Homeovitality

Concise Materia Medica.

Practitioner information for use of the Homeovitality micro-DNA health care system.

The applications and uses of the Homeovitality system are described for practitioner use in the form of a Materia Medica. In contrast to homeopathic Materia Medicas, the utility of Homeovitality products cannot be determined by the homeopathic process of "proving" because they do not induce symptoms of disease in healthy subjects. Their uses are based entirely on the long established and scientifically proven biological properties (see references enclosed) of each gene that they have been designed to target.

Table of contents.

Introduction.

In 1997, Prof. Khuda-Bukhsh proposed that homeopathic substances have the capacity to interact with the genetic blueprint and deliver their benefits by increasing the expression of genes that synthesise health promoting proteins. Since then, work by Prof. Khuda-Bukhsh (2, and within Ref. 2) and other scientists (3, 4) have clearly demonstrated that homeopathic substances do have the capacity to do this.

The genetic blueprint contains many genes that promote health as well as many genes that cause disease. With a view to increasing the specificity and safety of gene targeting by homeopathic DNA, (because homeopathic DNA, which is of undefined sequence, induces various disease symptoms in healthy people) Drs. Jenaer and Marichal pioneered the use of highly diluted small DNA molecules with well-defined sequences to target immune response genes and fight infections. Their system, called Micro-Immunotherapy proved to be very effective. The Homeovitality system was developed along the same lines as Micro-Immunotherapy.

The Homeovitality system uses highly diluted DNA molecules with precise sequences to target genes that produce the body's natural proteins that have been proven to promote health as well as protect against and resolve many diseases. A description of the current range of products within the Homeovitality system, and how to use them most effectively and safely is detailed below.

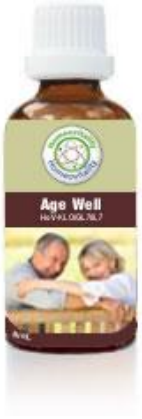
1. Khuda-Bukhsh AR: Potentized homeopathic drugs act through regulation of gene expression: a hypothesis to explain their mechanism and pathways of action in vivo. Com Ther Med. 1997: 5; 43.

2. Saha S K et al., Phenotypic evidence of ultra-highly diluted homeopathic remedies acting at gene expression level: a novel probe on experimental phage infectivity in bacteria. Zhong Xi Yi Jie He Xue Bao. 2012:10; 462.

3. Sunila et al., Dynamized preparations in cell culture. Evidence-Based Comp. Alt. Med., 2009: 6:257.

4. Frenkel et al., Cytotoxic effects of ultra-diluted remedies on breast cancer cells. Int J Oncol., 2010: 36:395, 2010.

Homeovitality Age Well.



Use for:- Longevity, anti-aging, skin wrinkling, stabilise and boost aged related decline in immunity and reduce age related muscle loss.

Homeovitality Age Well has been developed to target the KL, GH1 and IL-7 genes. It helps everyone to live a longer disease free life and slow down the aging process. It also helps to keep the cell mediated and humoral immune systems as active and stable as possible as people age to reduce the likelihood of disease development.

Homeovitality Age Well can be taken by everyone as they age on a permanent basis.

What do KL, GH1 and IL-7 do?

Since its discovery, scientists have shown that the KL gene, which synthesises the hormone Klotho, plays a very important role in slowing down the ageing process (1). Scientists have shown in an animal model that reduced activity of KL results in acceleration of the aging of many organs, and in particular, skin deterioration and wrinkling (2). These features are completely reversed by up-regulation of KL (3)

More recently, Dr. Witkowski and co-workers showed that reduced KL activity is associated with impaired immunity and increased susceptibility to development of auto-immunity (4). These scientists demonstrated that KL plays an important role in stabilising CD4+ helper T lymphocytes, cells that promote and control the activity of the immune system.

IL-7, on the other hand, is a natural cytokine that has the ability to stimulate the production of new immuno-competent cells in the bone marrow (5). As well as helping to boost the production of immune cells that kill viruses, T-cells, and others that neutralise toxins and fight infection, B cells, in the aged, it may also be of help to boost the production of new immune cells in those that suffer generalised immune deficiency.

Part of the aging process involves muscle loss. GH1 helps to reduce muscle loss and build up muscle by stimulating both the differentiation and proliferation of muscle precursor cells called myoblasts. These are the cells that form new muscle. It also enhances new muscle growth by increasing amino acid uptake in newly forming muscle cells as well as other tissues (6).

1. Rosenblatt & Kuro-O. Klotho, an aging suppressor gene. Horm. Res., 2007: 67;191.

2. Kuro-o M et al. Mutation of the mouse klotho gene leads to a syndrome resembling ageing. Nature. 1997:390;45.

3. Kurosu H et al. Suppression of aging in mice by the hormone Klotho. Science. 2005:309; 1829.

4. Witkowski et al., Klotho- a common link in physiological and rheumatoid arthritis-related aging of human CD4+ lymphocytes. J. Immunol., 2007: 178; 771.

5. http://www.cytheris.com/Science/interleukin7.php

6. http://en.wikipedia.org/wiki/Growth_hormone

Homeovitality Allergicare.

Use for:- Allergic asthma, chronic inflammation, psoriasis, inflammatory bowel diseases, rheumatoid arthritis, pain relief, depression, multiple sclerosis, allergic contact dermatitis, auto-immune disorders including hyperthyroidism and hypothyroidism, alopecia.

The Allergicare product has been prepared to help the immune system synthesise the immuno-regulatory protein IL-10. Scientists have shown that IL-10 helps to stop the development of an undesirable immune response that causes allergies such as asthma as well as reducing inflammation. IL-10 has also been shown to resolve psoriasis and may be helpful in other disorders such as inflammatory bowel disease and rheumatoid arthritis.

May be taken on a permanent basis or until symptoms subside.

What does IL-10 do?

The Homeovitality Allergicare product is designed to target the IL-10 gene. IL-10 serves many functions; it is mostly involved in regulation of immunity and inflammation.

It has very important anti-inflammatory properties that help resolve many disorders associated with chronic inflammation such as auto-immune diseases. Its anti-inflammatory properties also reduce pain.

Regarding allergic reactions that cause bronchial asthma and other allergies: Normally, the immune system makes antibodies called IgM, IgA and IgG. Sometimes, people make another type of antibody called IgE. Unlike IgG, IgA and IgM, which circulate in the blood and other body fluids, IgE binds to the surface of mast cells in the airways, nasal passages and other tissues such as the skin. An allergic reaction is caused by the binding of foreign substances, or allergens such as pollen to mast cell bound IgE. The binding of allergens to mast cells causes them to disrupt leading to the release of histamine and other substances that cause localised inflammation and breathing difficulties.

The switch from production of beneficial or normal antibody types, IgG, A and M to IgE production is regulated by IL-10. The Homeovitality Allergicare product is designed to support the activity of IL-10 so that the likelihood of IgE antibody formation, and hence development of an allergic reaction is reduced. It has also been recently discovered that IL-10 can even suppress the formation of mast cells (1). In fact, the positive effects of asthma drugs such as triamcinolone and montelukast are considered to be due to their ability to increase IL-10 production (2).

Dr. Asadullah and colleagues (3) at the Humboldt University in Germany have demonstrated that susceptibility to development of psoriasis is also associated with reduced IL-10 activity. So, targeting the IL-10 gene is helpful in controlling psoriasis. Quoting from their paper,

"Our investigations demonstrate the major importance of IL-10 in psoriasis and show that IL-10 administration represents a new therapeutic approach." The same authors pointed out the usefulness of IL-10 in the treatment of other diseases such as multiple sclerosis and rheumatoid arthritis.

IL-10 also has important pain relief properties and has been shown to counteract depression (4).

One of the most common forms of alopecia which affects both men and women is due to an auto-immune process which attacks hair follicles. The immune suppressive and anti-inflammatory properties of IL-10 are recognised as useful treatments for this disorder (5,6)

1. Federation of American Societies for Experimental Biology. "Cellular on and off switch for allergies and asthma discovered." ScienceDaily, 30 Apr. 2009.

2. Stelmach I et al., A randomized, double-blind trial of the effect of glucocorticoid, antileukotriene and beta-agonist treatment on IL-10 serum levels in children with asthma. Clin. Exp. Allergy, 2002: 32; 264.

3. Asadullah A et al., IL-10 Is a key cytokine in psoriasis. Proof of principle by IL-10 therapy: a new therapeutic approach. J. Clin. Invest. 1998: 101; 783.

4. Roque S et al. Interleukin-10: A Key Cytokine in Depression? Cardiovascular Psychiatry and Neurol. 2009, Article ID 187894, doi:10.1155/2009/187894.

5. http://www.hindawi.com/journals/mi/2010/928030/

6. http://www.hairlosstalk.com/hair-loss-news/article318.php

Homeovitality Bacteviro Plus.

Use for:- Combating all infections and boosting cell mediated immunity, antibody production and skin protection.

Homeovitality Bacteviro plus has been developed to boost and support a series of important immune systems that protect the body, inside and out, from infectious agents such as bacteria and viruses and to help overcome infectious diseases. Homeovitality Bacteviro plus has been designed to target the genes DEFB1, IL-7 and OX40.

May be administered as required.

What do these genes do?

DEFB1.

All external and internal body surfaces are continuously exposed to infectious agents such as harmful bacteria, fungi and viruses. The DEFB1 gene produces a very important non-adaptive microbicidal protein or peptide that forms the body's first line of defense against infectious agents that the adaptive immune systems cannot reach. This anti-bacterial peptide is produced on the surface of all body tissues including skin and reproductive organs (1) to protect against infections.

It is also found in breast milk to provide another layer of protection for infants (2).

Reduced activity of DEFB1 leads to increased susceptibility to many different types of infection.

IL-7.

Homeovitality Bacteviro plus has been formulated to also target the IL-7 gene.

There are two basic types of adaptive immunity, referred to as B cell mediated and T cell mediated immunity. On exposure to an infectious agent, B cells make soluble antibodies that circulate in the blood and body fluids to help kill bacteria and neutralise viruses and toxins. For B cells to make antibodies most effectively they need help from a type of T cell called a T helper cell. There is another type of T cell called a cytotoxic T cell. Cytotoxic T cells play an important role in limiting

the infectivity of viruses by killing the body's cells that have been infected by them. Both T cells and B cells are produced in the bone marrow basically from the same precursor cells.

IL-7 is a natural cytokine that has the ability to stimulate the production of new immuno-competent cells, both T cells and B cells in the bone marrow. Thus, IL-7 boosts immunity by making more B cells and T cells so that the body has a greater number of immune-competent cells to fight different types of infectious agents. It may also be of help to boost the production of new immune cells in those that suffer from immune deficiency as a consequence of infection by the AIDS virus (3). It is also helpful for increasing the benefits of immunisation.

OX40.

When T cells are recruited to mount an immune response against infectious agents such as viruses, a few days after infection, helper T cells begin to die more quickly. As a result, the immune response is diminished. Also, as part of the immune response a type of T cell called a memory T cell is formed. Memory T cells can fight the infectious agent much more effectively when it is next encountered. OX40, which is expressed in activated T cells a few days after infection, reduces the death rate of T helper cells so that the immune response is longer lasting (4). It also supports proliferation of memory T cells so that immune responsiveness to an infective agent is more rapid when it is next encountered.

1. Jia H P et al., Abundant human beta-defensin-1 expression in milk and mammary gland epithelium**.** J. Pediat. 2001:138; 109.

2. Valore E V et al., Human beta-defensin-1: an antimicrobial peptide of urogenital tissues. J. Clin. Invest. 1998:101; 1633.

3. http://www.cytheris.com/Science/interleukin7.php

4. http://www.ncbi.nlm.nih.gov/pubmed/11567634

Homeovitality Cancer Care.

Use for:- Cancer, tumour suppression, inhibiting spread of cancer cells (metastasis).

For a cell to become cancerous it must first form a tumour and then develop the ability for some of the tumour cells to spread to other parts of the body. Homeovitality Cancer Care has been developed to target the KEAP1 and TIP30 genes to arrest tumour growth and stop tumour cells from spreading.

May be taken on a permanent basis after diagnosis.

What do KEAP1 and TIP30 do?

KEAP1 is a recently discovered master tumour suppressor gene. Scientists at the M. D. Anderson's Department of Molecular and Cellular Oncology discovered how it works (1). It suppresses tumour growth by destruction of oncoproteins, proteins that promote tumour growth. It also inhibits tumour invasion or spreading and helps to cut off a tumour's blood supply so that it its growth is arrested. The same scientists found that under-expression of KEAP1 alone resulted in poor survival among many different types of cancer patients.

TIP30 on the other hand has been shown to play a very important role in inhibition of the spread of cancer cells, metastasis (2). Insufficient activity of TIP30 permits cancer cells to spread to other parts of the body. Therefore, up-regulation of TIP30 plays an important role in reducing the spread of cancer cells.

1. University of Texas M. D. Anderson Cancer Center (2009, October 10). New Tumor Suppressor Destroys Key Link In Cancer Chain. *ScienceDaily*. Retrieved April 13, 2012.

2. Tong X, et al. Decreased TIP30 expression promotes tumor metastasis in lung cancer**.** *Am. J. Path*. 2009: 174; 1931.

Homeovitality Cholestecare.

Use for:- Controlling cholesterol levels naturally and promoting heart health.

Cholestecare is designed to target the CYP27A1, KL and COQ4 genes. CYP27A1 plays an important role in regulating blood cholesterol levels. Cholesterol is continually being synthesised in the body. The enzyme CYP27A1 controls the level of cholesterol in the blood by converting it into bile salts so it can be passed out as a constituent of bile. KL contributes to heart health by helping to lower blood pressure. COQ4 promotes heart health by supporting the production of the enzyme CoQ10. This enzyme plays an important role in energy supply and heart function.

What do CYP27A1, KL and COQ4 do?

CYP27A1 gene is a member of the cytochrome P450 gene family. The CYP27A1 gene provides instructions for producing an enzyme called sterol 27-hydroxylase. This enzyme is located in liver mitochondria, where it is involved in the pathway that breaks down cholesterol to form acids used to digest fats (bile salts). The formation of bile acids from cholesterol is the body's main pathway for cholesterol removal. Sterol 27-hydroxylase plays a key role in maintaining normal cholesterol levels in the body (1). The enzyme sterol 27-hydroxylase also plays an important role in suppression of atherogenesis, the hardening of arteries (2).

KL, the gene that encodes KLOTHO, is one of the most important health promoting genes ever discovered. It was first characterised by Dr. Matsumara and his colleagues over a decade ago (3).

Since its discovery, scientists have confirmed that the KL gene plays a very important role in slowing down the ageing process, helping to keep the heart and kidneys healthy and protecting against the development of many diseases (see references 4, 5 and 6). It also plays a very important role in the control of blood pressure (7).

The gene COQ4 encodes a protein that is responsible for organising a multienzyme complex for the synthesis of CoenzymeQ10. It has been shown to be an essential requirement for the production of biological energy in all forms of life.

In 2008, Casarin and co-workers first discovered the same vital energy producing gene in humans (8). Since then, other scientists have demonstrated that reduced expression of the COQ4 gene

leads to partial CoenzymeQ10 deficiency, and subsequently, increased susceptibility to development of many disorders (9) as well as heart disease.

Unfortunately, statin drugs impair CoQ10 synthesis. They do this by blocking the conversion of the CoenzymeQ10 precursor hydroxymethylglutarate to cholesterol and then subsequently to CoenzymeQ10 (10). Therefore, CoenzymeQ10 is of great benefit to all those who are on long term statin therapy.

1. http://ghr.nlm.nih.gov/gene/CYP27A1 1.

2. Hansson, M et al., Regulation of sterol 27-hydroxylase in human monocyte-derived macrophages: up-regulation by transforming growth factor beta1. Biochim Biophys Acta. 1687; 44, 2005.

3. Matsumura et al., Identification of the human klotho gene and its two transcripts encoding membrane and secreted klotho protein. Biochem. Biophys. Res. Commun., 242:626, 1998.

4. Kuro-o et al., Mutation of the mouse klotho gene leads to a syndrome resembling ageing. Nature, 390:457, 1997.

5. Arking et al., Association between a functional variant of the KLOTHO gene and high-density lipoprotein cholesterol, blood pressure, stroke, and longevity. Circ. Res., 96:41, 2005.

6. Rosenblatt & Kuro-O. Klotho, an aging suppressor gene. Horm. Res., 67:191, 2007.

7. www.sciencedaily.com/releases/2009/08/090819164331.htm

8. Casarin et al, Functional characterization of human COQ4, a gene required for Coenzyme Q10 biosynthesis. Biochem. Biophys. Res.Commun. 372:35, 2008.

9. Salviati et al., Haploinsufficiency of COQ4 causes coenzyme Q10 deficiency. J. Med. Genet. 49:187, 2012. doi: 10.1136/jmedgenet-2011-100394.

10. Levy and Kohlhaas., Considerations for supplementing with coenzyme Q10 during statin therapy. Ann Pharmacother. 40:290, 2006.

Homeovitality Depress Aid.

Use for:- Depression.

Homeovitality Depress Aid has been developed to help sufferers of depression. It is designed to target the SLC6A15 gene.

It may be taken on a long term basis or until depression is no longer felt.

What does SLC6A15 do?

For many years, scientists have searched for genes that are involved in depression. Recently, scientists from Germany's Max Planck Institute of Psychiatry made the exciting discovery that the gene SLC6A15 was linked to depression.

They found that expression of the SLC6A15 gene, which regulates the brain's excitatory transmitter glutamate, was reduced in depressed people (1). Therefore, the Homeovitality Depress Aid product was developed to target this important gene in sufferers of depression.

1. Kohli M A et al., The neuronal transporter gene SLC6A15 confers risk to major depression. Neuron. 2011: 70; 252.

Homeovitality Diabetes II.

Use for:- Type 2 diabetes, uterine fibroids, atherosclerosis, inflammation of the cardiovascular system, hyperlipidemia, Alzheimer's disease, Parkinsons disease and cancer.

Homeovitality Diabetes II has been developed to target the PPARG gene and help resolve Type 2 diabetes because reduced activity of the PPARG gene plays a key role in development and progression of Type 2 diabetes. It also plays an important role in suppression of cardiovascular disease and atherosclerosis as well as in the treatment of fibroids, cancer and other diseases.

What does PPARG do?

PPARG, peroxisome proliferator-activated receptor gamma is involved in the activation of many other genes that are involved in glucose and lipid metabolism as well as promoting health.

PPARG plays an important role in resolving Type 2 diabetes because activation of PPARG causes insulin sensitization and enhances glucose metabolism. Some drugs, such as pioglitazone used to treat Type 2 diabetes actually interact chemically with PPARG to help it work better, however such drugs have serious side effects.

More recently, PPARG has been recognized as playing a fundamentally important role in the immune response through its ability to inhibit the expression of inflammatory cytokines and to direct the differentiation of immune cells toward anti-inflammatory phenotypes. These anti-inflammatory properties reduce heart disease.

Increasing the expression of PPARG has other important benefits because it inhibits the proliferation of malignant cells, including those derived from liposarcoma as well as cancers of the breast, prostate, colon, lung, pancreas, bladder, stomach and brain.

Increased activity of PPARG has also shown to help sufferers of Parkinson disease and Alzheimer disease. For review of all these important properties of PPARG see Ref. 1.

Upregulation of PPARG is also helpful in treatment of (leiomyomas) fibroids (2).

1. Tyagi S et al., The peroxisome proliferator-activated receptor: A family of nuclear receptors role in various diseases. J. Adv. Pharm. Technol. Res. 2011:2; 236.

2. Nam D H et al., Growth inhibition and apoptosis induced in human leiomyoma cells by treatment with the PPAR gamma ligand ciglitizone. Mol. Hum. Reprod.. 2007: 13; 829.

Homeovitality DNArep.

User for:- Cancer, DNA repair, protection against cancer

HoV-BRC1 has been designed to target the BRCA1 gene. This gene plays an important role in the repair of many different types of DNA damage. Decreased BRCA1 activity is associated with increased susceptibility to development of cancers such as breast and ovary and others including fallopian tube, pancreatic and male breast cancer. Decreased BRCA1 expression is associated with tumour progression.

What does the BRCA1 gene do?

The BRCA1 gene makes a protein that plays an important role in repairing damaged DNA. DNA is being damaged continuously in every single cell, therefore adequate function of BRCA1 is required to ensure effective repair of DNA.

The BRCA1 gene also belongs to a class of genes known as tumour suppressor genes. Like many other tumour suppressors, the protein produced from the BRCA1 gene helps prevent cells from growing and dividing too rapidly or in an uncontrolled way.

Breast cancer and other cancers may have a familial background. Such breast cancer cases often have a heritable form of BRCA1 that is low in activity. Non-familial or sporadic forms of breast and other cancers on the other hand, have been found to have reduced expression of the BRCA1 gene (1, 2). More importantly, scientists have shown that the degree of reduced gene expression of BRCA1 is associated with tumour progression and aggressiveness (2).

By helping repair DNA, BRCA1 plays a role in maintaining the stability of a cell's genetic information. Therefore increasing BRCA1 expression will help to stabilise the structure of DNA as well as reduce the likelihood of development of many cancers and slow down their progression.

1. Zheng et al., Reduction of BRCA1 expression in sporadic ovarian cancer. Gynecol Oncol. 2000, 76, 294.

2. Thompson et al., Decreased expression of BRCA1 accelerates growth and is often present during sporadic breast cancer progression. Nat Genet 1995, 9, 444.

Homeovitality Eczeban.

Use for:- This remedy has been designed to target the genes FGN and IL-10 for treatment of atopic eczema and dermatitis.

What do the genes FGN and IL-10 do?

In recent years, research has revealed important insights into the pathogenesis of the most common form of dermatitis, atopic (allergic) eczema, also known as atopic dermatitis. It is now understood that genes that control skin integrity (FGN) and immune responsiveness (IL-10) play a critical role in development of atopic eczema.

The gene FGN encodes a protein called filaggrin. Filaggrin binds to keratin intermediate filaments in the skin to form a protective waterproof layer on the surface of the skin that keeps out a wide range of substances that can be recognised by the immune system. Reduced activity of filaggrin results in the formation of holes in the skin, through which environmental substances such as pollens can readily penetrate, making it dry and often scaly (1).

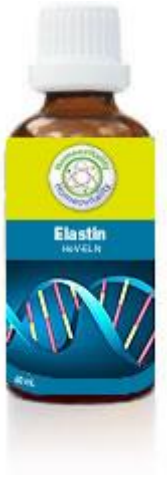
Once environmental substances have penetrated the skin, those people whose immune system is able to produce an allergic-type of immune response develop an abnormal type of antibody against these environmental substances called IgE. The interaction between environmental substances and their corresponding IgE antibodies in the skin leads to development of a local inflammatory reaction causing atopic or allergic eczema/dermatitis. The protein produced by the gene IL-10 has been shown to suppress the production of IgE antibodies and inflammation (2).

Therefore, now that the two most important factors that are involved in development of atopic eczema/dermatitis are known, the remedy Eczeban has been developed to target and support both the genes FGN and IL-10.

1. http://eczema.org.au/?page_id=575

2. Federation of American Societies for Experimental Biology. "Cellular on and off switch for allergies and asthma discovered." ScienceDa ily, 30 Apr. 2009.

Homeovitality Elastin.



Use for:- Slowing down skin ageing, reducing wrinkling of the skin, reducing susceptibility to atherosclerotic heart disease and optimising lung function as we age.

HoV-ELN has been developed to target the ELN gene. ELN synthesises elastin, the most important protein that keeps skin, lungs and arteries pliable, slowing down skin ageing and wrinkling and maintaining plasticity of arteries and lungs.

What does the ELN gene do?

Elastin is an essential component of various human tissues that include the skin, lung and arteries. Elastin provides these elastic tissues with the ability to stretch and recoil as required. Reduced plasticity of the skin, due to lack of elastin, leads to premature skin ageing and wrinkling. Reduced plasticity of the artery walls, due to reduced elastin production leads to atherosclerosis and heart disease.

Elastin is synthesised from the precursor protein tropoelastin. Tropoelastin is the fundamental building block of all elastin. Tropoelastin, and hence elastin, is synthesised exclusively by the ELN gene. It has been discovered that the expression of the ELN gene mainly occurs before birth and in the first few years of life when the cells of elastic tissues produce the elastin required for the body to develop. From a young age, expression of theELN gene gradually decreases such that by the time middle-age is reached, only a very small amounts of elastin is produced.

Throughout life, we depend very much on the elastin that was in fact laid down in our younger years. As that deteriorates, tissue plasticity declines, signalling the onset of ageing of the skin and dysfunction of the lungs and arteries, the latter leading to atherosclerotic disease, increased susceptibility to aneurisms and inability to control blood pressure effectively. For review of above, see Ref. 1.

The significance of elastin replacement in an adult healthcare setting cannot be overemphasised as many Patents have been applied for and granted for this very purpose.

1. http://www.elastagen.com/media/The_Science_of_Elastin.pdf

Homeovitality Endocare.

Use for:- Suppression of and protection against many diseases that result from chronic inflammation, such as atherosclerosis, heart disease, diabetes and rheumatoid arthritis as well as slowing down the aging process. It also acts as a potent tumour suppressor.

Endocare has been developed to suppress endothelial cell mediated chronic inflammation and combat cancer by targeting the SIRT6 gene.

What does SIRT6 do?

Chronic inflammation predisposes to development of many serious diseases.

There are a number of ways in which inflammation can be mediated. It can be brought about by excessive immune responsiveness. This type of inflammation can be controlled by promoting the production of the immune suppressant, IL-10. This forms the basis of the Allergicare Micro-DNA therapy preparation.

Chronic inflammation may also be driven by dysfunctional epithelial cells.

Endothelial cells (the endothelium) line the inner surface of the vessels of the blood system, including arteries, veins and capillaries and the lymphatic system. The endothelium plays a very important role on controlling optimum passage of many substances such as hormones and immune cells into surrounding tissues, as needed. When the function of endothelial cells is impaired, they release a range of pro-inflammatory substances that cause great damage to themselves and surrounding tissues. The result of endothelial damage leads to development of many disorders associated with local and systemic inflammation such as heart disease, atherosclerosis, diabetes, rheumatoid arthritis, abnormal growth of blood vessels (angiogenesis), cancer and rapid ageing (1-3).

The release of inflammatory mediators from dysfunctional endothelial cells has been shown to be controlled by the recently discovered histone deacetylase SIRT6. Studies have shown that decreased expression of SIRT6 in endothelial cells leads to serious chronic inflammation. Inflammation resulting from dysfunctional endothelial cells is reduced when SIRT6 activity is increased, for review see Ref. 4.

Dr. Sebastian and co-workers (5) have shown that SIRT6 also has important tumour suppressor properties, helping to suppress the growth of cancer cells.

1. Cai. Endothelial dysfunction in cardiovascular diseases: the role of oxidant stress. Circulation Research. (2000); 87, 840.

2. Szekanecz. Mechanisms of disease: angiogenesis in inflammatory diseases. Nature Clinical Practice Rheumatology. (2007); 3,635.

3. Sprague. Inflammatory cytokines in vascular dysfunction and vascular disease. Biochemical Pharmacology. (2009); 78, 539.

4. Lappas. Anti-inflammatory properties of sirtuin 6 in human umbilical vein endothelial cells. Mediators Inflamm. doi: 10.1155/2012/597514.

5. Sebastián . The histone deacetylase SIRT6 is a tumor suppressor that controls cancer metabolism. Cell. (2012) 151,1185.

Homeovitality Fertility Aid for her.

Use for:- Increasing fertility in females, relief of all disorders in which fluid secretions are sub-optimal. These include conditions such as dry eye disease, Sjogren's disease and multi-organ inflammatory disorders associated with membrane dryness and age related dryness of skin and organs.

Homeovitality Fertility Aid for her has been designed to target the MRP7 gene. Homeovitality Fertility Aid for her has been developed to promote fertility by coordinating the sequence of events prior to the final meeting of egg and sperm. MRP7 directed coordination of these events holds the key to successful fertilisation. MRP7 also helps to maintain optimum conditions for all other body secretions.

May be administered either on a long term or short term basis depending on the condition being treated.

What does MRP7 do?

The MRP7 gene, also known as CFTR, encodes a membrane bound protein that belongs to the ATP-binding cassette transporter family. One of its main functions is to control the passage of water and salts through cell membranes in order to regulate the composition and consistency of fluids within and surrounding cells. Lack of expression of a functional MRP7 gene product causes the fatal disease cystic fibrosis, partly because of increased viscosity of mucus in the lungs leading to infections and respiratory malfunction.

Reduced expression of MRP7 in the female reproductive tract results in mucus hyper-viscosity. As a result, deposited sperms cannot penetrate the viscous environment and cannot reach their ultimate destination, the egg.

The product of the MRP7 gene also has another important function. It promotes the release of bicarbonate ions from cell membranes. It is now known that the bicarbonate ion plays a critical role in activation of the sperms when they are deposited in the female reproductive tract. This activation process is called sperm capacitation (1). Therefore, promotion of MRP7 expression

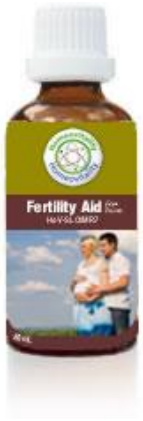
ensures optimum water and salt conditions in the female reproductive tract so that sperms can complete their journey and fertilise an egg.

Expression of MRP7 plays an important role in many other conditions such as dry eye disease, Sjogrens disease and organ dryness. For a comprehensive review, see Ref. 2.

1. http://www.pnas.org/content/106/3/667.full

2. Chan H C et al., The cystic fibrosis transmembrane conductance regulator (MRP7) in reproductive health and disease. J. Physiol. 2009: 587; 2187.

Homeovitality Fertility Aid for him.



Use for:- Increasing male fertility and virility.

Homeovitality Fertility Aid for him has been developed to help men to deposit more healthy sperms into the female reproductive tract by targeting the genes SLO and MRP7.

What do SLO and MRP7 do?

MRP7 is expressed in the reproductive organs of both males and females. It has many functions in human reproduction.

In males, it is expressed in the testes and other parts of the male reproductive system. Dr. Xu and colleagues have demonstrated that decreased expression of MRP7 results in impairment of sperm formation (1).

MRP7 also plays a critical role in maintaining correct extracellular fluid viscosity so that sperms can effectively navigate the male reproductive system. For a review, see Ref.2.

The SLO gene (also known as KCNMA1) encodes a protein which operates a Maxi-K channel to control smooth muscle tone and neuronal excitability. To increase expression of SLO, DNA that encodes the K-Max channel has already been successfully injected into the male reproductive organ, see Ref. 3. As indicated, the product of the SLO gene relaxes smooth muscle in the artery walls of the reproductive organ so that more blood can enter, resulting in an erection. Other products such as Viagra also help by relaxing the smooth muscle of the reproductive organ's arteries in a different way.

1. Xu WM et al., Defective CFTR-dependent creb activation results in impaired spermatogenesis and azoospermia. PLoS ONE2011: 6: e19120. doi:10.1371/journal.pone.0019120

2. Chan H C et al., The cystic fibrosis transmembrane conductance regulator (MRP7) in reproductive health and disease. J. Physiol. 2009: 587; 2187.

3. Kendirci M et al., Gene therapy for erectile dysfunction: fact or fiction? European Urol. 2006; 50; 1208.

Homeovitality Fibrocare.

Use for:- Homeovitality Fibrocare has been developed specifically to combat fibroids (leiomyomas) that develop and grow within and around the uterus.

Homeovitality Fibrocare has been designed to target the genes, KEAP1, DEFB1 and PPARG. KEAP1 suppresses tumour growth. PPARG has been shown to kill fibroids cells and DEFB1 provides protection against infection.

May be taken safely on a long term basis.

What do the genes KEAP1, PPARG and DEFB1 do?

KEAP1 is a recently discovered master tumour suppressor gene. Scientists at the M. D. Anderson's Department of Molecular and Cellular Oncology discovered how it works (1). It suppresses tumour growth by destruction of oncoproteins, proteins that promote tumour growth. It also inhibits tumour invasion or spreading and helps to cut off a tumour's blood supply so that it its growth is arrested.

Dr. Nam and colleagues (2) have demonstrated that up-regulation of PPARG is helpful in treatment of (leiomyomas) fibroids. They have discovered that stabilisation of the activity of PPARG slows down the growth of fibroids. It also triggers a self-destruct mechanism which causes fibroid cells to kill themselves.

When fibroid cells are killed by the action of PPARG for example, the uterus and uro-genital tract become more prone to infection. The DEFB1 gene produces a small natural anti-bacterial peptide (3) that protects all tissue surfaces from infection. DEFB1 is targeted to help reduce the risk of intra-uterine infection when fibroid cell numbers are diminished.

1. University of Texas M. D. Anderson Cancer Center (2009, October 10). New Tumor Suppressor Destroys Key Link In Cancer Chain. ScienceDaily. Retrieved April 13, 2012.

2. Nam D H et al., Growth inhibition and apoptosis induced in human leiomyoma cells by treatment with the PPAR gamma ligand ciglitizone. Mol. Hum. Reprod.. 2007: 13; 829.

3. Valore E V et al., Human beta-defensin-1: an antimicrobial peptide of urogenital tissues. J. Clin. Invest. 1998:101; 1633.

Homeovitality Fungdel.

Use for:- Fungal and bacterial infections

HoV-CAR9 has been designed to target the CARD 9 gene. The protein encoded by CARD 9 plays an important role in helping neutrophils to engulf and kill fungal and other infectious agents and their spores.

What does the Card 9 gene do?

There are many fungal infective agents such as Candida (C. albicans) that cause a wide range of chronic forms of ill-health. One type of white blood cell, the neutrophil, plays a vital role in engulfing and killing of many bacteria as well as fungi such as C. Albicans, the thrush causing fungus. C. albicans exists in a number of different forms. Neutrophils are able to capture and kill all of these different forms (1).

Recently, scientists have found that a protein encoded by the CARD 9 gene called caspase recruitment domain-containing protein 9, an adaptor molecule in the cytosol of neutrophils, is not only required to help them kill fungal infective agents, but also to help other immuno-competent cells to mount an immune responses against fungi and many other infectious agents. They have also shown that reduced levels of the CARD 9 gene product decrease the ability of neutrophils to kill fungi such as C. albicans and other infectious agents (2).

1. Urban et al., Neutrophil extracellular traps capture and kill Candida albicans yeast and hyphal forms. Cell Microbiol. 2006, 8, 668.

2. Drewniak et al., Invasive fungal infection and impaired neutrophil killing in human CARD9 deficiency.Blood. 2013, 121, 2385. doi: 10.1182/blood-2012-08-450551.

Homeovitality Genache.

Use for:- This remedy has been developed to target the combination of genes IL-10, SIRT6 and KCNK18 to help relieve aches and pains.

What do the genes IL-10, SIRT6 and KCNK18 do?

Increased excitability of neural signalling plays a major role in pain intensity. The sensitivity of neural signalling, and hence the extent to which pain is felt, is controlled by a protein TREK encoded by the gene KCNK18 (1). Reduced activity of TRESK (as a result of decreased expression of the KCNK18 gene) results in increased pain intensity.

There are a number of factors such as inflammation and trauma that initiate and increase the intensity of acute and chronic pain. Recent studies have shown that inflammation and trauma increase sensitivity to pain by decreasing the expression of TRESK, the product of the KCNK18 gene (2, 3) Therefore, increasing expression of genes that encode proteins that suppress inflammation (IL-10 and SIRT6) as well as TRESK (KCNK18) hve an important role in pain relief.

IL-10 is well recognised as an anti-inflammatory agent that has also been proven to suppress pain as well as consequential depression (4), particularly in response to disorders that are associated with auto-immune processes and trauma.

Other important sources of inflammatory mediators is endothelial cells. These cells line the walls of blood vessels, for example. When they are damaged, they release potent inflammatory agents. The release of inflammatory mediators from dysfunctional endothelial cells is controlled by a protein synthesised by the gene SIRT6. Studies have shown that decreased expression of SIRT6 leads to serious chronic inflammation. Inflammation resulting from dysfunctional endothelial cells is reduced when SIRT6 activity is increased, for review see Ref. 5.

Therefore, HoV-IL10/ST6/KC18 has been developed to provide relief to those suffering many different types of pain.

1. http://en.wikipedia.org/wiki/KCNK18

2. Tulleuda et al., TRESK channel contribution to nociceptive sensory neurons excitability: modulation by nerve injury. Mol Pain. 2011; 7, 30. doi: **10.1186/1744-8069-7-30**

3. Marsh et al., Leak K^+ channel mRNAs in dorsal root ganglia: Relation to inflammation and spontaneous pain behaviour. Mol. Cell. Neuroscience. 2012; 49, 375.

4. Roque et al., Interleukin-10: A key cytokine in depression? Cardiovascular Psychiatry and Neurol. 2009, Article ID 187894, doi:10.1155/2009/187894.

5. Lappas. Anti-inflammatory properties of sirtuin 6 in human umbilical vein endothelial cells. Mediators Inflamm. doi: 10.1155/2012/597514.

Homeovitality Glutaborn.

Use for:- Helping to improve all forms of ill-health by increasing anti-oxidant activity and removing a wide range of toxins.

Glutaborn, HoV-GT1 has been designed to target the gene GSTM1 to improve heath by increasing glutathione levels. Glutathione is one of the body's most important anti-oxidants and anti-toxins.

Glutaborn can be taken by everyone on a permanent basis.

What does GSTM1 do?

Glutathione is one of the body's most powerful anti-oxidants. It also plays a significant role in recycling other important anti-oxidants such as vitamin C and vitamin E. Glutathione also plays a major role in detoxification by chemically altering toxins so that they can be removed safely from the body. Unfortunately, many factors that we are exposed to on a daily basis such as poor diet, pollution, toxins, medications, stress, trauma, aging, infections and radiation all deplete the availability of this most important health promoter.

What is glutathione?

Glutathione is a very important life promoting molecule that is produced naturally and continuously in the body. It is made by combining three amino acids, cysteine, glycine and glutamine. Glutathione itself cannot be obtained directly from food. Following its use as an anti-oxidant or an anti-toxin, glutathione is recycled. Since many factors such as those outlined above deplete glutathione, it is not surprising that low levels of glutathione lead to development of many disorders.

Why is glutathione so important?

Dr. Hyman has discovered that low levels of glutathione are found in nearly all sick patients. These include people with chronic fatigue syndrome, heart disease, cancer, chronic infections, autoimmune disease, diabetes, autism, Alzheimer's disease, Parkinson's disease, arthritis, asthma, kidney problems, liver disease and more (1).

How is glutathione made?

Glutathione is synthesised by a number of genes, one of the most important being glutathione S-transferase Mu 1 or GSTM1 for short. GSTM1 is one of the most important genes needed for recycling glutathione in the body when it has been used.

The function of the gene GSTM1 is decreased in nearly all very sick people (1), therefore, targeting the GSTM1 gene will be of help to all those who suffer from any form of ill-health and help everyone to remain as healthy as possible.
For a comprehensive review of the significance of glutathione in many diseases, see Ref. 2.

1. http://www.huffingtonpost.com/dr-mark-hyman/glutathione-the-mother-of_b_530494.html

2. Ballatori et al., Glutathione dysregulation and the etiology and progression of human diseases. . Biol. Chem. (2009) 390; 191.

Homeovitality HCYcare.

Use for:- Preventing and resolving a wide range of diseases caused by high blood levels of the non-protein amino acid, homocysteine.

HCYcare has been formulated to target the MTHFR gene.

What does the MTHFR gene do?

"Homocysteine is an amino acid that inflicts damage to the inner arterial lining (endothelium) and other cells of the body." (1)

Methylenetetrahydrofolate reductase is an enzyme that is encoded by the gene MTHFR. The MTHFR gene product plays an important role in the conversion of 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate. This conversion reaction, which requires adequate intake of vitamin B12 and folate, is required for the multistep process that converts the amino acid homocysteine back to another amino acid, methionine.

Methionine is an essential amino acid that is found in meat and fish, for example. It plays a very important role in making sure that genes work properly. It does this by donating methyl groups that can be attached to cytosine residues, one of the building blocks of DNA. Attachment of methyl groups to DNA determines whether a gene is going to be expressed properly or not. When a methyl group is donated by methionine, it is eventually converted to the amino acid homocysteine. The reactions orchestrated by MTHFR described above re-methylate homocysteine and convert it back to methionine so that it can be used again to support the function of the genetic blueprint. Decreased activity of MTHFR leads to inefficient conversion of homocysteine to methionine. This leads to a build-up of homocysteine in the blood. High levels of homocysteine have been found to cause development of many diseases such as heart disease, migraine, stroke, hearing loss and blood vessel deterioration, (see Ref.1).

Importantly, scientists have shown that there is an increase in the serum concentration of homocysteine with age (2) and that this increase is associated with increased susceptibility to heart disease. Therefore, with aging, everyone would benefit by taking this product on a permanent basis. Also, because it is a rich source of methionine, those people who frequently eat red meat would benefit.

1. http://www.lef.org/protocols/heart_circulatory/homocysteine_reduction_01.htm

2. El-Sammak et al.,Elevated plasma homocysteine is positively associated with age independent of C677T mutation of the methylenetetrahydrofolate reductase gene in selected Egyptian subjects. Int. J. Med. Sci. 2004: 1, 181.

Homeovitality Hi-HDL.

Use for:- Increasing HDL, heart disease, anti-inflammatory

HoV-APA1 has been developed to target the APOA 1 gene. APOA1 plays an important role in removal of cholesterol and production of HDL to keep the heart healthy and avoid heart disease.

What does the APOA1 gene do?

There are a number of different types of lipoprotein. High density lipoprotein (HDL), of which APOA1 is the main component lipoprotein, has been shown to protect against atherosclerotic heart disease. By contrast, low density lipoprotein (LDL) especially in its oxidised form, as well as elevated cholesterol levels, have been clearly shown to play a major role in development of atherosclerotic heart disease and early death, see within reference 1.

The importance of the protective effect of the product of the APOA1 gene with respect to heart disease has been confirmed. It does this by increasing the level of the highly beneficial HDL. HDL also has other important properties such as limiting the damaging effects of inflammation (1).

Because if the important health promoting properties of APOA1, many pharmacotherapeutic approaches are being investigated with a view to increasing levels of APOA1 (1).

Scientists have discovered that increased expression of APOA1 also plays an important role in removing cholesterol (2), and may be considered as an alternative to the use of statins in this regard. APOA1 lowers cholesterol by a process called reverse transport of cholesterol (3).

Interestingly, homocysteine, a highly toxic non-protein amino acid, reduces the concentration of HDL in blood by inhibiting the hepatic synthesis of apoA-I, so increased expression of APOE1 is beneficial in those with elevated homocysteine levels (4).

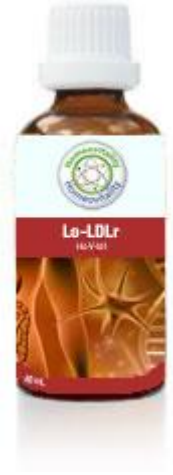
1. deGoma Novel HDL-directed pharmacotherapeutic strategies. Nat Rev Cardiol. 2011, 8, 266.

2. Zhang et al., Overexpression of apolipoprotein A-I promotes reverse transport of cholesterol from macrophages to feces in vivo. Circulation. 2003, 108, 661.

3. Tall, An overview of reverse cholesterol transport. Eur Heart J. 1998,19, Suppl A:A31.

4. Barter and Rye. Homocysteine and Cardiovascular Disease Is HDL the Link? Circulation Research.2006, 99: 565.

Homeovitality Lo-LDLR.



Use for:- Helping to lower the level of LDL in the blood to reduce the likelihood of developing heart disease and stroke.

The Homeovitality LDLr product has been developed to help lower the level of LDL in the blood by targeting the LDL receptor gene, LDLR.

What does LDLR do?

There are two basic types of cholesterol related molecules in the blood. High density lipoproteins (HDL) and low density lipoproteins (LDL).

It is well recognised that the amount of LDL in the blood, compared to HDL, plays an important role in development of coronary heart disease, atherosclerosis and other heart problems as well as stroke, especially when it is in the oxidised form (1-4). Oxidised LDL is a potent mediator of inflammation, particularly when it is deposited on the inner surface of blood vessels of the heart.

Lower levels of LDL in the blood protect against development of heart disease and stroke. Fortunately, the body has an in-built mechanism for removing LDL from the blood. This is done via the LDL receptor which is encoded by the LDLR gene.

The LDL receptor is located on the outer surface of many cell types. Its function is to pick up LDL circulating in the bloodstream and transport it into the cell. Once inside the cell, the LDL is then broken down.

The LDL receptor is particularly abundant on the surface of liver cells. The liver is also the organ responsible for removing excess cholesterol from the body. The number of LDL receptors on the surface of liver cells determines how quickly LDL is removed from the blood. The greater the number of receptors on the surface of liver cells, the more efficient is the removal of LDL from the blood. Therefore the LDLR gene targeting product has been developed to help increase the number of LDL receptors on the surface of liver cells, and other cells, so that LDL is kept at the lowest level possible in the blood, minimising the likelihood of development of heart disease and stroke.

1. Kannel WB. New perspectives on cardiovascular risk factors. Am Heart J.1987;114:213.

2. Law MR et al., By how much and how quickly does reduction in serum cholesterol concentration lower risk of ischaemic heart disease? BMJ.1994;308:367.

3. Mitra S. Et al., Oxidized LDL, LOX-1 and atherosclerosis. Cardiovasc Drugs Ther. 2011;25:419.

Homeovitality MBL2.

Use for:- Fighting a wide range infectious agents such as bacteria and viruses that have entered the bloodstream.

The remedy HoV-MBL2 has been developed to enhance one of the body's important layers of protection against infective organisms such as viruses, bacteria and fungi.

What does the MBL 2 gene do?

The body has a number of important systems for fighting infectious agents such as viruses, bacteria and fungi. Mannose binding lectin 2 encoded by the gene MBL 2 is one of them. All of the different parts of the immune system need to be working effectively to fight off a wide range of infectious agents.

Mannose binding lectin 2 is a protein found in the blood. It is synthesised in the liver. It plays an important role in the innate immune system.

It is a carbohydrate binding protein that binds to sugar residues that are found on the surface of bacteria, viruses and fungi. When it binds to these infective agents in the blood, it activates other parts of the immune system such as the complement system so that infectious agents can be more readily removed and killed by engulfment by phagocytic cells such as neutrophils and macrophages (see Ref. 1 and within)

MBL 2 has been shown to reduce the infectivity of viruses such as Ebola and the AIDS causing virus HIV as well as the influenza virus and the SARS virus (2).

1. Van Asbeck et al., Mannose binding lectin plays a crucial role in innate immunity against yeast by enhanced complement activation and enhanced uptake of polymorphonuclear cells. BMC Microbiology 2008, 8,229 doi:10.1186/1471-2180-8-229.

2. Michelow et al., High-dose mannose-binding lectin therapy for ebola virus infection. J Infect Dis. 2011, 203,175 doi: 10.1093/infdis/jiq025

Homeovitality Mentdel.

Use for:- Help resolve and delay the onset of Alzheimer disease.

Homeovitality Mentdel has been developed to target the genes MME and PPARG to help resolve and delay the onset of Alzheimer disease.

What do the genes MME and PPARG do?

In recent years there have been important advances in the understanding of the pathogenesis of Alzheimer disease. It is now well established that the principal cause of Alzheimer disease is excessive deposition of the protein beta amyloid (1) in the brain. The excess beta amyloid forms "plaques" which surround nerve cells in the brain, stopping them from working properly.

Normally, excess beta amyloid is removed by a series of proteolytic enzymes. It has now been found that the most effective beta amyloid removing proteolytic enzyme is neprolysin (2,3). Unfortunately, the activity of neprolysin declines with age. Its activity has been found to be reduced in the brains of Alzheimer sufferers (3). As neprolysin activation has already been proposed as an alternative approach to resolution of and protection against Alzheimer disease, a new sequence specific homeopathic DNA remedy has been developed to target the MME gene as this is the gene that encodes the enzyme neprolysin.

Alzheimer disease is also referred to as type 3 diabetes (4). Insulin plays an important role in brain function. Alzheimer disease is also associated with insulin resistance (4). Therefore, to help the insulin receptor work better, this remedy has been designed to also target the PPARG gene because the product of this gene plays an important role in preserving the function of the insulin receptor (5).

1. http://en.wikipedia.org/wiki/Amyloid_beta
2. http://www.hindawi.com/journals/ijad/2012/383796/
3. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2329843/
4. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2769828/
5. Tyagi S et al., The peroxisome proliferator-activated receptor: A family of nuclear receptors role in various diseases. J. Adv. Pharm. Technol. Res. 2011:2;

Homeovitality Migraban.

Use for:- Treatment of migraine and headaches.

The Homeovitality remedy Migraban has been developed to target the KCNK18 and MTHFR genes because migraine has been shown to be associated with low KCNK18 activity and high blood levels of homocysteine.

What do the genes KCNK18 and MTHFR do?

The KCNK18 gene encodes a protein called TRESK, a TWIK-related spinal cord potassium channel that is involved in manifestation of pain.

Migraine and severe headaches are two of the most common debilitating disorders. After many years of investigation, it has now been recognised that reduced activity of TRESK plays a major role in increased susceptibility to the onset of migraine and severe headaches. This finding was the result of a large international investigation, see Ref. 1 and within, results of which was summarised in an article by the Migraine Trust (2).

These important studies have identified that reduced activity of the gene KCNK18, which encodes the pain controlling protein TRESK, which, as indicated above, plays a major role in development of migraine and severe headache. The HoV-KC18 remedy has been developed to target the KCNK18 gene.

In recent years, another important contributory factor has been recognised that increases susceptibility to development of migraine, and that is, a high level of the toxic amino acid homocysteine in the blood, see within Ref. 3.

The MTHFR gene encodes an enzyme called methylenetetrahydrofolate reductase, an enzyme involved in homocysteine degradation. The MTHFR gene product plays an important role in the conversion of 5, 10-methylenetetrahydrofolate to 5-methyltetrahydrofolate. This conversion reaction is required for the multistep process that converts the amino acid homocysteine back to another amino acid, methionine.

Decreased activity of MTHFR leads to inefficient conversion of homocysteine to methionine leading to a build up of homocysteine in the blood. High levels of homocysteine in the blood is not only associated with increased susceptibility to development of migraine but many other serious disorders such as heart disease, stroke, hearing loss and blood vessel deterioration, (see Ref.4).

1. http://www.sciencedaily.com/releases/2010/09/100927105351.htm?utm_source=rss&utm_medium=rss&utm_campaign=gene-linked-to-common-form-of-migraine-discovered

2. http://www.migrainetrust.org/research-article-a-new-gene-for-migraine-2011-13152

3. http://www.rejuvenation-science.com/n_homocysteine_headache.html

4. El-Sammak et al.,Elevated plasma homocysteine is positively associated with age independent of C677T mutation of the methylenetetrahydrofolate reductase gene in selected Egyptian subjects. Int. J. Med. Sci. 2004: 1, 181.

Homeovitality obEase II.

Use for:- Obesity.

This product has been developed to combat obesity by targeting the genes MC4R and LIPE.

What do the MC4R and LIPE genes do?

Obesity is associated with the urge to over-eat. The hormone leptin suppresses the appetite. Therefore, for people with moderate excess weight, weight can be lost by up-regulating leptin production so that the urge to eat is reduced. Activation of the gene that encodes leptin however is not so effective in obese people because they already have excess leptin. That is because adipose or fat tissue secretes leptin. To help people with obesity, an alternative weight loss protocol has been developed. It works by targeting the genes MC4R and LIPE.

MC4R encodes the protein melanocortin 4 receptor. It is a G protein-coupled receptor that controls food intake. It also plays an important role in energy homeostasis.

Reduced activity of the MC4R gene is associated with a markedly increased appetite and development of obesity. This relationship has been confirmed in an experimental model in which MC4R activity was reduced artificially. Importantly, studies have confirmed that increased activity of MC4R leads to protection against obesity. For full review see Ref. 1.

LIPE encodes a hormone sensitive lipase, also known as HSL. Its principal role is to break down fat stored in fat cells or adipose tissue when the body needs to call upon its fat reserves as a source of energy (2). Dr. Large and colleagues have shown that fat cells in obese people have reduced expression of the LIPE gene (3), so that fat is retained more readily in adipose tissue and released less effectively as an energy source. Up-regulation of the LIPE gene, leading to greater LIPE activity enables stored fat to be broken down more readily, resulting in the reduction in adipose tissue.

1. Tao. The Melanocortin-4 Receptor: Physiology, Pharmacology, and Pathophysiology. Endocrine Reviews. (2010) 31; 506.

2. Langin et al., Adipocyte Lipases and Defect of Lipolysis in Human Obesity. Diabetes. (2005) 54: 3190.

3. Large et al., Decreased expression and function of adipocyte hormone-sensitive lipase in subcutaneous fat cells of obese subjects. J Lipid Res. (1999)40; 2059.

Homeovitality Prorep.

Use for:- Repair of proteins that have been damaged by exposure to excessive heat, radiation (all forms), sun and toxins. It is also useful for repairing proteins that have been damaged by acute and chronic inflammatory disorders.

Homeovitality Prorep has been designed to target the HSF1 gene. This gene repairs damaged proteins that cause ill-health.

May be used by most people on a permanent basis, particularly those suffering from chronic inflammatory disorders. Not recommended for use in cancer patients because it is likely to protect cancer cells from the cytotoxic effects of radiotherapy and chemotherapy.

What does the HSF1 gene do?

There are almost a million proteins that are required to organise and carry out all the physiological and psychological functions that are needed to maintain optimum health throughout life.

The most effective function of a protein depends very much on its tertiary structure, that is, the precise way in which it is folded. For a protein to work effectively, it must have the correct fit with its receptor, rather like a lock and key fitting system. Unfortunately the correct tertiary structure of many proteins is often difficult to maintain because their structure is altered by exposure to many factors such as increased temperature, toxins, radiation from all sources including sun exposure, electromagnetic radiation, infectious agents and more. Because the tertiary structure of proteins is dependent on temperature, the heat generated by conditions associated with chronic inflammation can also affect the structure and hence the optimum health promoting properties of many proteins.

Fortunately, over millions of years, the body has developed a series of molecules called heat shock proteins. Their job is to seek out dysfunctional proteins that have been disfigured by exposure to cellular stresses and repair/refold them back to their correct tertiary structure so that they once again become fully functional. It follows therefore that promotion of all these protein repair systems would result in better all-round health, particularly in conditions associated with chronic inflammation as well as extending a healthy life.

There are many members of the heat shock protein repair family, however, the master regulator of all of them is HSF1. That is why the Prorep product has been developed to target the HSF1 gene. Homeovitality Prorep has been designed to target the HSF1 gene so that it can co-ordinate the whole of the body's protein repair systems. In this way, disfigured dysfunctional proteins can be refolded and repaired so that they can function at full capacity. Maximum health is enjoyed when all the body's cellular components and proteins are fully functional.

In 2011, Dr. Anckar and colleague published a highly informative article describing the important health promoting properties of HSF1 (1).

1. Anckar and Sistonen. Regulation of HSF1 function in the heat stress response: Implications in aging and disease. Ann. Rev. Biochem. 2011: 80, 1089.

Homeovitality RBM4.

Use for:- Administration to people with all types of cancer.

The remedy HoV-RBM4 has been developed to target the anti-cancer gene RBM4.

What does RBM4 do?

The gene RBM4 encodes an RNA binding protein that plays an important role in making sure that all the right products are synthesised from a particular gene. Many genes are able to produce a number of different biological products by a process known as alternative splicing. The inability to splice various gene products effectively has now been recognised as one of the important hallmarks of cancer cells. In fact, recent studies have shown that reduced expression of RBM4 results in its inability to instruct cancer cells to kill themselves, control their proliferation, arrest tumour growth and inhibit migration or spread of cancer cells.

Reduced expression of RBM4 is also associated with poorer survival of cancer patients (1).

As a bonus, evidence indicates that RBM4 may also help by supporting the pancreas to produce insulin more readily (2).

1. Wang et al., The splicing factor RBM4 controls apoptosis, proliferation, and migration to suppress tumor progression. Cancer Cell. 2014, 26:374. doi: 10.1016/j.ccr.2014.07.010.

2. Lin et al., RBM4 promotes pancreas cell differentiation and insulin expression. Mol Cell Biol. 2013, 13, 319.

Homeovitality “Restless Warrior”.

Use for:- Treating and protecting against infections of skin and tissue surfaces such as the urogenital tract and reproductive systems, providing protection against new-born bacterial infections because it is expressed in breast milk, Crohn’s disease, leprosy, tuberculosis, cancer, AIDS.

All external, as well as internal body surfaces, which the immune system cannot reach, are continuously exposed to infectious agents such as harmful bacteria. DEFB1 is a very important bactericidal protein that forms the body’s first line of defense against infectious agents. It is produced by cells in body surfaces such as skin. It has been shown to inhibit the infectivity of the AIDS virus and cause cancer cells to self-destruct.

May be used on a short term or long term basis depending on the condition being treated.

What does DEFB1 do?

The “Restless Warrior” Homeovitality product is designed to target the DEFB1 gene. The defensin gene DEFB1 encodes a microbicidal peptide which is an important first line defence mechanism for all epithelial surfaces against bacteria and other infectious organisms, including those that cause tuberculosis and leprosy.

Epithelial tissue covers the whole surface of the body. It provides a protective covering or lining for all internal as well as external body surfaces. The skin is an important epithelial tissue.

DEFB1 is called the “Restless Warrior” because it is continuously expressed in skin cells, urinary and respiratory tract epithelial cells. Other expression sites include epithelial cells of the testis, gingival tissue, small intestine, cornea, mammary gland (1, 2) and particularly the female reproductive system (3). So, it plays a very important role in the protection of many parts of the body against entry of bacteria and other infectious agents. It works separately to the adaptive immune system.

It has recently been discovered that DEFB1 can also reduce the infectivity of the AIDS virus (see within Ref.1). Therefore, it is not surprising that DEFB1 deficiency leads to a wide range of infectious diseases.

DEFB1 has another important function; it is able to fight cancer. Scientists have shown that it can induce cancer cells to self-destruct (apoptosis). Many cancers are associated with diminished expression of DEFB1. Reduced expression of DEFB1 is one of the reasons why cancer cells may flourish.

Prof. Prado-Montes (1) has stated that DEFB1 has many applications in treatment of diseases caused or aggravated by defensin deficiency, such as a wide range of infectious diseases as well as Crohn's disease, lepromatous leprosy, tuberculosis and cancer.

1. Prado-Montes de Oca E. Molecules in focus. Human -defensin 1: A restless warrior against allergies, infections and cancer. Int. J. Biochem. Cell Biol. 2010: 42; 800.

2. Jia H P et al., Abundant human beta-defensin-1 expression in milk and mammary gland epithelium**.** J. Pediat. 2001:138; 109.

3. Valore E V et al., Human beta-defensin-1: an antimicrobial peptide of urogenital tissues**.** J. Clin. Invest. 1998:101; 1633.

Homeovitality STeP1.

Use for:- Non-allergic asthma.

Homeovitality STep1 has been developed as a first step in alleviation and avoidance of non-allergic asthma by targeting the SPT1 gene.

What does SPT1 do?

SPT1 promotes the production of sphingolipid.

Scientists at Columbia University, New York (1) have discovered a completely new type of asthma.

Asthma is a very common cause of breathing difficulty. It can have serious consequences. It is understood that asthma can be caused by an allergic reaction in the airways to airborne particles such as pollen. The allergic reaction results in acute inflammation and swelling of the airway tissues so that breathing is impaired. The inflammatory allergic reaction involves an unusual type of antibody called IgE that is bound to mast cells in the airways.

Corticosteroids reduce inflammation. That is why inhalation of anti-inflammatory compounds such as corticosteroids is very effective in relief of asthma. Unfortunately almost half of asthma sufferers do not respond to corticosteroid treatment. The reason why has been unclear. Now, this newly discovered form of asthma explains why many sufferers do not respond to anti-inflammatory or corticosteroid therapy. The newly discovered form of non-inflammatory asthma is due to a deficiency of a cell membrane component called sphingolipid in cells that line the airways. Activity of the gene SPT1 has been shown by Dr. Worgall and colleagues (1) to play an important role of the production of sphingolipid and suppress the onset of non-allergic asthma.

1.. Worgall et al., Impaired sphingolipid synthesis in the respiratory tract induces airway hyperreactivity . Sci Transl Med 5, 186ra67 (2013)

Homeovitality Super Build-Up.

Use for:- Building up muscle, anti-aging, reduce age related muscle loss.

Homeovitality Super Build-Up targets the genes GH1 and KL to help develop muscle tissue and reduce age related muscle loss. It also helps to slow down the aging process.

May be used as required or on a permanent basis in the elderly.

What do GH1 and KL do?

The GH1 gene encodes a hormone called growth hormone 1 or somatotropin._ It plays an important role in growth control.

GH1helps build up muscle by stimulating both the differentiation and proliferation of muscle precursor cells called myoblasts. These are the cells that form new muscle. It also enhances new muscle growth by increasing amino acid uptake in newly forming muscle cells as well as other tissues (1). It also helps to reduce muscle loss with aging.

Growth hormone replacement or supplementary therapy uses a synthetic hormone called somatropin. It can be distinguished from natural GH1. Super Build-Up has been designed to target the existing GH1 gene so that only the natural form of the hormone is produced.

Kl has important anti-aging properties, scientists have confirmed that the KL gene plays a very important role in slowing down the ageing process, helping to keep the heart and kidneys healthy and protecting against the development of many diseases (2).

1. http://en.wikipedia.org/wiki/Growth_hormone

2. Rosenblatt & Kuro-O. Klotho, an aging suppressor gene. Horm. Res., 67:191, 2007.

Homeovitality Super careD.

Use for:- A wide range of health benefits including osteoporosis. It is also very important for the growth of healthy bones and tissues in children and maintenance of healthy tissues in the elderly.

The hormone Vitamin D is very important for maintaining optimum health. It plays a vital role in calcium and phosphorus absorption from food so that bones and other tissues can be formed most effectively. Super careD has been designed to target the CYP27A1 gene. This gene plays a critical role in the natural synthesis of vitamin D. It is important for synthesis of vitamin D in people who are unable to experience frequent sun exposure.

What does CYP27A1 do?

CYP27A1, also known as sterol-27-hydroxylase, is one of the members of the cytochrome P450 gene family of enzymes. It is active in the mitochondria of the liver.

In 2005, Dr. Sakaki and colleagues discovered that CYP27A1 is a most important enzyme that converts various inactive forms of vitamin D, including cholesterol, obtained from food, as well as precursor proteins that are produced naturally within the body, to form active vitamin D. Foods such as oily fish and eggs provide valuable external sources of the inactive form of vitamin D. Exposure to sunlight is one of the main ways of providing an internal source of precursor protein for CYP27A1 to convert into the active form of vitamin D.

Because CYP27A1 plays such an important role in synthesising the active form of vitamin D, the importance of this enzyme in maintaining optimum health is underscored by the fact that TIME magazine nominated vitamin D as one of the "top medical breakthroughs" in the December issue of 2007.

Because most tissues and cells in the body have a vitamin D receptor (VDR) and vitamin D influences the expression levels of up to one third of all human genes, it is not surprising that many studies have demonstrated an association of vitamin D deficiency with increased risk of development of more than a dozen cancers, autoimmune diseases, type 1 and type 2 diabetes, rheumatoid arthritis, Crohn's disease, multiple sclerosis; infectious diseases; and cardiovascular

disease (3). More of the many health benefits of vitamin D are well described by Dr. Brandi in Ref. 4.

1. http://www.newsmax.com/FastFeatures/health-benefits-of vitamin/2010/11/12/id/370865#ixzz283LZLhRj

2. Sakaki T, et al., Metabolism of vitamin D3 by cytochromes P450. Front Biosci. 2005 Jan 1;10:119-34. Print 2005 Jan 1.

3. http://www.endo-society.org/guidelines/final/upload/final-standalone-vitamin-d-guideline.pdf

4. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3213838/

Homeovitality Super Detox.

Use for:- Enhancing the body's natural anti-toxin system.

Humans have always been exposed to toxic substances. The body has developed an enzyme system to neutralise and remove these toxins naturally. Homeovitality Super-Detox has been developed to help boost this natural toxin removal system. It does so by targeting the CYP2D6 gene.

Super Detox may be taken on a permanent basis.

What does CYP2D6 do?

Humans have always been exposed to a wide range of toxic substances, also known as xenobiotics (1). To avoid damage by these toxins, the human body has evolved a set of enzymes that play an important role in counteracting them. The enzymes are included in the cytochrome P450 system. One of the most important members of the cytochrome P450 system is an enzyme encoded by the gene CYP2D6.

When toxins are introduced into the body, by whatever route, and enter the bloodstream, they undergo a series of enzymatic reactions which firstly renders them non-toxic. They are then chemically changed further so that they can be ultimately excreted, in the urine for example. CYP2D6 is one of the most important enzymes that play a part in the initial stages of toxin neutralisation.

1. http://en.wikipedia.org/wiki/CYP2D6

Homeovitality Super Growth.

Use for:- Promoting growth in children.

Growth hormone 1 plays an important role in the growth of children. Homeovitality Super Growth has been developed to help children grow better. It is designed to target the GH1 gene.

May be administered during the period when growth support is required.

What does GH1 do?

GH1 encodes the growth hormone somatotropin. The protein encoded by this gene is a member of the somatotropin/prolactin family of hormones which play an important role in growth control. Reduced GH1 results in retarded growth and short stature.

Its major role in promotion of body growth is to stimulate the liver and other tissues to secrete IGF-1. This enables more efficient uptake of amino acids into cells so that they can synthesise the proteins that are required for growth of all tissues more efficiently.

A synthetic form of somatotropin is administered to children with poor growth with positive results (1).

Recent studies indicate that reduced GH1 activity results in impaired brain development and function (2).

1. http://en.wikipedia.org/wiki/Growth_hormone_treatment

2. Webb E A et al., Effect of growth hormone deficiency on brain structure, motor function and cognition. Brain. 2011:doi: 10.1093/brain/awr305

Homeovitality Super Heart.

Use for:- Anti-aging, blood pressure, heart health, kidney health, rheumatoid arthritis, auto-immune diseases, cancer and general health improvement.

The Super Heart product has been designed to target the KL gene to help the body make more KLOTHO protein. KLOTHO protein helps everyone to stay younger longer, live a longer healthier life and keeps the heart and kidneys healthy, lowers blood pressure, stabilises the immune system, avoids and resolves diseases such as rheumatoid arthritis and other auto-immune diseases and helps protect against cancer.

Unfortunately, the amount of KLOTHO that the body produces gradually declines with age. Therefore everyone would benefit by taking the Super Heart product on a permanent basis as they get older.

What does KLOTHO do?

KL, the gene that encodes KLOTHO, is one of the most important health promoting genes ever discovered. It was first characterised by Dr. Matsumara and his colleagues over a decade ago (1). It encodes a type-I membrane protein that is related to the beta-glucosidases.

Since its discovery, scientists have confirmed that the KL gene plays a very important role in slowing down the ageing process, helping to keep the heart and kidneys healthy and protecting against the development of many diseases (see references 2, 3 and 4). It also plays a very important role in the control of blood pressure (5).

More recently, Dr. Witkowski and co-workers showed that reduced KL activity is associated with impaired immunity and increased susceptibility to development of rheumatoid arthritis (6). These scientists demonstrated that KL plays an important role in stabilising CD4+ helper T lymphocytes, cells that promote and control the activity of the immune system.

KL also helps to fight cancer. Dr. Wolf and colleagues have recently discovered that increased KL activity suppresses the growth of breast cancer cells (7). Therefore, for many reasons, particularly because KL activity declines with age (6), everyone would benefit from Homeovitality Super Heart on a permanent basis especially as they get older.

1. Matsumura et al., Identification of the human klotho gene and its two transcripts encoding membrane and secreted klotho protein. Biochem. Biophys. Res. Commun., 242:626, 1998.

2. Kuro-o et al., Mutation of the mouse klotho gene leads to a syndrome resembling ageing. Nature, 390:457, 1997.

3. Arking et al., Association between a functional variant of the KLOTHO gene and high-density lipoprotein cholesterol, blood pressure, stroke, and longevity. Circ. Res., 96:41, 2005.

4. Rosenblatt & Kuro-O. Klotho, an aging suppressor gene. Horm. Res., 67:191, 2007.

5. www.sciencedaily.com/releases/2009/08/090819164331.htm

6. Witkowski et al., Klotho- a common link in physiological and rheumatoid arthritis-related aging of human CD4+ lymphocytes. J. Immunol., 178:771, 2007.

7. Wolf et al., Klotho: a tumour suppressor and a modulator of the IGF-1 and FGF pathways in human breast cancer. Oncogene, 27:7094, 2008.

Homeovitality Super Immunity.

Use for:- Cancer, repairing immune systems that have been damaged by cancer treatments such as chemotherapy and radiotherapy, immune deficiency, AIDS, immunisation support, boosting the production of immune-competent cells.

Not to be used for leukaemias, lymphomas and myeloma.

Homeovitality Super Immunity has been developed to repair and boost the immune system by promoting the production of new immuno-competent cells by the bone marrow via the immune cell stimulant IL-7, especially when it has been damaged by cancer treatments such as chemotherapy or radiotherapy and for stimulating the production of immune cells.

May be administered as required or on a permanent basis.

What does IL-7 do?

Homeovitality Super Immunity has been formulated to target the IL-7 gene. Anti-cancer treatments such as chemotherapy and radiotherapy that are used to kill cancer cells also damage cells in the bone marrow that make new immuno-competent cells. That is one of the reasons why many cancer patients develop an increased susceptibility to infections.

IL-7 is a natural cytokine that has the ability to stimulate the production of new immuno-competent cells in the bone marrow to help compensate for the immune deficiency caused by cancer treatments (1). Therefore, Super Immunity has been designed to help repair damaged immune systems in cancer patients. It may also be of help to boost the production of new immune cells in those that suffer generalised immune deficiency perhaps as a consequence of infection by the AIDS virus (2). It is also helpful for increasing the benefits of immunisation.

1. http://www.medscape.com/viewarticle/577102?src=rss

2. http://www.cytheris.com/Science/interleukin7.php

Homeovitality Super Memory/IQ.

Use for:- Impaired memory, Alzheimer disease, help with IQ

The Homeovitality Super Memory/IQ product has been prepared to help the body synthesise more CHRM2 and SNAP-25 proteins so that people may remember better and enjoy an increased IQ. Researchers have discovered that a lack of these two proteins leads to a poor memory and reduced IQ.

May be used on a permanent basis.

What do CHRM2 and SNAP-25 do?

Homeovitality Super Memory/IQ has been designed to target the CHRM2 and SNAP-25 genes. The gene SNAP-25, targeted by the Homeovitality Super Memory/IQ product, is located on human chromosome 20. It was discovered by Dr Zhao and colleagues (1). It is expressed in the brain and encodes synaptosomal-associated protein, 25kDa, a presynaptic plasma membrane protein involved in the regulation of neurotransmitter release.

Reduced SNAP-25 gene activity results in memory loss (2).

The Homeovitality Super Memory/IQ product also targets CHRM2. The fine structure of the CHRM2 gene was determined by Dr Zhou and colleagues (3). It encodes a cholinergic receptor, muscarinic 2, that belongs to a larger family of G protein-coupled receptors. In contrast to SNAP-25, CHRM2 is located on chromosome 7.

CHRM2 has been proven to be a key promoter of intelligence (4).

1. Zhao et al., Cloning and sequence analysis of the human SNAP25 cDNA. Gene, 145: 313, 1994.

2. Hou et al., SNAP-25 in hippocampal CA3 region is required for long-term memory formation. Biochem. Biophys. Res. Commun., 347: 955, 2006.

3. Zhou et al., Structure of the human M(2) muscarinic acetylcholine receptor gene and its promoter. Gene, 271: 87, 2001.

4. Dick et al., Association of CHRM2 with IQ: converging evidence for a gene influencing intelligence. Behav. Genet., 37: 265, 2007.

Homeovitality Super Strong Bones.

Use for:- Osteoporosis, brittle bones, especially in post-menopausal women, protecting against bone fracture.

The Super Strong Bones product is designed to target the CTR gene to strengthen bone to avoid bone fractures, particularly in post-menopausal women.

May be administered on a permanent basis to post-menopausal women.

What does CTR do?

The gene that encodes the calcitonin receptor (CTR) was completely characterised by Gorn and colleagues (1). It is located on human chromosome 7 and encodes a cell membrane component that acts as a receptor for the hormone calcitonin and plays an important role in bone formation.

Bone is continually being broken down by osteoclasts and rebuilt by osteoblasts. The interaction between calcitonin and CTR plays an important role in the process of the rebuilding and strengthening of bone.

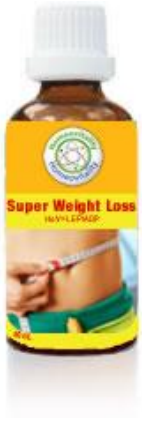
The Homeovitality Super Strong Bones product has been formulated to help the body produce more of the calcitonin receptor protein. Bone is continually been broken down and rebuilt. The calcitonin receptor supports the activity of cells that build up bone resulting in stronger bones and reduced susceptibility to bone fracture, especially in post-menopausal women.

Dr Taboulet and colleagues (2) discovered that post-menopausal women are less likely to fracture their bones through a form of natural super-health involving the CTR gene.

1. Gorn et al., Expression of two human skeletal calcitonin receptor isoforms cloned from a giant cell tumor of bone. J. Clin. Invest., 95: 2680, 1995.

2. Taboulet et al., Calcitonin receptor polymorphism is associated with a decreased fracture risk in post-menopausal women. Hum. Molec. Genet., 7: 2129, 1998.

Homeovitality Super Weight Loss.



Use for:- Weight loss, maintaining a healthy BMI, type 2 diabetes, strengthening bone.

The Super Weight Loss product has been designed to help the body to make more of the proteins leptin and adipose. These proteins help people to lose weight more effectively by reducing fat formation, suppressing the appetite (so the urge to over-eat is lessened) and increasing energy expenditure (so that the food is converted into energy rather than stored in the body as fat). Scientists have discovered that the leptin protein also helps to resolve Type 2 diabetes and increase bone density so that bone fracture is less likely.

May be taken long term until required BMI is reached and then taken at half dosage permanently to maintain optimum BMI.

What are the functions of LEP and ADP?

The Homeovitality Super Weight Loss product has been developed to target both the LEP and ADP genes. The gene that synthesises leptin, LEP, was first isolated by Zhang and associates (1). It is located on human chromosome 7.

People with leptin deficiency have voracious appetites and suffer profound obesity. Their appetites can be controlled and weight lost by administration of leptin, confirming that leptin plays an important role in suppressing the appetite and weight control (2). It follows that boosting LEP activity would reduce the appetite and promote weight loss.

Other important properties of leptin have been discovered. Scientists have shown that it plays a very important role in increasing bone density, reducing the likelihood of bone fractures, particularly in post-menopausal women. Bone is continually being remodelled; old bone is being replaced by new bone. Leptin promotes new bone formation in a dose dependent manner (3); so, increasing leptin production promotes better bone formation.

Secondly, it was previously thought that late onset diabetes, associated with obesity was relieved simply as a consequence of leptin induced weight loss. Now, scientists at Rockefeller University have made the exciting discovery that leptin can correct late onset diabetes independently of its

role in weight loss. In other words, even if weight is not lost, leptin can still play a very important role in correcting diabetes (4).

Homeovitality Super Weight Loss also targets the gene that encodes adipose, ADP. The ADP gene is referred to as "the anti-obesity gene" because it plays an important role in reducing fat accumulation (5).

Recently, scientists at Tufts University discovered that most people have inherited a sluggish ADP gene that slows down the way that fat it is burnt off or turned into energy (6). The sluggish ADP gene also enables fat to be stored in tissues more easily, resulting in weight gain. So, where did our sluggish ADP gene come from?

It is now thought that the common inefficient ADP gene originated millions of years ago and, over time, increased in frequency because it gave our ancestors an important survival advantage. The less effective fat metabolising gene was of benefit to our ancestors because what little food was available was easily laid down and stored as fat deposits. Fat deposits could then be used as a source of energy and help survival in times of famine.

In modern times though, in areas of the world where, for the first time in human history, refined food is plentiful, the common ancestral ADP gene has become a health problem because it continues to store our food as fat, resulting in obesity and increased susceptibility to development of diseases such as diabetes and heart disease. In fact, it has been suggested that the sluggish ADP gene is directly responsible for development of late onset diabetes associated with obesity (7). It follows that increasing the efficiency of the common ancestral ADP gene would be an effective way to lose weight, reduce fat deposition, maintain a healthy BMI and avoid development of many diseases.

1. Zhang et al., Positional cloning of the mouse obese gene and its human homologue. Nature, 374: 425, 1994.

2. http://www.foodnavigator.com/Science-Nutrition/Leptin-replacement-therapy-to-fight-obesity.

3. Blain et al., Serum leptin level is a predictor of bone mineral density in postmenopausal women. J. Clin. Endocrinol. & Metab., 87:1030, 2002.

4. Hedbacker et al., Antidiabetic effects of IGFBP2, a leptin regulated gene. Cell Metab.,11:11, 2010.

5. Suh et al., Adipose is a conserved dosage-sensitive antiobesity gene. Cell Metab., 6: 195, 2007.

6. Lai et al., WDTC1, the ortholog of Drosophila adipose gene, associates with human obesity, modulated by MUFA intake. Obesity, 17: 593, 2009.

7. http://www.dancewithshadows.com/business/pharma/adipose-obesity-gene.asp.

Homeovitality Super Wound Heal.

Use for:- Improving internal and external wound healing and reducing the formation of scar tissue, supporting the growth of new blood vessels, reducing severity of heart disease, and promoting faster healing of heart tissue damaged by cardiomyopathy and heart attacks.

The Super Wound Heal product has been developed to help produce more CCN1 protein at the site of injury. The CCN1 protein promotes more effective wound healing, internally and externally and reduces the build-up of scar tissue following chronic inflammatory disorders. It also reduces the severity of heart disease and helps damaged heart tissue to heal more effectively. It also has the added benefit of arresting tumour growth.

To be taken as required until health is restored.

What does CCN1 do?

The Homeovitality Super Wound Heal product has been formulated to target the CCN1 gene. In recent years, much has been learned about the biology of internal and external wound healing. Scientists have now discovered a gene called CCN1, also known as CYR61 that plays a master regulatory role in the biology of wound healing.

Dr. Babic and colleagues (1) initially discovered that CCN, referred to as a modern matricellular protein, works by attracting wound healing cells to the site of injury. They also showed that it helps to form new blood vessels at the site if injury in order to supply sufficient blood borne nutrients to heal the wound.

More recently, Drs. Jun and Lau (2) discovered that CCN1 also enhances wound healing by causing cellular senescence, that is, it is able to stop fibroblasts from dividing and forming fibrotic tissue or scar tissue so that new skin or tissue can be re-grown and the formation of scar tissue minimised. They also recognised that CCN1 is involved not only in the healing of skin, but also in the healing of many other tissues and organs such as heart and bone.

If the expression of CCN1 is restricted, healing is delayed and scar formation is increased. In fact, clinical studies have shown that application of CCN1 to healing wounds results in protection

against the formation of scar tissue (2). Thus, promotion of the expression of CCN1 promotes more efficient wound healing and a reduction in the formation of scar tissue. These effects are applicable to general bodily healing processes, not just the skin.

To quote from one of Dr. Lau's (3) recent papers, "CCN1 (CYR61) is a dynamically expressed, multifunctional matricellular protein that.....regulates inflammation, wound healing and fibrogenesis in the adult. Aberrant CCN1 expression is associated with myriad pathologies, including various cancers and diseases associated with chronic inflammation."

In recent years, Dr. Rother and colleagues have made the exciting discovery that CCN1 also plays an important role in reducing the severity of heart disease and helping damaged heart tissue to repair more effectively (4).

1. Babic AM, et al. CYR61, product of a growth factor-inducible immediate-early gene, promotes angiogenesis and tumor growth. Proc. Natl. Acad. Sci. U. S. A 1998; 95: 6355.

2. Jun JI & Lau LF. The matricellular protein CCN1 induces fibroblast senescence and restricts fibrosis in cutaneous wound healing. Nat. Cell Biol. 2010; 12: 676.

3. Lau LF. CCN1/CYR61: the very model of a modern matricellular protein. Cell. Mol. Life Sci. 2011; 68: 3149.

4. Rother M et al., Heart Failure. Matricellular signaling molecule CCN1 attenuates experimental autoimmune myocarditis by acting as a novel immune cell migration modulator. Circulation.2010; 122: 2688.

Homeovitality Telomerase

Use for:- Slowing down the ageing process and generation of new cells needed to repair damaged or ageing tissues including skin.

The remedy Telomerase has been developed to target the TERT gene to support new tissue growth and slow down ageing.

What does the TERT gene do?

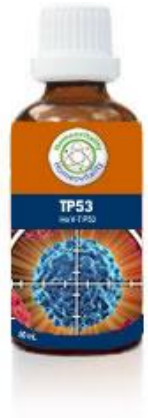
Telomerase, also called telomere terminal transferase, is an enzyme made up of a protein which serves as a catalytic unit and RNA subunits. The RNA units guide the activity of the catalytic protein. The protein component, a reverse transcriptase, is encoded by a gene called TERT.

Each time a cell divides, such as to repair damaged tissue or renew old tissues for example or during development, the ends of the cell's chromosomes become frayed and lost. When too much of the ends of chromosomes is lost, the cell loses the ability to divide and form new cells. This is called cellular senescence and results in tissue ageing. Telomerase helps to repair the ends of damaged chromosomes so that new cells and new tissues can be produced, slowing down the ageing process and repairing damaged tissues more effectively (1)

This remedy is not recommended for administration to patients suffering from cancer.

1. http://www4.utsouthwestern.edu/cellbio/shay-right/intro/facts/sw_facts.html

Homeovitality TP53.



Use for:- Suppression of growth of all tumour types.

Homeovitality TP53 has been designed to target the gene TP53. This gene's product, p53, slows down the growth of cancer cells and helps kill them naturally. It also helps cancer cells that have been damaged by chemotherapy and radiotherapy to undergo spontaneous cell death.

What does TP53 do?

From a health standpoint, p53 is one of the most biologically important protein molecules found thus far. Because of its biological importance, it has been described as "the guardian of the genome", or genetic blueprint. In 1993, p53 was also voted molecule of the year by the prestigious journal Science.

p53 (also known as protein 53) is a tumour suppressor protein that is encoded by the gene TP 53. It plays a critical role in regulation of the cell cycle and therefore functions as a tumour suppressor involved in prevention and resolution of cancer.

There are many causes of cancer, however, damage to DNA, particularly to genes that control the cell cycle is one of the major ways in which cancer is caused.

It has been found that p53 works in a number of different ways to resolve cancer. It plays a role in apoptosis (programmed cell death), genomic stability (DNA repair), and inhibition of angiogenesis (prohibiting formation of a blood supply to the tumour) and inhibition of repair of cancer cell chromosomal DNA by an enzyme called telomerase.

Firstly, it can activate DNA repair proteins when DNA of a tumour suppressor gene, for example has been damaged. It can also slow down the cell cycle so that the DNA repair system that it has activated has time to repair the damage. Secondly, if p53 decides that the damage to DNA is beyond repair, it has the remarkable property of instructing the cell to commit suicide by a process called programmed cell death. It does this by activating a system that enables the cell to kill itself by destroying its own DNA. It also plays a role in killing cancer cells that have been damaged by chemotherapy and radiotherapy.

To enable a tumour to grow, it needs an adequate blood supply. p53 is able to restrict a tumour's blood supply so that its growth is impaired. Also, as cells divide, the ends of chromosomes shorten

until they lose the capacity to divide. There is an enzyme called telomerase that repairs the shortened chromosomes so that cells can continue dividing. In this way, excessive telomerase activity often found in some cancer cells helps them to grow. p53 also helps to slow down the growth of tumours by inhibiting the activity of telomerase in cancer cells (1, and references therein).

Reduced activity of p53 leads to cancer formation and tumour growth in a wide range of cancers.

1. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3794078/

Homeovitality Triprolife.

Use for:- Lowering the level of cholesterol, insulin and homocysteine in the blood.

(Increased levels of cholesterol, insulin and homocysteine in the blood are known causes of many types of ill-health and early death)

Elevated levels if homocysteine, insulin and cholesterol have long been recognised as potent causes of many forms of disease, shortening of lifespan and premature aging. Homeovitality Triprolife has been designed to help lower serum levels of these dangerous natural substances by targeting the CYP27A1, MTHFR and PPARG genes.

May be taken by everyone on a permanent basis.

What does CYP 27A1 do?

CYP27A1 gene is a member of the cytochrome P450 gene family. The CYP27A1 gene helps to produce an enzyme called sterol 27-hydroxylase. Sterol 27-hydroxylase plays a key role in lowering cholesterol levels in the body (1). This enzyme is located mitochondria. It is involved in the pathway that breaks down cholesterol to form bile salts. Bile salts are needed to digest dietary fats. Transformation of cholesterol into bile salts is the body's main way of lowering cholesterol levels in the blood. The enzyme sterol 27-hydroxylase also plays an important role in suppression of the hardening of arteries (2).

What does PPARG do?

PPARG, peroxisome proliferator-activated receptor gamma (3) is involved in the activation of many genes that are involved in glucose and lipid metabolism.

PPARG plays an important role in lowering insulin levels and resolving Type 2 diabetes because it increases the activity of the insulin receptor, it reduces insulin resistance, so that less insulin is required to promote optimum glucose metabolism. Thus, up-regulation of PPARG lowers serum insulin levels by reducing the need for excessive insulin.

What does MTHFR do?

Methylenetetrahydrofolate reductase is an enzyme that is encoded by the gene MTHFR. The MTHFR gene product plays an important role in the multi-step process that converts the amino acid homocysteine to another amino acid, methionine.

Methionine is an essential amino acid that is found in red meat for example. It plays a very important role in making sure that genes work properly. It does this by donating methyl groups to DNA. When a methyl group is donated to DNA by methionine, it is eventually converted to the amino acid homocysteine. MTHFR helps to re-methylate homocysteine and convert it back to methionine so that it can be used again to support the function of the genetic blueprint. Decreased activity of MTHFR leads to inefficient conversion of homocysteine to methionine. This leads to a build-up of homocysteine in the blood. High levels of homocysteine have been proven to cause the development of many diseases such as heart disease, migraine, stroke, hearing loss and blood vessel deterioration and premature death (4).

1. http://ghr.nlm.nih.gov/gene/CYP27A1

2. Hansson, M et al., Regulation of sterol 27-hydroxylase in human monocyte-derived macrophages: up-regulation by transforming growth factor beta1. Biochim Biophys Acta. 1687; 44, 2005.

3. Tyagi S et al., The peroxisome proliferator-activated receptor: A family of nuclear receptors role in various diseases. J. Adv. Pharm. Technol. Res. 2011:2; 236.

4. http://www.lef.org/protocols/heart_circulatory/homocysteine_reduction_01.htm

Homeovitality TumOX40.

Use for:- Increasing the immune system's ability to attack and kill cancer cells.

OX 40 plays an important role in enabling immune cells to work better and kill cancer cells more effectively.

The Homeovitality TumOX40 has been designed to target the OX40 gene, the gene that encodes the OX 40 cytotoxic T-cell immune stimulant.

What does the OX40 gene do?

There are a number of different types of cells within the immune system. One of them, a type of T cell called a cytotoxic T cell, plays an important role in the killing of cancer or tumour cells.

Recognition of the existence of tumour-specific T cells confirms that the immune response can be deployed to combat cancer. However, T cell cytotoxic activity is often suppressed in the environment of a tumour, resulting in impairment of the tumour specific cytotoxic T cell's ability to kill its target tumour cells.

In recent years, scientists have discovered that members of the tumour necrosis factor superfamily direct many parts of the immune system. One family member, OX40 has been found to be a key factor that augments T-cell expansion, cytokine production, and survival of tumour specific cytotoxic T cells. Studies over the last decade or so have also confirmed that OX40 does in fact increase the ability of cytotoxic T cells to recognise cancer cells as being immunologically foreign and increase their capacity to kill them (see Ref. 1 and within).

Reference to how OX40 can stimulate the activity of tumour specific cytotoxic T-cells is diagrammatically represented in the Agonox literature (2).

1. Jensen et al., Signaling through OX40 enhances antitumor immunity. Seminars in Oncology. 2010: 37, 524.
2. http://www.agonox.com/ox40immunotherapy/cancertherapy.html

Homeovitality Vital Energy.

Use for:- Multi-organ health, anti-aging, boosting energy, stamina, muscle weakness, exercise intolerance, muscle pain, cramps, heart health, liver function and immunity. Also helpful in Alzheimer, Parkinson, and Huntington diseases and other neuromuscular disorders. It may also help to tolerate the unwanted side-effects associated with chemotherapy.

Homeovitality Vital Energy has been designed to target the COQ4 gene. The COQ4 gene plays an important role in production of the vital energy producing enzyme CoenzymeQ10. Sufficient CoenzymeQ10 is necessary to supply the energy needed for all the body's organs and cells to work at their optimum capacity, especially skeletal muscle, heart muscle, the liver and the immune system. Without CoenzymeQ10, no energy is produced and cells and organs die.
CoenzymeQ10 is considered to have important anti-aging properties, therefore everyone would benefit by taking this product on a permanent basis as they age.

What does COQ4 do?

The gene COQ4 encodes a protein that is responsible for organising a multienzyme complex for the synthesis of CoenzymeQ10. It has been shown to be an essential requirement for the production of biological energy in all forms of life.

In 2008, Casarin and co-workers first discovered the same vital energy producing gene in humans (1). Since then, other scientists have demonstrated that reduced expression of the COQ4 gene leads to partial CoenzymeQ10 deficiency, and subsequently, increased susceptibility to development of many disorders (2).

CoenzymeQ10 is essential for production of ATP in the cell's mitochondria as part of the Kreb's cycle. ATP is the body's vital energy source, the body's "vital force" according to the homeopath S. Rashid (3). It is the body's source of power, just like a battery. Therefore, if insufficient CoenzymeQ10 is available, the biological battery loses power and cells and organs die.

Roffe and colleagues discovered yet further benefits of CoenzymeQ10 in that it can reduce unwanted side-effects in cancer patients receiving chemotherapy (4).

Unfortunately, statin drugs impair CoQ10 synthesis. They do this by blocking the conversion of the CoenzymeQ10 precursor hydroxymethylglutarate to cholesterol and then subsequently to CoenzymeQ10 (5). Therefore, it would be of great benefit to all those who are on long term statin therapy.

Finally, in view of the fact that CoenzymeQ10 is so important in recharging all the body's energy batteries, it is not surprising that Hoppe and colleagues referred to it well over a decade ago as an "energizer" (6).

1. Casarin et al, Functional characterization of human COQ4, a gene required for Coenzyme Q10 biosynthesis. Biochem. Biophys. Res.Commun. 372:35, 2008.

2. Salviati et al., Haploinsufficiency of COQ4 causes coenzyme Q10 deficiency. J. Med. Genet. 49:187, 2012. doi: 10.1136/jmedgenet-2011-100394.

3. http://hpathy.com/homeopathy-papers/vital-force-generation-and-utilisation/

4. Roffe et al.,Efficacy of coenzyme Q10 for improved tolerability of cancer treatments: a systematic review. J Clin Oncol. 22:4418, 2004.

5. Levy and Kohlhaas., Considerations for supplementing with coenzyme Q10 during statin therapy. Ann Pharmacother. 40:290, 2006.

6. Hoppe et al., Coenzyme Q10, a cutaneous antioxidant and energizer. Biofactors. 9:371, 1999.

Homeovitality Education Support.

In recent years, important scientific discoveries have revealed new insights into the workings of Homeopathy and other alternative health care practices. Importantly, the view that homeopathic remediation can interact with the genetic blueprint has been confirmed. Consequently, since the genetic blueprint contains genes that cause many diseases including cancer as well as those that resolve disease, it is important that practitioners understand more about the interaction between highly diluted substances and the genetic blueprint.

DNA is one of the many substances that are used to prepare homeopathic remedies. Its use is well established in homeopathic remediation.

Homeopathic DNA has been subject to provings and is included in Materia Medicas such as those compiled by Dr A.O. Julian and Dr R. Murphy. The results of these provings confirm that homeopathic DNA can target genes that cause disease in an in vivo setting.

Homeopathic DNA remedies include genetic material of unknown sequence and from various species, sometimes fish and sometimes plants. With a view to increasing the specificity of homeopathic remediation, Dr. Marichal successfully established the use of highly purified DNA molecules of known sequence to help boost the activity of immune response genes.

The use of highly diluted sequence specific DNA molecules to target immune response genes is called New Homeopathic Micro-Immunotherapy. That is because, even though it works on a "like-promotes-like" principle, it does not cause symptoms of disease in healthy subjects. The Homeovitality system works on the same principles. It targets genes that support health and correct various diseases. It is also designed to target genes that promote natural super health, the highest level of health naturally possible. That is why it is called Micro-DNA therapy.

The Homeovitality system is in fact, a safer refinement of the well-established use of homeopathic DNA. It is safer because it does not contain any DNA of foreign or infectious origin or mutated DNA. This is an important safety consideration because, as indicated above, experiences from the use of homeopathic DNA and the new homeopathic system, Micro-Immunotherapy as well as in vitro studies confirm that highly diluted DNA, as well as many other substances, have the capacity to promote gene expression.

To enable practitioners to understand more about these recent advances and the basic sciences and genetics that underpin them, the Homeovitality Learning Centre has developed a sound science based course so that practitioners can provide the benefits of the Homeovitality system to the community safely and effectively.

Although the course is designed for all alternative health practitioners, it is also available to the general public so that they may have a better understanding of the workings and scope of New Homeopathic micro-DNA therapy and Homeovitality.

Participants who complete the course will be issued with a Diploma stating that they have achieved a satisfactory understanding the basic sciences and the benefits of New Homeopathy and Homeovitality. They will also be able to use the title NDTP (New Homeopathic micro-DNA Therapy Practitioner) and practice the application of the Homeovitality system.

Course Content.

This distance learning course is presented in 9 modules. A valid email address is required to take part in the course. Participants undertake one module at a time. After each module, participants will be required to answer some simple multiple choice questions. If the questions are answered satisfactorily, participants will be issued with the next module until the full course is completed. There are no time restrictions for completion of each module. For course registration, please access www.homeovitalitycentre.com

Module 1 - Introduction to the atom, elements, periodic table and molecules
+ The atom, periodic table and elements
+ From atoms to molecules
+ Organic and inorganic chemistry

Module 2 - Introduction to proteins
+ Atoms to amino acids
+ Amino acids
+ Amino acids to proteins
+ Production of mature proteins

Module 3 - Introduction to the cell
+ Cellular structure and organelles
+ Energy production
+ Hormones and enzymes

Module 4 - Introduction to DNA

+ Structure of DNA
+ Cellular organisation of DNA
+ Inheritance of DNA
+ What is a gene, how many genes are there?

Module 5 - How are proteins made?
+ What is RNA?
+ How are proteins made?
+ Transcription, splicing and translation
+ Epigenetics and control of gene expression

Module 6 - Introduction to disease
+ Genetic diseases
+ Recessive and dominant disorders
+ Sex-linked diseases
+Imprinting and disease

Module 7 - Miscellaneous
+ DNA repair genes
+ Nutrigenomics
+ Pharmacogenetics
+ Immune systems
+ Inflammation

Module 8 - Introduction to New Homeopathy
+ DNA as a remedy in Homeopathy
+ New Homeopathy, history and comparison with Homeopathy
+ DNA and RNA proving by Dr Jenaer and its utilisation in New Homeopathy
+ New properties of DNA

Module 9 - Evolution of Homeovitality
+ Natural super-health – historical background discoveries & the scope of Homeovitality
+ High dilution technology, interaction with the genetic blueprint
+ Health promoting genes
+ Elimination of remedial aggravations

Contact Details.

For more details about the Homeovitality system and contact information, please visit www.homeovitality.com

The Homeovitality Materia Medica will be revised, in the light of new discoveries, to include new products as they are developed.

Appendix 1:- Notes on the Safety of the Homeovitality System.

Since introduction of the Homeovitality health care system, concerns have been expressed about its safety because it targets the genetic blueprint.

The Homeovitality system was developed to take advantage of new health care discoveries using established principles of high dilution technology. It uses highly diluted DNA molecules with precise nucleotide sequences to target genes, parts of the genetic blueprint that have been proven to promote and support health and resolve disease.

The use of highly diluted DNA is well established in homeopathic practice. It is included in provings and Materia Medicas such as those indicated above. However, as mentioned, the composition of homeopathic DNA is not standardised. Homeopathic DNA targets genes that reduce the symptoms of disease. It also affects expression of many genes that cause disease. That is so because it induces many symptoms of disease in healthy subjects.

The Homeovitality system has been developed to avoid the prospect of inducing disease symptoms in recipients because it uses DNA molecules with standardised sequences that target only genes that have been proven to support health and resolve disease.

Practitioners and others have also questioned the safety of the Homeovitality system because it has the potential to alter gene expression. Many do not realise though that, as indicated above, homeopathic remedies are already doing that in a much less controlled way.

There is nothing new about the idea that environmental factors affect gene expression. We willingly and unwittingly expose ourselves on a daily basis to agents that disturb optimum gene expression. For example, there are many food components that can interact with the genetic blueprint and affect the expression of many genes. The significance of these food/gene interactions is reflected by the development of a whole new field of scientific investigation called nutrigenomics.

Some food influenced alterations in gene expression can be beneficial. For example, lunasin, a substance found in soy can increase the expression of genes that monitor damage to DNA and suppress the growth of cancer cells.

On the other hand, some nutritional factors including some phytonutrients can dysregulate the expression of a set of genes that produce kinases, a family of proteins that are involved in metabolism. Alterations in kinase gene expression are associated susceptibility to obesity, type 2 diabetes, and atherosclerosis.

DNA methylation, a natural chemical modification of DNA, also plays a major role in co-ordinating gene expression particularly during development. Efficiency of DNA methylation, and thus optimum development depends very much on having a sufficient dietary intake of the essential amino acid methionine. That is why a vegetarian diet may affect optimum development in the early stages of life. There are many other factors that we are exposed to every day such as stress, exposure to temperature variation, sleep, physical activity and thought processes that affect gene expression.

Some have expressed concerns about ingestion of DNA. There is no need for concern whatsoever because, as well as homeopathic DNA, many homeopathic remedies such as nosodes as well as sarcodes and plant derived remedies may contain foreign DNA, mutated DNA and DNA from infectious agents.

So, to put practitioners' and clients' minds at ease, gene expression supported by the Homeovitality system is safer and better controlled than gene expression alterations effected by homeopathic remedies and dietary components.

Appendix 2:- Summary of gene targets.

Age Well	KL / GH 1 / IL-7
Allergicare	IL-10
Cancer Care	TIP 30/KEAP 1
Cholestecare	C27 / KL / CQ4
Depress Aid	SLC6A15
Diabetes II	PPARG
DNArep	BRCA1
Eczeban	FGN / IL10
Elastin	ELN
Endocare	SIRT6
Fertility Aid for her	MPR 7
Fertility Aid for him	MPR 7 / SLO (KCNMA1)
Fibrocare	PPARG / DEFB 1 / KEAP 1
Fungdel	CAR9
Genache	IL10 / ST6 / KC18
Glutaorn	GSTM1
HCYcare	MTHFR
Hi-HDL	APOA1
Lo-LDLR	LDLR
MBL2	MBL2
Mentdel	MME / PPARG
Migraban	KC18 / MTR
obEase II	MC4R / LIPE
Prorep	HSF 1
RBM4	RBM4
Restless Warrior	DEFB 1
STeP1	STP1

Super Build-Up	GH 1 / KL
Super careD	C27
Super Detox	CYP 2D6
Super Growth	GH 1
Super Heart	KL
Super Immunity	IL-7
Super Memory/IQ	CHRM 2 / SNAP 25
Super Strong Bones	CTR
Super Weight Loss	LEP / ADP
Super Wound Heal	CCN 1
Telomerase	TERT
TP53	TP53
Triprolife	C27 / MTHFR / PPARG
TumOX40	OX40
Vital Energy	CQ4

Appendix 3:- Summary of the applications of the Homeovitality health care system.

Homeovitality Age Well.
Use for:- Longevity, anti-aging, skin wrinkling, stabilise and boost aged related decline in immunity and reduce age related muscle loss.

Homeovitality Allergicare.
Use for:- Allergic asthma, chronic inflammation, psoriasis, inflammatory bowel diseases, rheumatoid arthritis, pain relief, depression, multiple sclerosis, allergic contact dermatitis, auto-immune disorders including hyperthyroidism and hypothyroidism, alopecia.

Homeovitality Bacteviro Plus.
Use for:- Combating all infections and boosting cell mediated immunity, antibody production and skin protection.

Homeovitality Cancer Care.
Use for:- Cancer, tumour suppression, inhibiting spread of cancer cells (metastasis).

Homeovitality Cholestecare.
Use for:- Controlling cholesterol levels naturally and promoting heart health.

Homeovitality Depress Aid.
Use for:- Depression.

Homeovitality Diabetes II.
Use for:- Type 2 diabetes, uterine fibroids, atherosclerosis, inflammation of the cardiovascular system, hyperlipidemia, Alzheimer's disease, Parkinsons disease and cancer.

Homeovitality DNArep.
Use for:- Cancer, DNA repair, protection against cancer.

Homeovitality Eczeban.
Use for:- This remedy has been designed to target the genes FGN and IL-10 for treatment of atopic eczema and dermatitis.

Homeovitality Elastin.
Use for:- Slowing down skin ageing, reducing wrinkling of the skin, reducing susceptibility to atherosclerotic heart disease and optimising lung function as we age.

Homeovitality Fertility Aid for her.

Use for;- Increasing fertility in females, relief of all disorders in which fluid secretions are sub-optimal. These include conditions such as dry eye disease, Sjogren's disease and multi-organ inflammatory disorders associated with membrane dryness and age related dryness of skin and organs.

Homeovitality Fertility Aid for him.

Use for:- Increasing male fertility and virility.

Homeovitality Fibrocare.

Use for:- Homeovitality Fibrocare has been developed specifically to combat fibroids (leiomyomas) that develop and grow within and around the uterus.

Homeovitality Fungdel.

Use for:- Fungal and bacterial infections.

Homeovitality Genache.

Use for:- This remedy has been developed to target the combination of genes IL- 10, SIRT6 and KCNK18 to help relieve aches and pains.

Homeovitality Glutaborn.

Use for:- Helping to improve all forms of ill-health by increasing anti- oxidant activity and removing a wide range of toxins.

Homeovitality HCYcare.

Use for:- Preventing and resolving a wide range of diseases caused by high blood levels of the non-protein amino acid, homocysteine.

Homeovitality Hi-HDL

Use for:- Increasing HDL, heart disease, anti-inflammatory.

Homeovitality Lo-LDLR.

Use for:- Helping to lower the level of LDL in the blood to reduce the likelihood of developing heart disease and stroke.

Homeovitality MBL2

Use for:- Fighting a wide range infectious agents such as bacteria and viruses that have entered the bloodstream.

Homeovitality Mentdel
Use for:- Helping resolve and delay the onset of Alzheimer disease.

Homeovitality Migraban.
Use for:- Treatment of migraine and headaches.

Homeovitality obEase II.
Use for:- Obesity.

Homeovitality Prorep.
Use for:- Repair of proteins that have been damaged by exposure to excessive heat, radiation (all forms), sun and toxins. It is also useful for repairing proteins that have been damaged by acute and chronic inflammatory disorders.

Homeovitality "Restless Warrior".
Use for:- Treating and protecting against infections of skin and tissue surfaces such as the urogenital tract and reproductive systems, providing protection against newborn bacterial infections because it is expressed in breast milk, Crohn's disease, leprosy, tuberculosis, cancer, AIDS.

Homeovitality RBM4.
Use for:- Administration to people with all types of cancer. The remedy HoV-RBM4 has been developed to target the anti-cancer gene RBM4.

Homeovitality STeP1.
Use for:- Non-allergic asthma.

Homeovitality Super Build-Up.
Use for:- Building up muscle, anti-aging, reduce age related muscle loss.

Homeovitality Super careD.
Use for:- A wide range of health benefits including osteoporosis. It is also very important for the growth of healthy bones and tissues in children and maintenance of healthy tissues in the elderly.

Homeovitality Super Detox.
Use for:- Enhancing the body's natural anti-toxin system.

Homeovitality Super Growth.
Use for:- Promoting growth in children.

Homeovitality Super Heart.
Use for:- Anti-aging, blood pressure, heart health, kidney health, rheumatoid arthritis, auto-immune diseases, cancer and general health improvement.

Homeovitality Super Immunity.
Use for:- Cancer, repairing immune systems that have been damaged by cancer treatments such as chemotherapy and radiotherapy, immune deficiency, AIDS, immunisation support, boosting the production of immune-competent cells.

Not to be used for leukaemias, lymphomas and myeloma.

Homeovitality Super Memory/IQ.
Use for:- Impaired memory, Alzheimer disease, help with IQ.

Homeovitality Super Strong Bones.
Use for:- Osteoporosis, brittle bones, especially in post-menopausal women, protecting against bone fracture.

Homeovitality Super Weight Loss.
Use for:- Weight loss, maintaining a healthy BMI, type 2 diabetes, strengthening bone.

Homeovitality Super Wound Heal.
Use for:- Improving internal and external wound healing and reducing the formation of scar tissue, supporting the growth of new blood vessels, reducing severity of heart disease, and promoting faster healing of heart tissue damaged by cardiomyopathy and heart attacks.

Homeovitality Telomerase.
Use for:- Slowing down the ageing process and generation of new cells needed to repair damaged or ageing tissues including skin.

Homeovitality TP53.
Use for:- Suppression of growth of all tumour types.

Homeovitality Triprolife.
Use for:- Homeovitality Triprolife has been developed to lower the level of cholesterol, insulin and homocysteine in the blood. Increased levels of cholesterol, insulin and homocysteine in the blood are known causes of many types of ill-health and early death.

Homeovitality TumOX40.
Use for:- Increasing the immune system's ability to attack and kill cancer cells.

Homeovitality Vital Energy.

Use for:- Multi-organ health, anti-aging, boosting energy, stamina, muscle weakness, exercise intolerance, muscle pain, cramps, heart health, liver function and immunity. Also helpful in Alzheimer, Parkinson, and Huntington diseases and other neuromuscular disorders. It may also help to tolerate the unwanted side-effects associated with chemotherapy.

Appendix 4:- Homeovitality Product Images.


Mentdel
Migraban
Lo-LDLr
obEase II
Prorep
RBM4
Restless Warrior
STeP1
Super Build-Up
Super careD
Super Detox
Super Growth
Super Heart
Super Immunity
Super Memory/IQ
Super Strong Bone
Super Weight Loss
Super Wound Heal
Telomerase
TP53


Triprolife
TumOX40
Vital Energy