages", Fangming Xiu, Li Diao, PMID: 26453839 PMCID: PMC4693883 DOI: 10.1111/imm.12543 11) "Palmitoleic Acid Improves Metabolic Functions in Fatty Liver by PPAR α -Dependent AMPK Activation", Camila O. de Souza Alexandre A.S. Teixeira, J Cell Physiology, 2017 Aug;232(8):2168-2177

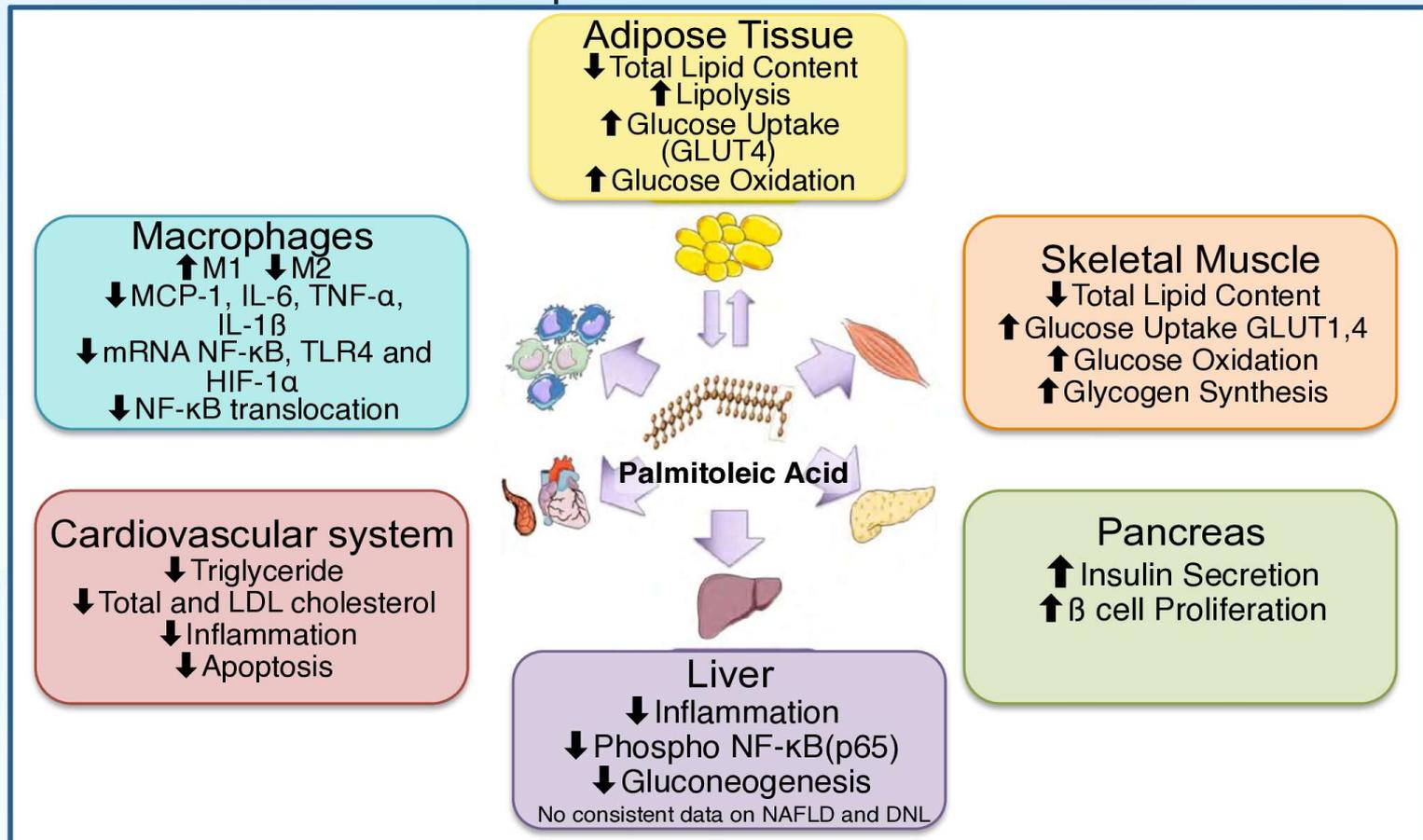


What Corvida™ is (cont'd)

Palmitoleic Acid

In humans:

- Immune-metabolic effects of palmitoleic acid in different tissues ¹¹



11) "Palmitoleic Acid Improves Metabolic Functions in Fatty Liver by PPAR α -Dependent AMPK Activation", Camila O. de Souza Alexandre A.S. Teixeira, J Cell Physiology, 2017 Aug;232(8):2168-2177



What Corvida™ is (cont'd)

Palmitoleic Acid

In cell culture and rodents:

- Prevention of Atherosclerosis in LDLr^{-/-} mouse model¹⁰

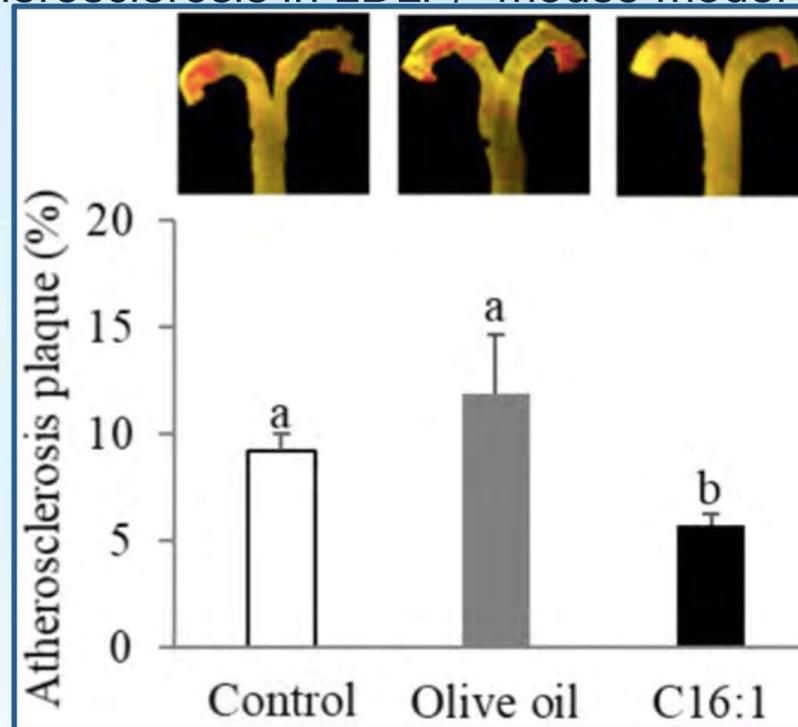


Figure 3. Effects of dietary palmitoleate on progression of atherosclerosis in LDLr-KO mice. Mice (n=15/group) were fed a Western diet supplemented with 5% Olive Oil, Palmitoleate concentrate (C16:1), or none (Control) for 12 weeks. Representative *en face* Sudan IV staining of aorta (upper panel) and quantitative analysis of Sudan IV-positive area of aorta (lower panel). Values represent the mean \pm SEM. Labeled means without a common letter differ ($p < 0.05$)

¹⁰ "Dietary Palmitoleic Acid Attenuates Atherosclerosis Progression and Hyperlipidemia in Low-Density Lipoprotein Receptor-Deficient Mice", Zhi-Hong Yang 1, Milton Pryor, Mol. Nutr. Food Res. 2019 Jun;63(12):e1900120



What Corvida™ is (cont'd)

Palmitoleic Acid

In humans:

- Adipose tissue Palmitoleic Acid is inversely associated with Myocardial Infarction¹²

Table 3 Odds ratios for myocardial infarction according to quintiles of palmitoleic acid concentrations in adipose tissue of Costa Rican adults (n = 3656).

	Quintiles					P for trend
	1	2	3	4	5	
Palmitoleic acid levels in adipose tissue	3.65 ± 0.73 ^a	5.28 ± 0.35	6.41 ± 0.33	7.64 ± 0.39	9.87 ± 1.30	
Unadjusted model ^b	1.0	1.00 (0.81, 1.24)	0.87 (0.71, 1.07)	1.01 (0.81, 1.24)	0.90 (0.72, 1.13)	0.4263
Adjusted model ^c	1.0	1.00 (0.80, 1.26)	0.86 (0.69, 1.08)	0.91 (0.72, 1.15)	0.81 (0.63, 1.04)	0.0612
Adjusted model ^d	1.0	0.90 (0.71, 1.14)	0.71 (0.56, 0.91)	0.68 (0.52, 0.89)	0.55 (0.41, 0.75)	<0.0001
Palmitoleic acid levels among men (n = 2684)	635	581	548	515	405	
Unadjusted model ^b	1.0	1.01 (0.80, 1.27)	0.92 (0.73, 1.16)	1.10 (0.87, 1.40)	0.90 (0.69, 1.18)	0.7181
Adjusted model ^c	1.0	1.00 (0.79, 1.30)	0.88 (0.69, 1.13)	0.98 (0.76, 1.27)	0.79 (0.59, 1.05)	0.1202
Adjusted model ^d	1.0	0.91 (0.70, 1.18)	0.76 (0.58, 0.99)	0.77 (0.57, 1.04)	0.57 (0.40, 0.81)	0.0013
Palmitoleic acid levels among women (n = 972)	95	151	183	217	326	
Unadjusted model ^b	1.0	0.83 (0.49, 1.42)	0.63 (0.37, 1.05)	0.69 (0.42, 1.15)	0.74 (0.44, 1.22)	0.3336
Adjusted model ^c	1.0	0.91 (0.50, 1.67)	0.76 (0.42, 1.37)	0.72 (0.41, 1.29)	0.78 (0.44, 1.38)	0.3593
Adjusted model ^d	1.0	0.83 (0.45, 1.54)	0.58 (0.31, 1.08)	0.50 (0.27, 0.94)	0.47 (0.25, 0.89)	0.0101

^a Mean ± SD (all such values).

^b Conditioned on age, sex, and area of residence.

^c Adjusted for age, sex, area of residence, income, smoking status, history of diabetes, and history of hypertension.

^d Adjusted for age, sex, area of residence, income, smoking status, history of diabetes, history of hypertension, adipose tissue oleic acid, adipose tissue linoleic acid, adipose tissue arachidonic acid, and adipose tissue alpha-linolenic acid.



What Corvida™ is (cont'd)

Oleic Acid

In rodent and human studies:

- Reduction of coronary heart disease risk^{3,4}
- Beneficial effects on autoimmune and inflammatory diseases¹
- Associated with reduced blood pressure²
- Regulates membrane lipid structure²
- Preventing deleterious effects of Saturated fats and high glucose on human pancreatic beta-cell turnover and function⁵

1) "An overview of the modulatory effects of oleic acid in health and disease", Helioswilton Sales-Campos, Patrícia Reis de Souza, PMID: 23278117 Mini Rev Med Chem 2013 Feb;13(2):201-10. 2) "Oleic acid content is responsible for the reduction in blood pressure induced by olive oil", S. Terés,* G. Barceló-Coblijn, Proc. Natl. Acad. Sci. U S A. 2008 Sep 16; 105(37): 13811–13816. 3) "Olives and Olive Oil in Health and Disease Prevention 2010, Chapter 154 - Oleic Acid: The Main Component of Olive Oil on Postprandial Metabolic Processes", Sergio Lopez, Beatriz Bermudez, 4) "Monounsaturated fatty acids and cholesterol metabolism coronary heart disease", Scott M Grundy, MD, PhD 5) "Monounsaturated fatty acids prevent the deleterious effects of palmitate and high glucose on human pancreatic beta-cell turnover and function", K. Maedler, J. Oberholzer, Diabetes 2003 Mar;52(3):726-33, doi: 10.2337/diabetes.52.3.726.



What Corvida™ is (cont'd)

Palmitoleic Acid

In humans:

- Increased cell membrane fluidity, reduced inflammation, protection of the cardiovascular system¹³
- Circulating palmitoleate strongly and independently predicts insulin sensitivity in humans¹⁴ and robustly associated with multiple metabolic risk factors¹⁵

13) "Biosynthesis and metabolic engineering of palmitoleate production, an important contributor to human health and sustainable industry", Y.M. Wu, R.Z. Li, (2012) Prog. Lipid Res. 51:340–349 14) "Circulating palmitoleate strongly and independently predicts insulin sensitivity in humans", Stefan N, Kantartzis K, (2010) Diabetes Care 33:405–407 15) "Circulating palmitoleic acid and risk of metabolic abnormalities and new-onset diabetes", Mozaffarian D, Hotamisligil CS (2010), Am. J. Clin. Nutr. 92:1350–1358 29



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.

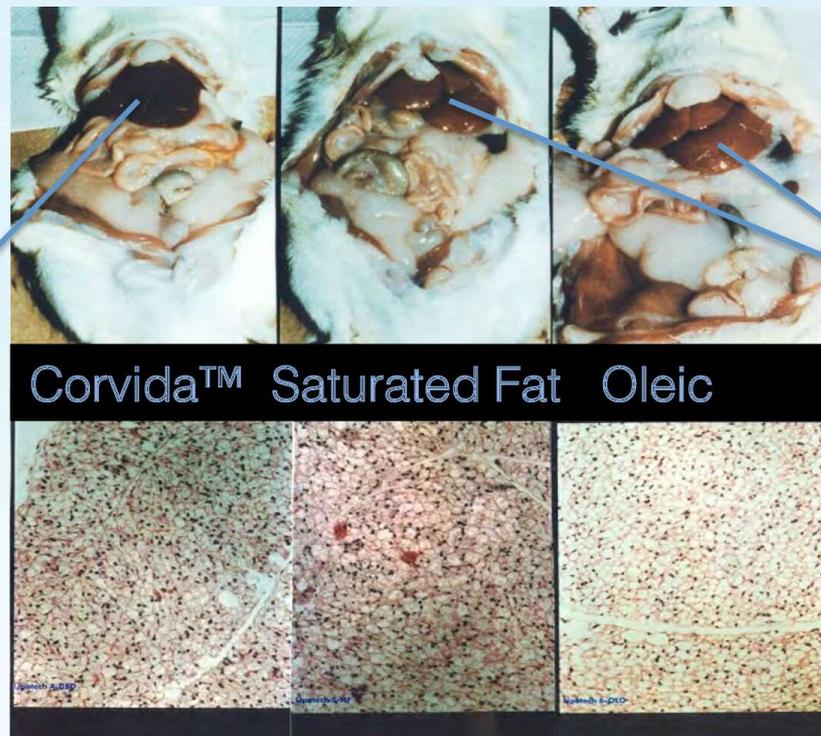
Research

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



Research

Proven Human Safety and Tolerability The University of Hawaii



Study of the Effects of a Diet High in Monounsaturated Fat in Humans

90-day study of 30 healthy individuals (15 women, 15 men), age 18 to 53; healthy, relatively lean, many having low cholesterol levels at baseline. Randomly assigned to a three-way crossover of three test diets for 30 days each:

1. American Heart Association “Step 1” diet (30% kcal fat)
2. Palmitoleic Acid (C16:1) diet (37% kcal fat)
3. High saturated fat “Typical American” diet (37% kcal fat)

Lead Investigator: Dr. J. David Curb, M.D.

Results/Conclusion:

- The diet high in Monounsaturated Fat showed significant reduction of Triglycerides (-15.7%) compared to the AHA “Step 1” group despite a 23% greater total fat content and showed a reduction in Triglycerides (-9.1%) and Total Cholesterol (-5%) compared to the “Typical American Diet”.
- The diet high in Monounsaturated Fat had a favorable effect on serum biomarkers of healthy adults despite variations in gender, ethnic groups and age range in a relatively short (30 day) exposure.

Research



Palmitoleic Acid from algae reduces LDL Cholesterol and Triglycerides TNO

Study of the Effects of Palmitoleic Acid (C16:1) from algae in ApoE3 mouse model
4-week study of the effect of a Control western-type diet containing a high amount of saturated fat vs.:

- 3 different diets with increasing content of Palmitoleic Acid (C16:1)
- 2 different oils enriched in fish oil fatty acids

Palmitoleic
Acid from
Algae

Group	Subjects
Control	6
Olive Oil	7
Safflower Oil	7
Safflower Oil + Palmitoleic Acid (Natural Source)	7
Palmitoleic Acid (Natural Source)	8
Palmitoleic Acid (Algal Source)	5
Ross/Abbott Marine Oil (EPA)	7
Nissui Fish Oil (EPA) + Cottonseed Oil	7

Study Director: H. M. G. Princen

Results/Conclusion:

- Algal C16:1 was superior to Natural Source C16:1 and reduced plasma cholesterol levels by 37% and Triglyceride levels by 44% after 4 weeks of treatment compared to Control group.



Research

Positive Effects on Plaque The Cleveland Clinic



Study of Corvida™ on Atherosclerosis in ApoE mouse model

34 male ApoE knockout mice were fed normal mouse chow for 2 months, then randomly allocated to two groups (17 each) for 12 weeks:

1. Fed a control western high fat diet (F5722: 20% fat, cholesterol 2.1 gm/kg)
2. Fed Corvida™ enriched diet (F5723: 20% Corvida™, cholesterol 2.1 gm/kg)

Lead Investigator: Dr. Marc Penn, M.D., PhD.

Results/Conclusion

- The Corvida™ treatment group revealed significant reductions in aortic sinus atherosclerotic lesion size (mm²) by 47% relative to the control group, control 0.33 vs. treatment 0.18 (P<0.001).
- Atherosclerotic lesion area (%) in the aorta of the Corvida™ treatment group was also significantly inhibited, control: 9.63 vs. treatment 3.17, (P<0.001).
- Compared to Control group, Corvida™ reduced triglycerides by 11%, reduced total cholesterol by 5.5% and increased HDL by 77%.
- No significant difference in body weight.
- Corvida™ has a significantly positive effect on reducing arterial plaque and significantly inhibits atherosclerotic plaque formation.



Extraordinary Clinical and Commercial success awaits.

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

Thank you.

Corvidane.com
Engineering Healthcare

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