



## **Gene targeting using sequence specific homeopathic DNA remedies for health promotion and disease protection.**

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### **Abstract.**

An adaption of the use of homeopathic DNA has permitted development of a health care modality which takes advantage of important scientific discoveries as they emerge.

It is now known that homeopathic remedies interact with the genetic blueprint (genome) and increase the expression of many genes. Because the human genome contains genes that promote health as well as genes that cause disease when their expression is increased, it became important to be able to control the specificity of homeopathic remedy/genomic interactions. Almost fifty years ago, it was discovered that, in a clinical setting, gene specific targeting could be brought about by the use of homeopathic DNA molecules with defined nucleotide sequences.

Based on this advanced homeopathic DNA gene targeting system, a series of sequence specific homeopathic DNA (SSHD) remedies has now been developed. These SSHD remedies take into account recently discovered health related scientific findings as well as new properties of DNA that have been discovered in recent years.

This article describes the evolution, applications and advantages of these SSHD remedies and why it is important to understand more about the gene targeting specificity of homeopathic remedies.

## Introduction.

The onset and resolution of symptoms of ill-health are reflected by changes in the biological, physiological or psychological characteristics (health status) of an individual.

Basically, there are two ways in which an individual's health status can be altered. Firstly, symptoms of ill-health can be resolved or induced by the administration of pharmacologically acting drugs or chemicals that interfere with qualitative and/or quantitative features of specific proteins that are associated with a particular set of symptoms. On the other hand, an individual's health status can be changed by re-arranging the expression of genes that encode the proteins that promote or resolve a particular set of disease symptoms. It is now recognised that homeopathy is one of the health care modalities that can do this.

Homeopathic remedies alter an individual's health status in different ways. For example, they can resolve many symptoms of ill-health. They also promote many different symptom patterns of ill-health as recognised by results of the "proving" process and induction of "aggravations".

Generally, homeopathic remedies do not contain any pharmacologically acting substances, therefore they must alter the health characteristics of an individual by interacting with the transcriptome (the number of genes that are expressed in any particular cell or tissue) and re-arranging the expression of various genes that effect those particular changes in health status. This is an important consideration because, in the last few decades, scientific studies have dramatically increased our understanding of genes that promote symptom patterns of many forms of ill-health when their expression is restricted as well as genes that promote symptoms of ill-health or disease when their expression is increased.

Almost two decades ago, the idea that homeopathic remedies could interact with the transcriptome and induce the expression of various genes began to be formally addressed (1). Since then, many studies have confirmed that homeopathic remedies do have the capacity to increase the expression of many genes, see Ref.2 and within.

Interestingly, Saha and colleagues (3) discovered that individual remedies such as *Condurango* and *Hydrastis canadensis* have the capacity to re-arrange the expression of

many genes, well over a hundred. From a health care standpoint, this is a very important observation since, as indicated above, the human genome (the genetic blueprint) contains many genes that cause disease as well as genes that promote health and protect against disease. They also found that each of these remedies can re-arrange the expression of a range of quite different genes. Therefore with a view to advancing homeopathy, it became important to develop a way to target specific health promoting genes in a predictable way. This became possible due to the studies of the homeopath and immunologist Dr. Jenaer in the late 1960s. He demonstrated that DNA molecules with defined nucleotide sequences, could be used to target and modulate the activity of various health promoting genes (4).

### **About homeopathic DNA.**

DNA has long been used to prepare homeopathic remedies. It is included in *Materia Medicas* compiled by practitioners such as Dr. Julian (5), Dr. Jenaer (6) and others. It is also included in various Homeopathic Pharmacopoeias such as the Homeopathic Pharmacopoeia of the United States (HPUS).

Various homeopathic DNA remedy preparations prepared from DNA from fish (isolated from the sperms of herring or salmon) or cattle (isolated from the thymus of a calf) have been subjected to the proving process by a number of practitioners such as Dr. Jenaer, Dr. Julian, Robbins and others (7). Because a wide range of symptoms of ill-health are induced by administration of homeopathic DNA preparations, it follows that homeopathic DNA has the capacity to target many genes that promote symptoms of disease.

On the other hand, following administration of homeopathic DNA, many health benefits have been recorded by practitioners such as Dr. Suvarna (8) and those above. These findings confirm that homeopathic DNA can also target genes that encode proteins that resolve many symptoms associated with different forms of ill-health.

Based on the effects of administration of homeopathic DNA, it made sense to develop a way of adapting the use of homeopathic DNA to target specific health promoting genes.

### **Efficacy and validation of SSHD remedies.**

The efficacy of remedies prepared from homeopathic DNA molecules with defined nucleotide sequences has been recognised by the international scientific community because the application of DNA molecules with precise sequences in a homeopathic setting has been granted a Patent, see EP0670164B1. Furthermore, the preparation of legitimate homeopathic remedies by using DNA molecules with precise sequences has also been validated by the Medicines and Healthcare products Regulation Agency in the U.K., see HR 17491/0001.

Based on these advances, an extensive range of SSHD remedies has now been developed. The application of these new remedies takes advantage of a wide range of important scientific discoveries that have come to light in recent years.

### **Properties of DNA used for the preparation of SSHD remedies.**

All DNA molecules that are used to prepare SSHD remedies are in double stranded form. They are in the order of 200-400 base pairs in length. They are manufactured by world class molecular genetics laboratories using the classical DNA synthesising technology, the polymerase chain reaction. They are of precise sequence, length and concentration so that remedy preparations are standardised and completely reproducible. Unlike homeopathic DNA preparations, they are guaranteed risk free because they do not contain any DNA sequences of foreign or viral origin. The sequence of each of the SSHD molecules is determined by reference to the sequence of the targeted gene/s reported as a consequence of the Human Genome Project and other reputable scientific reports.

The new SSHD molecules are potentised and administered in an aqueous phase to take advantage of recently discovered new properties of DNA. For example, scientists have found that double stranded DNA molecules have unusual interactive properties in that, in solution, they can communicate with and be attracted to other DNA molecules with the same sequence (9). When mechanically stimulated, they can also emit sequence specific electromagnetic signals that can be recognised by DNA molecules with the same sequence (10). This DNA mediated signalling cannot be measured when DNA solutions are diluted more than 1 in  $10^{12}$  (equivalent to 6C). That is why the SSHD remedies are used specifically at a potency of 6C. It is important to recognise that these remarkable new properties of DNA have only been found in DNA molecules that are in double stranded form and in solution.

Interestingly, over many years, seminal work by Goodman and colleagues has shown that expression of various genes can be readily up-regulated by the application of electromagnetic signalling (11).

### **Advantages of the SSHD remedy system.**

Based on a large body of research, SSHD remedies are designed to be completely safe because they only target genes that have been shown to promote health and protect against disease.

New genetic health care discoveries usually take between 10-20 years before they can be translated into a new form of treatment, usually in the form of a drug. By contrast, the SSHD system is able to convert relevant cutting edge discoveries into a safe treatment modality without delay.

### **Remedy selection criteria.**

How are gene targets selected for inclusion in the SSHD remedy range?

There are a number of different ways in which genes can promote symptoms of ill-health. For example, many diseases are caused by inherited or acquired changes in the DNA sequence of a gene (usually referred to as a mutation). These mutations cause symptoms of ill-health due to formation of a protein that does not work properly. SSHD remedies cannot resolve diseases caused by DNA mutations because they are unable to alter the inherited sequence of DNA.

On the other hand many disease symptoms are produced when a gene loses the ability to produce a sufficient amount of a normal protein, that is, the gene is not expressed sufficiently. Based on the pioneering work of Khuda-Bukhsh and others (1-3), SSHD remedies have been developed to address symptom pictures that are generated when the expression of a particular gene is diminished. The symptom pictures generated by reduced expression of particular genes have been accurately recorded due to many years of world class scientific investigations. As a consequence remedy selection is simple.

### **When are SSHD remedies prescribed?**

SSHD remedies are prescribed partly on the basis of symptom patterns that are generated when the expression level of a particular gene is sub-optimal. They are also prescribed on the basis of the known functions of the genes that they have been designed to target.

There are a number of reasons why expression of a gene may be sub-optimal. For example, the expression of some genes declines with age. The expression of one of the most important health promoting genes discovered thus far, KL, is one of them. 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 (12). 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 (13). These features are completely reversed by up-regulation of KL (14)

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 (15). 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. Thus, to protect against many diseases, everyone would benefit by taking the KL gene targeting SSHD remedy on a permanent basis, particularly as they age. This remedy is called Age Well. Another KL targeting remedy, Super Heart is designed to support heart health. There are a number of SSHD remedies in this category.

On the other hand there are a number of remedies that are of benefit to everyone when taken on a permanent basis at all times. For example, the amino acid homocysteine, when in high concentrations in the blood, increases susceptibility to development of heart disease, atherosclerosis and many other disorders including migraine. Blood levels of homocysteine are elevated when the activity of the protein MTHFR is reduced (16, 17). Therefore, a new SSHD remedy has been developed to target the MTHFR gene to control serum levels of homocysteine. There are a number of SSHD remedies in this category including some that are designed to help people avoid excessive weight gain.

By contrast, other remedies are only required on a transient basis. For example, with the onset of asthma, prescription of two quite different remedies is warranted. One new SSHD remedy is designed to target the IL-10 gene. IL-10 is an immune suppressant and has been shown to suppress immune components of allergy. 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 (18). On the other hand, a completely different non-inflammatory form of asthma has recently been discovered (19). Almost a half of asthma patients may suffer from this form of asthma. It is due to a reduction in the concentration of a protein called sphingolipid in the walls of the airways. When the amount of sphingolipid in

airway cells is reduced, the walls of the airways contract resulting in the onset of a non-inflammatory form of asthma that is completely non-responsive to immunosuppressive or corticosteroid therapy. Sphingolipid synthesis is augmented by the STP1 gene. Therefore co-administration of the remedies that target the IL-10 gene, as well as the STP1 gene (remedy STeP1) is warranted in patients who present with asthma. There are a number of remedies in the SSHD remedies in this category.

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 severe depression.

They found that expression of the SLC6A15 gene, which regulates the brain's excitatory transmitter glutamate, was reduced in people who were severely depressed (20). Therefore, the SSHD remedy *Depress Aid* product which targets the SLC6A15 gene was developed to target this important gene in sufferers of depression. The full range of SSHD remedies and science based associated educational programmes can be found at [www.homeovitality.com](http://www.homeovitality.com).

### **Why is it important to understand the function of the genes targeted by homeopathic remedies?**

Practitioners have questioned why it is important to understand the function of the genes that are targeted by different homeopathic remedies. There are many reasons, particularly because the human genome contains genes that cause a wide range of diseases or make them worse. Such genes include those that encode factors that promote inflammation. The significance of this understanding is exemplified by reference to homeogenetic studies by Hofbauer and colleagues published in *Homeopathy* (21). These workers have shown that the two homeopathic remedies *Nux vomica* and *Calendula officinalis*, remedies often prescribed to patients with gastritis, reduce expression of the HB-EGF gene in gastric cells infected with the bacterium *Helicobacter pylori* (*H. pylori*).

To realise the potential clinical significance of this finding, it is important to take into account the facts that firstly *H. pylori* infection is a cause of gastric ulceration and secondly, that HB-EGF plays an important role in repair of damaged or ulcerated gastric tissue. Therefore, since *Nux vomica* and *Calendula officinalis* have been shown to reduce the production of HB-EGF in gastric cells infected with *H. pylori*, it is possible that administration of either of these two remedies may slow down the healing of *H. pylori* induced gastric ulceration. For practitioners and the

public who wish to understand more about the basic sciences that underpin the reaction between homeopathic remedies and the genetic blueprint, a unique science based course is available at [www.homeovitality.com](http://www.homeovitality.com)

### **Conclusions.**

The human genetic blueprint or genome contains around 25,000 genes, many of which cause a range of diseases or make them worse when their expression is sub-optimal. Because homeopathic remedies have been shown to have the capacity to alter the expression of many genes, it becomes important to be aware of which genes are targeted by which remedies. Taken together with newly discovered properties of double stranded DNA in solution, specific genes that resolve disease and reduce disease susceptibility are able to be targeted by the use of homeopathic DNA molecules with precise sequences.

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