

ecovatec
SOLUTIONS INC

Products



ecovatec
SOLUTIONS INC

Ecova-Pure™ Processing



Innovative Green Technology:

- ✓ No high temperatures
- ✓ No high pressures
- ✓ No harmful chemicals or solvents
 - No denaturing or traces of toxins
- ✓ No bio-waste
- ✓ Innovative energy saving water removal methods



Product Mix



Proteins:

- Ecova-Pep10™
- Ecova-Pep20™
- Ecova-HDL™



Lipids:

- Ecova-PL20™
- Ecova-PL60™
- Ecova-Oil™
- Ecova-LPL™



Phosvitin

A multi-functional protein like no other:

- ✓ Nature's most phosphorylated protein (most phosphate groups)
- ✓ Strongest metal/mineral chelator in nature
 - 10 x better calcium binding than casein (milk protein)
 - 3 x better iron binding than lactoferrin (milk protein)
- ✓ Excellent antioxidant and antimicrobial (natural preservative)
- ✓ Excellent enzyme inhibition (anti-inflammatory, disease prevention)
- ✓ Low availability: no egg phosvitin producers in NA or EU
 - ✓ High cost: \$3,000,000 per kg (Sigma-Aldrich)
- ✓ Research on Alzheimer's, Parkinson's, Crohn's, MS, and Cancer (Potential Pharmaceutical Applications)



Phosvitin Phosphopeptide (PPP)

PPP: Taking Phosvitin to the Next Level

- ✓ Powers of phosvitin are made available to the human body
 - mineral bioavailability of calcium, iron, and zinc
 - facilitates collagen synthesis and bone formation
 - crucial mediator of biomineralization; reducing Osteoporosis
- ✓ Antiviral and antioxidant qualities (lipid and protein oxidation)
- ✓ Antimicrobial:
 - better against E.coli and Salmonella than lactoferrin
 - inhibitor of Staphylococcus Aureus
 - potential for clinical treatment of sepsis
- ✓ Inhibitor of melanogenesis and cancer



Description:

- A proprietary multifunctional egg yolk protein isolate hydrolyzed for optimum bioavailability
- Egg yolk protein scores a perfect 100 on the Amino Acid Scale, making it one of the most complete proteins in nature
- Dramatic increased uptake of calcium and iron
- 10 grams is equivalent to 13 eggs without the LDL

Applications:

- Additive: nutraceuticals, functional foods, and infant formula
- Bone, muscle, and teeth health products (anti-osteoporosis)
- Natural preservative for food, supplements, and cosmetics



High Density Lipoprotein (HDL)

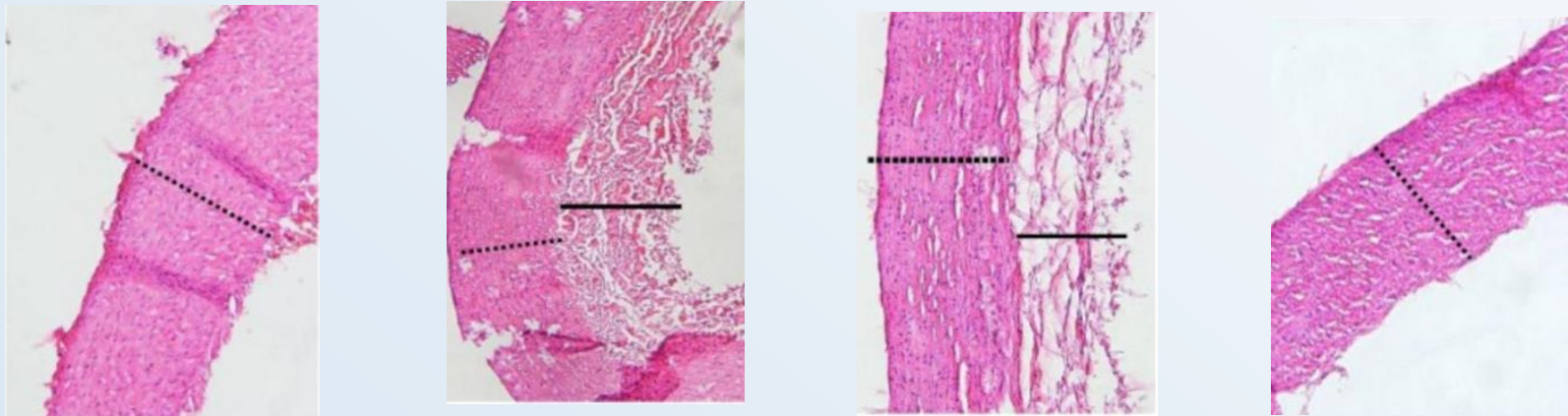
Overview:

- ✓ High-Density Lipo-proteins (HDL) are the “good cholesterol”
- ✓ HDL removes low-density lipoproteins (LDL- the “bad cholesterol”) and macrophages from blood and artery walls
- ✓ Recent advances in both animal studies and clinical trials indicate that increasing HDL levels could result in additional benefits to those achieved by reducing LDL levels using statins
- ✓ HDL has also demonstrated anti-adhesive properties, preventing the colonization of pathogens like E. coli and Salmonella typhimurium
- ✓ These HDL’s naturally occur in egg yolk
- ✓ Ecovatec’s proprietary processes remove most of the LDL



High Density Lipoprotein (HDL)

Study shows Egg Yolk HDL effective against CVD



NORMAL ARTERIAL
NO TREATMENT

ARTERIAL WITH PLAQUE

ARTERIAL WITH PLAQUE
TREATED WITH HDL

NORMAL ARTERIAL
TREATED WITH HDL

These findings indicates that treatment with egg yolk HDL increased serum HDL-C and decreased atherosclerotic plaque size in rabbits. Thus, egg yolk HDL can be considered as an antiatherosclerotic agent in treatment of patients with cardiovascular diseases.¹

Biological Functions:

- ✓ The primary function of HDL's is to remove excess cholesterol and carry the excess LDL to the liver to be metabolized into bile salt
- ✓ Stimulates natural HDL production
- ✓ Promotes endothelial generation of Nitric Oxide (invitro) and improves endothelial function (anti-inflammation in arteries)
- ✓ Antagonizing platelet activity and inactivating coagulation cascade

Applications:

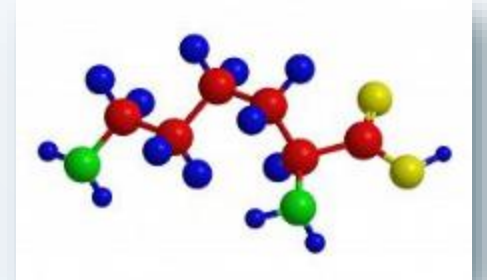
- ✓ Nutraceutical additive for heart health products
- ✓ Functional foods
- ✓ Sports Nutrition



Phospholipids

Egg Yolk Phospholipids:

- ✓ Key element of cell membranes and lipoproteins
- ✓ High levels of phosphatidylcholine = brain food
- ✓ Cleaner and more effective than plant and soy lecithin
- ✓ Cellular make up of egg phospholipids closest to humans'
- ✓ Contains essential polyunsaturated fatty acids (Omega 6 and 3)
- ✓ Additive to infant formula
 - phospholipids key to brain and guts growth in babies
- ✓ Food additive for short-term memory retention, delaying dementia
- ✓ Pharmaceutical applications: drug delivery (body absorbs drugs much more readily when delivered with phospholipids)



Phospholipids

Phosphatidylcholine Health Benefits

- ✓ Continually builds and rebuilds cell health
- ✓ Facilitates nervous system function and communication
- ✓ Helps maintain proper metabolic balance on the cellular level
- ✓ Controls the deposition of fat
- ✓ Develops the memory center of the brain in infants
- ✓ Facilitates brain function in adults
- ✓ Counteracts effects of age-related memory loss
- ✓ Creates positive effects on the intensity and duration of physical activity, as well as the ability to rebound rapidly
- ✓ Maintains liver health and shown to even reverse liver damage



Phospholipids

Phospholipid Applications

- Dietary supplements and food additives for:
 - nervous system and muscle support
 - memory retention and mind concentration
 - healthy liver function and recovery
- Additive to infant formula
 - phospholipids key to brain and guts growth
 - contains arachidonic acid (Omega 6)
- Cosmetic applications for high quality creams, serums, and lotions
- Pharmaceutical applications
 - drug delivery systems: topical, oral, and parenteral drugs



Ecova-PL20

Description

- Crude-grade egg yolk lecithin containing a minimum of 20% phospholipids
- Half of the protein solids extracted through our *Ecova-Pure*™ Processing
- Convenient dry powder: easy to use, ship, and store

Applications

- Excellent crude egg yolk PL used for further refining
- Nutritional food ingredient/additive
- Emulsifying and binding agent of other ingredients (ex. baked goods, ice-cream, and chocolate)



Ecova-PL60



Description

- Premium egg yolk phospholipid concentrate, containing a minimum of 60% phospholipids
- Contains high levels of phosphatidylcholine, which is proven to support brain, nervous system, liver, and heart health
- Frozen viscous paste



Applications

- Infant formula
- Premium nutritional food ingredient/additive
- Dietary supplements (gel caps).



Description

- Mixture of triglycerides, phospholipids, cholesterol, and fatty acids
- Contains a high quality cholesterol that is cherished for its ability to nourish, moisturize and repair skin and hair; while at the same time prevents bacteria growth
- Healing properties for burn wounds (faster healing with less scarring)

Applications

- Skin: moisturizer, anti-aging, anti-acne, relieves/restores chapped skin
- Hair: moisturizer, growth stimulant, strengthens, greater shine
- Medically effective treatment for:
 - burns, eczema, dermatitis, mouth & skin ulcers, ringworm, nasal vestibulitis, frostbite, and hemorrhoids.



Lyso-Lecithin

- Hydrolyzed egg lecithin has been proven to have many beneficial agricultural applications. LPE in particular is most beneficial:
- Lysophosphatidylethanolamine (LPE)
 - boosts the growth, ripening, coloring, & sugar content of fruits
 - prolongs shelf-life of fruits and vegetables
 - improves the immunity of plants
 - harmless/non-toxic: suitable for organic farming
- Emerging new market for natural plant food and pesticide
 - Ecovatec is currently conducting R&D on two products:
 - natural plant food: Ecova-Grow™
 - natural pesticide-fungicide: Ecova-Guard™



Ecova-LPL™ Research & Development



- Egg PL - Egg Oil solution has been proven to maximize plant yields by providing essential macro nutrients (Nitrogen and Phosphorus) to the plants while also demonstrating beneficial side-effects in fighting off fungus and insects. Several products and application methods are being developed (foliar Spray and direct plant root feed).
- Ecovatec is working closely with a dedicated group of scientists lead by the programs Director Dr. Deborah Henderson, PhD at the Institute for Sustainable Horticulture at Kwantlen Polytechnic University in Langley
- Ecovatec is also working in collaboration with an ACMPR licensed grower in the Fraser Valley with various applications of the products on Juvenile and Mature Marijuana Plants. The experiments are focusing on maximizing plant growth while testing the effectiveness of combating mildew and mites.



Technology Solutions for Healthy Living



ecovatec
SOLUTIONS INC