Applications of NANO “LPPSIM” and Mito Organelles™ “LPPSIMKE” combination of peptides
(liver + pancreas + placental peptides + gastric and intestinal mucosa + kidney + eye – retinal peptides)

Metabolic syndrome is a combination of disorders that multiply a person’s risk for heart disease, diabetes and stroke (American Heart Association)

Metabolic syndrome is a cluster of conditions — increased blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels — that occur together, increasing your risk of heart disease, stroke and diabetes (Mayo Clinic, USA)

Nanopeptide range of peptides “LPPSIM” as well as Mito Organelles™ “LPPSIMKE” can be effectively added as a complementary for the management of the following conditions:

- **Metabolic syndrome**
- **Diabetes types I and II**
- **Dyslipidemia** (hypercholesterolemia)
- **Obesity**
- **Atherosclerosis**

**5-in-1 Male and Female Fertility Formula** (testicular/ovarian peptides × 2 + liver + pituitary gland + placental peptides)

Can be recommended as an effective preventive measure against:

- **Aging**
- **Hormonal dysfunction**
- **Premature decline of sexual hormones production**

Other Benefits of 5-in-1 Male and Female Fertility Formula also may include:

- **Labiso and sexual function boost**
- **Works synergistically with conventional fertility treatment**
- **In combination with bone and synovia/cartilage peptides postoperates development of osteoporosis**
- **In combination with other products helps to manage obesity, osteopenia, and muscle bulk secondary to testosterone deficiency**
- **Alleviates depression, sleep and psychological disturbances, which occur due to hormonal imbalance**

**Clinical trials of the peptide preparations obtained from other organs including the prostate, the cerebral cortex, and the eye retina, have demonstrated beneficial effects reflected by the improvement of the conditions of respective organs. Based on data about the amino acid composition of the peptide preparations, novel principles of the design of biologically active short peptides possessing tissue-specific activities has been developed. Peptides specific for the thymus and peptides specific for the heart, liver, brain cortex, and pinal glands stimulate the in vitro growth and plating of respective organisms.**

- **Peptides and Ageing. Khavinson VKh. Neuro endocrinol Let. 2002; 23(3), 11-14.**

**Organ-specific peptides**

<table>
<thead>
<tr>
<th>Organ-specific peptides</th>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mito Organelles – Thymus</td>
<td>Hyperplasia, lymphoid, reticular, obesity, hypercholesterolemia</td>
</tr>
<tr>
<td>Mito Organelles – Spleen</td>
<td>Immune deficiency, chronic inflammation, diabetes, chronic fatigue syndrome, infection recovery after stress</td>
</tr>
<tr>
<td>Mito Organelles – Liver</td>
<td>Hyperlipidemia, nephritis, myocarditis, obesity, hypercholesterolemia</td>
</tr>
<tr>
<td>Mito Organelles – Pancreas</td>
<td>Chronic digestive disorders, diabetes mellitus, chronic pancreatitis, metabolic syndrome</td>
</tr>
<tr>
<td>Mito Organelles – Kidney</td>
<td>Chronic kidney disease, prevention and management of diabetic nephropathy, glomerulonephritis, azotemia, gout</td>
</tr>
<tr>
<td>Mito Organelles – Brain</td>
<td>Chronic neurodegeneration, prevention and management of Alzheimer, Huntington, Parkinson, multiple sclerosis, amyotrophic lateral sclerosis</td>
</tr>
<tr>
<td>Mito Organelles – Pituitary gland</td>
<td>Ineffective neurotransmitter disturbances of any type, all sorts of endocrine disorders, diabetes insipidus, primary sexual hormones deficiencies</td>
</tr>
<tr>
<td>Mito Organelles – Hypothalamus</td>
<td>Neuro-hypothalamic dysfunction, disorders of the endocrine systems, all sorts of endocrine disorders, metabolic disorders (obesity, AIDS), sexual disorders, stress</td>
</tr>
<tr>
<td>Mito Organelles – Pineal gland</td>
<td>Ineffective, sleep disturbances, stress, increases melatonin production by pineal gland, improves immunological parameters, produces antitumorogenic effects in different experimental models, stimulates antioxidant defense, and restores the reproductive function</td>
</tr>
<tr>
<td>Mito Organelles – CNS</td>
<td>Multiple sclerosis, amyotrophic lateral sclerosis, Parkinson’s disease, Alzheimer’s disease, meningitis and encephalitis, postoperative syndrome</td>
</tr>
<tr>
<td>Mito Organelles – Adrenal cortex</td>
<td>Adrenal hemorrhage, Addison’s disease, hypothyroidism, all sorts of endocrine disorders, chronic fatigue syndrome</td>
</tr>
<tr>
<td>Mito Organelles – Heart</td>
<td>Cardiological disease, post-treatment of cardiac events, stress treatment, cardiomyopathy, anti-ageing therapy</td>
</tr>
<tr>
<td>Mito Organelles – Testis</td>
<td>Degeneration of the joints and spine (osteoarthritis, arthritis, spondyloarthrosis)</td>
</tr>
<tr>
<td>Mito Organelles – Smokers Formula</td>
<td>Smokers lung tissue repair in chronic smokers and individuals exposed heavily to nicotine or pollution</td>
</tr>
<tr>
<td>Mito Organelles – Ostearthrosis Formula</td>
<td>A combination of liver and immune system specific peptides. Promotes regeneration of joints and carries the risk of knee joints damage</td>
</tr>
<tr>
<td>Mito Organelles – Gastro Intestinal Formula</td>
<td>A combination of liver and immune system specific peptides. Heals liver, heart, stomach, and intestinal mucosa in patients with gastrointestinal disorders</td>
</tr>
<tr>
<td>Mito Organelles – Liver Formula (Pineal gland + Liver + CNS)</td>
<td>Promotes melatonin expression, normalizes metabolism in liver, heart, liver, brain cortex, and pineal glands</td>
</tr>
<tr>
<td>Mito Organelles – Pineal gland Formula</td>
<td>Pineal gland,信用卡 with improper operation, retinal disorders, diabetes insipidus, premature menopause, andropause</td>
</tr>
<tr>
<td>Mito Organelles – Thyroid Formula</td>
<td>Thyroid disorders, myxoedema, obesity, hypercholesterolemia, obesity</td>
</tr>
<tr>
<td>Mito Organelles – Spleen Formula</td>
<td>Spleen disorders, myxoid, obesity, diabetes, obesity</td>
</tr>
<tr>
<td>Mito Organelles – Skin Formula</td>
<td>Skin disorders, myxoid, obesity, diabetes, obesity</td>
</tr>
<tr>
<td>Mito Organelles – Muscle Formula</td>
<td>Muscle disorders, myxoid, obesity, diabetes, obesity</td>
</tr>
<tr>
<td>Mito Organelles – Liver Formula (Liver + Cardio + CNS)</td>
<td>Fatty liver disease, chronic hepatitis, chronic digestive disorders, obesity, diabetes, obesity</td>
</tr>
<tr>
<td>Mito Organelles – Thyroid Formula</td>
<td>Hyperplasia, lymphoid, obesity, diabetes, obesity</td>
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</table>

**More than 100 types of cell combination types available from MO and NOP peptide preparations**

**THERAPEUTIC POTENTIALS OF HIGHLY EFFICIENT PEPTIDES**

**NOP (NANO ORGANO PEPTIDES) & MO (MITO ORGANELLES)**

**Organ-specific Specifics In Anti-ageing And Therapeutic Rejuvenation**

**An Innovative Fusion Of Mitochondrial Medicine And Cellular Therapy**

**AGEING AND DISEASE**

Cellular senescence is the irreversible loss of proliferative potential in somatic cells caused by a cellular contribution to age-related tissue degeneration. Predominance of senescent cells is detrimental for organism and is remarkably high in ageing tissues, especially on a background of diabetes, hypercholesterolemia, senile dementia and other age-related diseases. Senescent cell are found to produce increased amount of Reactive Oxygen Species (ROS) – free radicals, toxins and products of oxidative stress, which not only have a self-amplifying effect, but also induce senescence in normal tissue via paracrine effect.


**For further information, please contact:**

info@mf-plus.com

mf-plus.com
What is the content of Mito Organelles™ “Male/Female Revitalization”?

The latest generation of this product contains a combination of 9 organ-specific types of peptides, put together to create a perfect recipe to fight age-related degradation of organic and cellular function, provide effective cellular detoxification and elimination of free radicals, restore the functional capacity of main organs and systems involved in ageing process. The peptides specific to the function of the following organs/tissues are included:

- Central Nervous System
- Adrenal cortex
- Mesenchyme
- Heart
- Testis (Male Revitalization)
- Ovaries (Female Revitalization)

Mitochondrial Specific Peptides in Anti-Ageing and Therapeutic Revitalization: An Innovative Fusion of Mitochondrial Medicine and Cellular Therapy

Dr. Dmitry Dee, MD, PhD. (Germany)

Mitochondrial Specific Peptides in Anti-Ageing and Therapeutic Revitalization: An Innovative Fusion of Mitochondrial Medicine and Cellular Therapy

Dr. Dmitry Dee, MD, PhD. (Germany)

The main factor contributing to tissue ageing and degeneration is cellular senescence, a phenomenon characterized by cessation of cell proliferation as a response to continuous exogenous and endogenous stress and damage. Recently it has been shown that telomere shortening and DNA damage launches the cascade of signaling affecting the mitochondrial biogenesis, increasing the production of reactive oxygen species and promoting cell cycle arrest, hence is responsible for ageing process. Latest research is focused on attempts of mitochondrial DNA replacement or depletion of mitochondria from the cell. However, our approach to anti-ageing therapeutic strategy is based on restoring and modulating the mitochondrial activity by administering the preparation containing the combination of organ-specific mitochondrial exogenous peptides, which reduce the apoptosis rate and production of reactive oxygen species and enhance mitochondrial metabolism.

The study involved 17 volunteers in the age 58-72 years old with various pathology and age-related conditions. All of them received intramuscular injections of standardized rejuvenation-revitalization combination of mitochondrial specific peptides. Rejuvenation-revitalization protocol included administering of peptides twice weekly during 8 weeks. The levels of main reactive oxygen species were measured before and after treatment.

This study was conducted to investigate the effects of Mito Organelles™ “Male/female Revitalization”™ organ-specific mitochondrial peptides, on cell senescence, concentration of ROS, and thus establish the role of Mito Organelles in therapeutic rejuvenation and revitalization. Results of the study were presented and discussed on the International Anti-ageing Congress in Barcelona (2016).

Physiological importance and clinical benefits of Mito Organelles™ peptides

Mito Peptides are Retrograde Signaling Molecules (Lee CJ, Yen K, Cohen P. Humanin: a harbinger of mitochondrial-derived peptides? Trends Endocrinol Metab. 2013 May;24(5):222-8.)

“Mitochondria-derived peptides are recently identified retrograde signals, which are unique in that they are encoded within the mitochondrial genome sequences. Mitochondria-derived peptides are thought to act as endocrine as well as intracellular factors with several biological roles regulating cell survival and metabolism” (Lee C, Yen K, Cohen P. Humanin: a harbinger of mitochondrial-derived peptides? Trends Endocrinol Metab. 2013 May;24(5):222-8.)

Recent research has found certain mito-peptides to have neuroprotective effect against Alzheimer's disease as well as a key biomarker in diabetes (Voigt A., Jelinek HF. Humanin peptide levels in different age groups and in pre-diabetic individuals. (Voigt A., Jelinek HF. 2016).)

How do cellular NANO and Mito Organelles™ peptides work?

Every cell contains approximately one billion proteins. Different proteins have different functions and together they are responsible for normal functioning of the cell, tissue and entire organism as a whole. Some proteins carry structural functions in the cell while others function as enzymes catalyzing thousands of specific chemical reactions. The proteins within a cell are constantly degraded and resynthesized.

Based on 30 years of research, Prof. Günter Blobel, the German-American scientist formulated general principles for the sorting and targeting of proteins to particular cell compartments. Each protein carries in its structure the information needed to specify its proper location in the cell. Specific amino acid sequences (topogenic signals) determine how a protein will pass through biological membranes and become integrated into cellular metabolism. Günter Blobel has received a Nobel Prize in Physiology or Medicine in 1999 for the discovery that “proteins have intrinsic signals that govern their transport and localization in the cell”.

This discovery explains the mechanism of how organ-specific Nano and Mito Organelles peptides are integrated into the function of the specific target-organs.

The study of this generation of organ-specific peptides – Mito Organelles - has a multifactorial mechanism of action. It does not only provide a supply of structural material for the intracellular proteins’ synthesis and perform paracrine effect in the tissues, but also modulates cellular signaling system and restores functional activity of the aged cells to the level of the young ones.

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NADP previously known as Nano Cell Extract

Humanin protects from chemotherapy-toxicity related toxicity. The mitochondrial-derived peptide is encoded within the mitochondria and is secreted in response to cellular stress (A). Both endogenous and exogenous peptides protect a variety of organs such as brain and bone from oxidative stress, age-related damage, amyloid accumulation, and the toxic effects of chemotherapy (B). Through as of yet unknown mechanisms it delays tumor progression (Cohen P. New Role for the Mitochondrial Peptide Humanin: Protective Agent Against Chemotherapy-Induced Side Effects. J Natl Cancer Inst (2014) 106 (2): eju006)

A series of studies indicated that this bioactive peptide was shown to inhibit neuronal cell death induced by enforced expression of familial AD-related genes (Matsuoka M. Humanin: a defender against Alzheimer’s disease. Recent Pat CNS Drug Discov. 2009; 4(1):57-61.)

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Human in peptide levels in different age groups and in pre-diabetic individuals (Voigt A., Jelinek HF. 2016).

Administration of Mito Organelles™ Male/Female Revitalization twice per week over the duration of 8 weeks improves the cellular peptide levels to practically normal values.

Indications for Mito Organelles™ “Male/Female Revitalization”

Mito Organelles “Male/Female Revitalization” can be effectively added as a complementary for the management of the following conditions:

- General anti-ageing and rejuvenation
- Age-related diseases (i.e. ischemic heart disease, hypertension, hypercholesterolemia, dementia, memory loss, Alzheimer’s disease, osteoarthritis, cataract, diabetes type II)
- Symptoms associated with menopause or andropause

Contra-indications and precautions

- Pregnancy
- Breast-feeding
- Individual intolerance or severe allergies
- Uterine fibroids
- Breast mastopathy
- Acute severe illness or decompensation of existing chronic pathology
- Terminal medical condition
- Active malignancy

Protocol of administration

- Intramuscular, 1 vial 2-3 times per week
- Recommended total duration of treatment – 3-4 months