



**PIONEERING
BIO-FUNCTIONAL
INGREDIENTS MIMICKING
HUMAN BREAST MILK**



MAOLAC

Nature at its Best





LIEL 8.1.18



HAREL 25.6.19

DEEP SCIENTIFIC & BUSINESS EXPERTISE



Maya Ashkenazi
CEO & Co Founder

M.E. Biomedical
Engineering, Technion
B.Sc. Pharmaceutical
Engineering



Dr. Ariel Orbach
CTO & Co Founder

Ph.D. in Immunology
Post-Doc in
Biochemistry



Sagi Katz
Business Development

MBA from NYU



Yuval Appelbaum
Lead Engineer

B.Sc. Biotechnological
Engineering



Rotem Aharoni
Bioinformatician

M.Sc Molecular
biology, Bioinformatic
path
Computational
Structural Biology, Ariel
University

OUR IMMUNE SYSTEM IS CONSTANTLY CHALLENGED

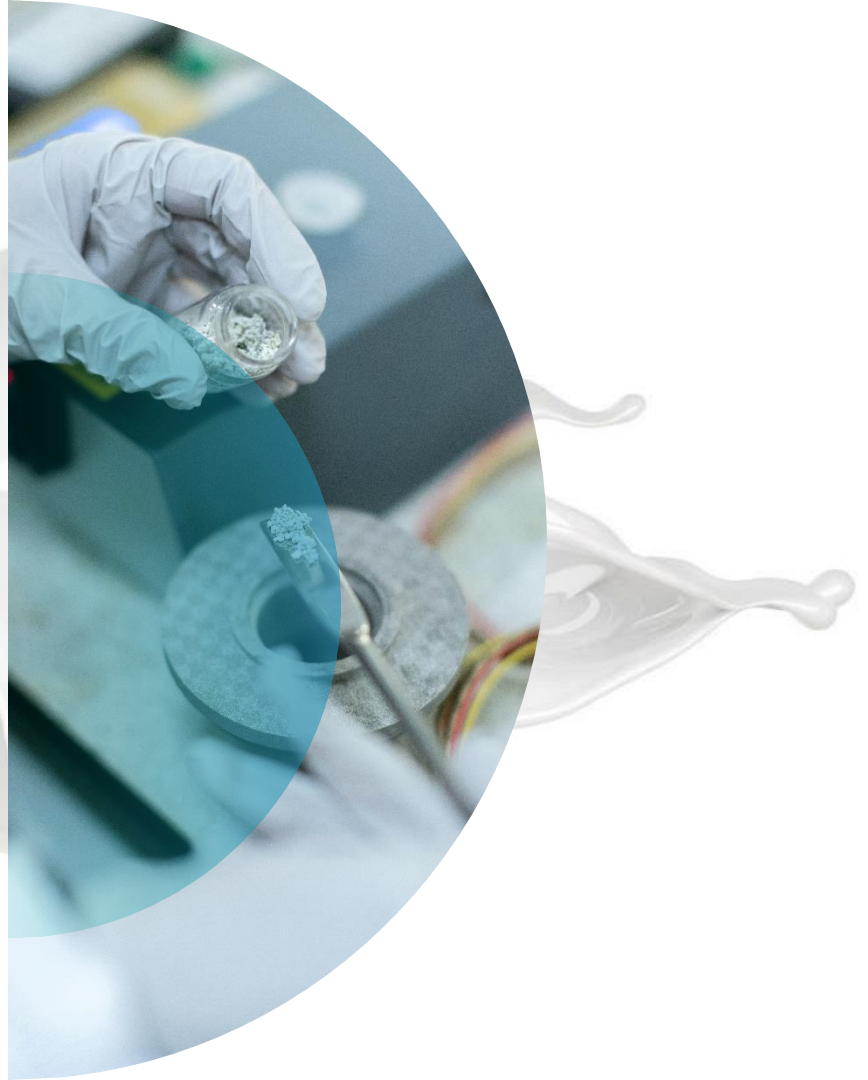
Our diet lacks precise functional ingredients to **strengthen and protect our health**

Modern nutrition & hectic lifestyle **negatively impact** our health and wellbeing.



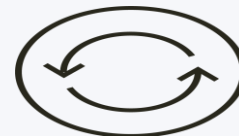
WHAT IF....

WE COULD TAP INTO
THE WONDERS OF
HUMAN BREAST MILK TO
STRENGTHEN AND
PROTECT OUR HEALTH?



MEET MAOLAC's ENRICHMENT PLATFORM

Based on **computational biology & AI** on Bovine Colostrum



Functional Milk Proteins (FMPs)

Making FMPs accessible to everyone!

OUR PURPOSE

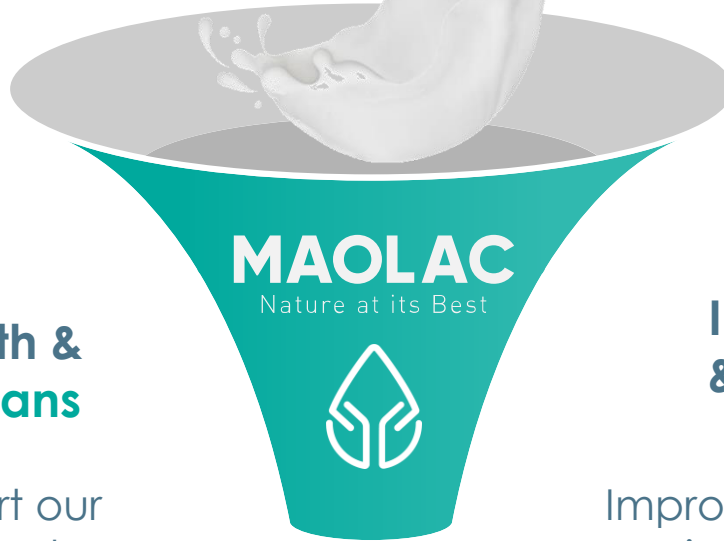


Leverage the wonderful benefits of breast milk to



Improve the health & wellbeing of **humans**

Strengthen & support our challenged immune system



Improve the health & wellbeing of **pets**

Improve gut health, relieve joint pains & reduce skin infections

Boost the immune system

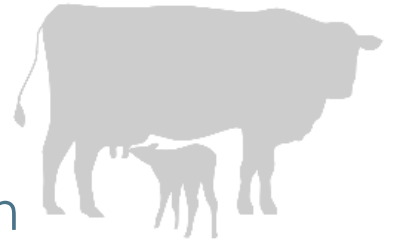
FIRST TO MARKET- HFMPs

Human Functional Milk Proteins
sourced from bovine colostrum



A Maolac discovery!

scalable discovery platform
that **identifies & matches** proteins with
95%+ bio-similar to human breast milk



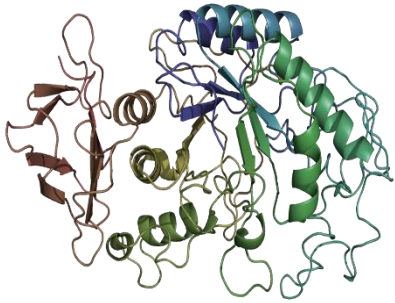
Countless high impact mixtures

Clear indications and clear usability



USING COMPUTATIONAL BIOLOGY TO DEVELOP NOVEL HFMP MIXTURES

for the food, supplement & dermo cosmetics industries



+



Active proteins

- ✓ Specific functions
- ✓ 95% bio-similarity to human breast milk

Absorption system

- ✓ Protects functionality
- ✓ High bioavailability
- ✓ High efficacy

HMOs were the start,
HMPs (Human Milk Peptides) are the **FUTURE!**



Gut Health



Immune Support



Sports



Skin Health



Food & Beverages



Animal

FROM HMOs TO HMPs

HMOs

Complex sugars found in human breast milk

Indirect impact on our immune system
HMO → feed bacteria → promote healthier gut → lead to better immunity

Synthetic production

Lower overall efficacy

Single target (microbiome)

HMPs

Functional proteins found in human breast milk

Direct impact on our immune system
Functional proteins → target specific immune pathways for superior immunity

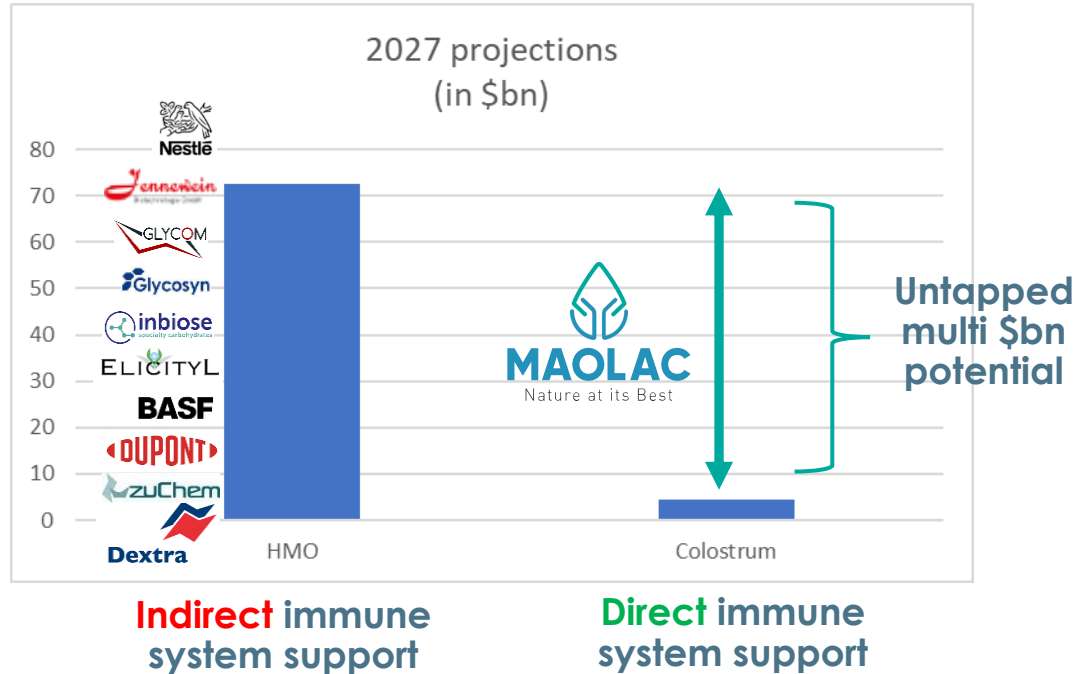
Natural production from bovine colostrum

Higher overall efficacy

Multiple targets (via bloodstream & microbiome)

HMOs (human milk sugars) is a huge, high-growth market

HFMPs WILL OFFER SUPERIOR IMMUNE PROTECTION



HMOs: From \$23.2bn (2020) to \$72.5bn (2027) (17.7% CAGR), [Global Industry Analysts, April 2020](#)

Raw Colostrum: From \$2.6bn (2019) to \$4.3bn (2027) (6.4% CAGR), [Transparency Market Research, March 2020](#)

POTENTIAL MARKET



Babies

\$79B (2020)



Sports

\$90B (2022)



**Healthy
Aging**

\$31B (2026)



Pets

\$108B (2020)

Babies: [Mordor Intelligence, 2021](#)

Athletes (sports nutrition): [Global Industry Analysts, January 2021](#)

Elderly: [Coherent Market Insights, February 2019](#)

Pets: [IMARC Group, May 2021](#)

SUCCESSFUL POC



Anti-Inflammatory mixture for athletes

Reduced inflammations & improved recovery time



Identified proteins with **targeted functionality**



Decreased inflammatory factors in **In-Vitro** (ex-vivo) testing



Produced **2 grams** of our athletes' mixture.



Showcased **positive trend for absorption** in **In-Vivo** testing (Delivery System)

OUR IP

Patent pending



drops



ampoules



sachet



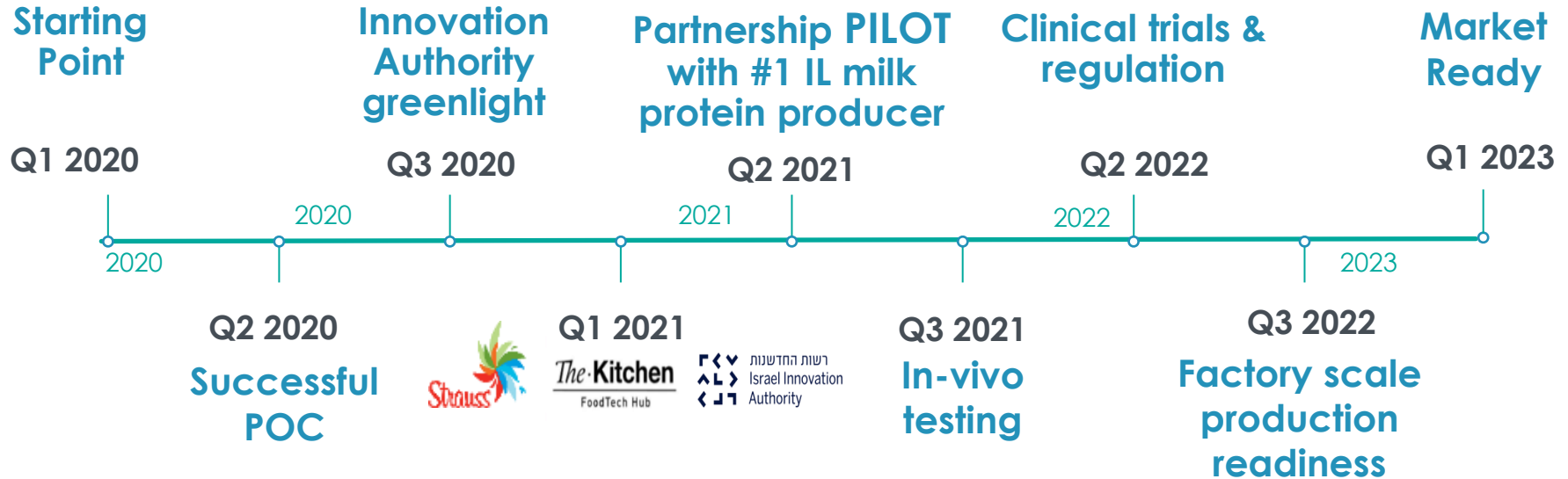
stick pack

Ariel Averbuch - Patents Lawyer

Dr.D.Graeser Ltd.

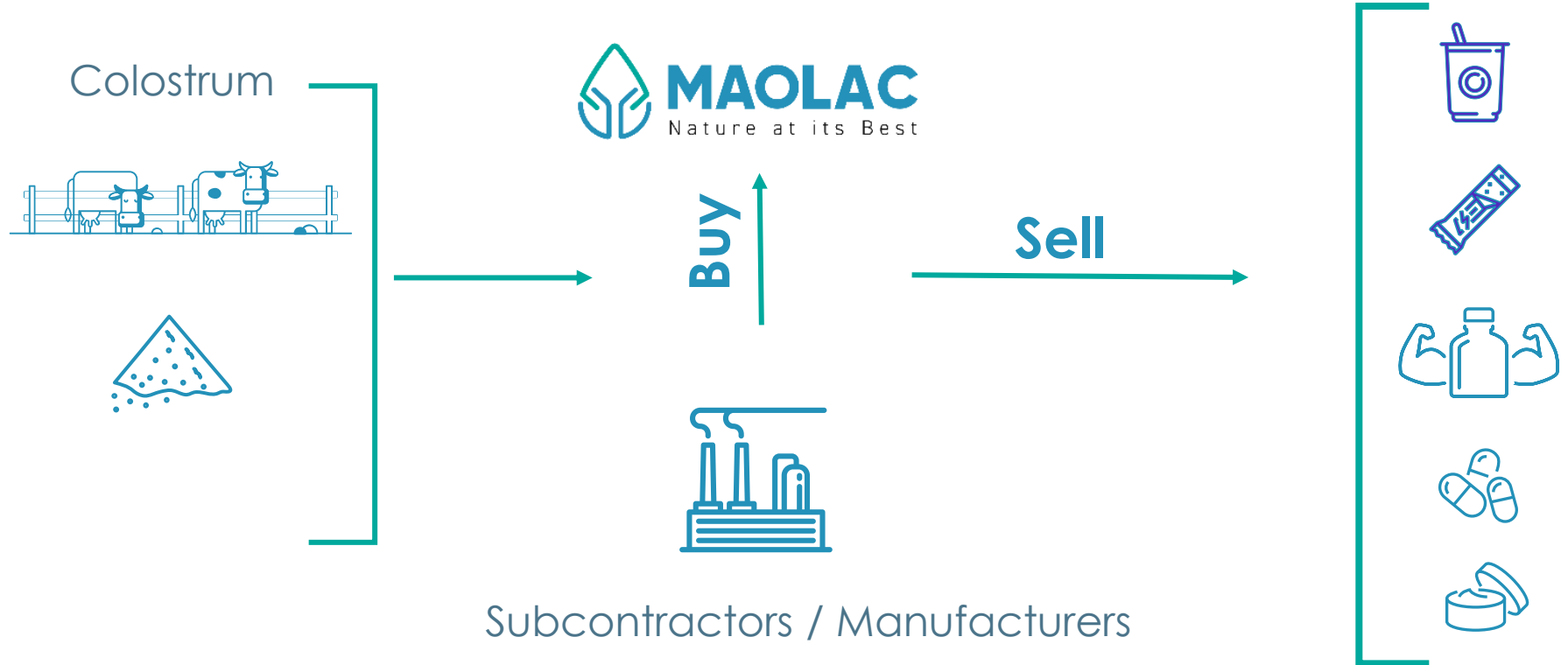
Intellectual Property and Business Development Services

MOVING FAST, MOVING FORWARD



GO TO MARKET STRATEGY

B2B ,manufacture & sell to food companies



FUNDABLE MILESTONES 24 MONTH

Objective			Time (months)																							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	a	Lab-scale production of MAOLAC fraction with an immune effect	█	█	█	█																				
	b	Optimizing Delivery System				█	█	█	█	█																
2	a	In-vitro experiment - activity in human cell culture							█	█	█															
	b	Analyzing data and evaluating results									█	█	█													
3	a	Preclinical trials in animal model (safety + efficacy)										█	█	█												
	b	Analyzing results												█	█											
4	a	Regulation - USA + Clinical Trails									█	█	█	█	█	█	█									
	b	Regulation - Europe+ Clinical Trails									█	█	█	█	█	█	█	█	█							
5	a	System design and purchase of equipment for semi-industrial pilot															█	█	█	█	█					
	b	Semi-industrial production pilot																			█	█	█	█	█	█

ASK & USE OF PROCEEDS

Raising **\$2.5 million**

3 product releases, full SOP in Q1 2023



Anti-inflammatory for humans –reducing muscle strain and improving recovery time

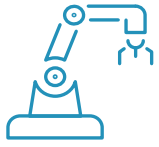


Gut immunity for humans –balanced & efficient digestive system (next generation probiotics)

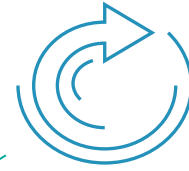


General immunization for humans – for immune-deficiency support





Novel
technology



Upcycling
Colostrum

FMPs Functional Milk Proteins
POWERED BY MAOLAC



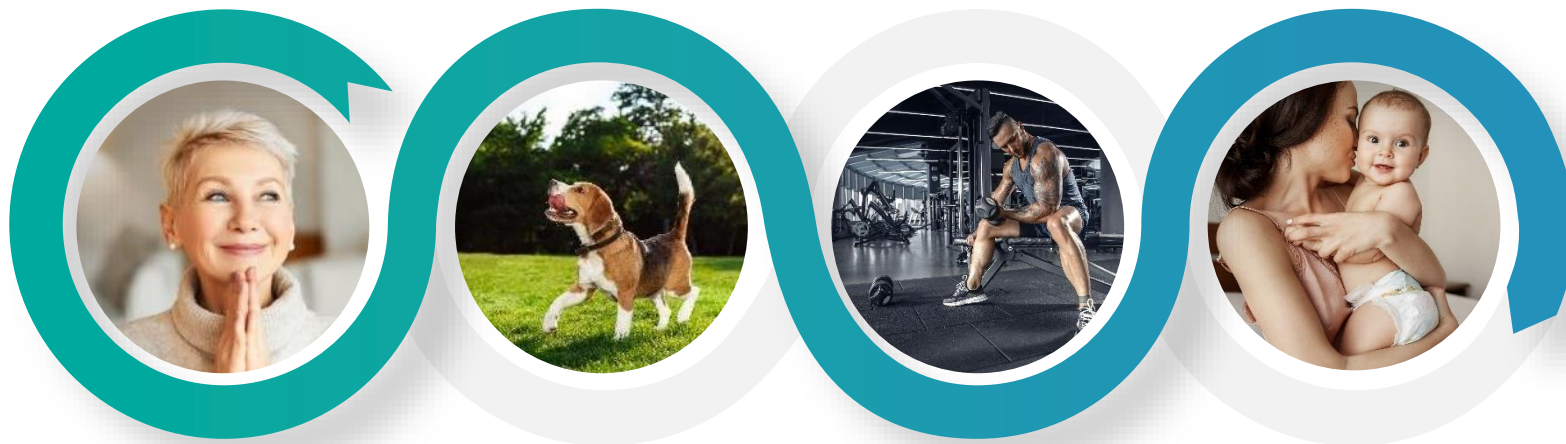
Huge market
potential



Impact
ingredients of
the future



Highly
profitable



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The Kitchen
FoodTech Hub

רשות החדשנות
Israel Innovation
Authority

