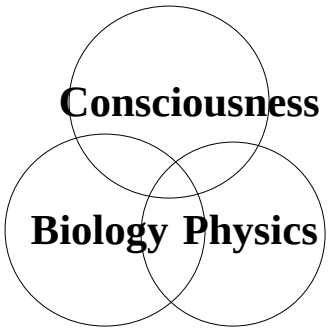

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CHARACTERIZING THE EFFECT OF THE ENERGY EMITTED BY LIFEWAVE PATCHES ON HUMAN DNA

ABSTRACT

This study is designed to demonstrate that Lifewave patches emit ane energy field and to develop a cell-free in-vitro bioassay for this emitted energy. Human DNA was used as a target biomolecule because it is known to respond to both classical and non-classical electromagnetic (EM) fields. The electrical properties of DNA were measured because they are known to correlate with physiological functions of DNA in-vivo and the electrical properties are highly sensitive to the external environment. Glass vials containing DNA were placed on top of a Lifewave patch placed on the P8 acupoint. Electrical properties of DNA were immediately measured and shown to significantly increase (compared to non-patch controls) under certain excitation conditions. Since the DNA was separated from the patch by a glass barrier, it can be concluded that the DNA is altered by some type of energy field emitted by the patch.

I. INTRODUCTION

Lifewave patches are believed to absorb infrared (IR) energy emitted by the body and emit “information signals” which are transmitted back to the body (Haltiwanger, xxxx) This signals are believed to be frequency specific IR signals modulated by chemical information of the stereoisomers within the patch. All previous Lifewave studies have focus on measuring biological effects in the body (under the patch). The present study hypothesizes that if the stereoisomers are in fact acting as crystalline antennae then the emitted radiation should be isotropic, or at least multidirectional. Therefore it is expected that the radition should be emitted from the top of the patch and that an biomolecule

placed on top of the patch could respond to the energy. This is the basis for developing an in-vitro bioassay for the energy emitted by Lifewave patches.Therefore, the main goal of this research is to demonstrate that energy emitted by LifeWave patches resonates with and modifies the electrical properties of human DNA. A secondary goal is to develop an in-vitro bio-assay to measure the energy emitted by the LifeWave patches.

To measure the energy emitted by the LifeWave patches, DNA was chose as the target biomolecule because previous studies have shown that it resonate with and is altered by a variety of electromagnetic (EM) (Blank, 1997;Borhani, 2011) and bio-energies (Rein, 1995, Rein, 2003). Electrical conductivity of DNA was chosen as the biological endpoint to measure the energy emitted by the LifeWave patches.

A. Electrical Conductivity of Human DNA

Electrical conductivity of biomolecules is now being used to determine how their electrical properties relate to their well-established physical-chemical properties and their functional role in the human body**.** Electrical conductivity of DNA, for example, is well known to occur along its central axis and across individual strands (Bakhshi, 1994; Fink, 1999). In the case of DNA, conductivity measures correlate to the functional activity of DNA repair. Increasing conductivity is associated with increased ability of DNA to repair itself (Retel, 1993) and repaired DNA has 20-fold higher conductivity than the same DNA when damaged (Hartzell, 2003). Increased conductivity of DNA is also associated with enhancing intrinsic self-assembly processes (Lintao, 2000). On the other hand, large decreases in conductivity are associated with mismatched DNA strands (Hihath, 2005). Thus, any treatment which increases electrical conductivity can be considered beneficial to the body.

One method for measuring electrical conductivity of biomolecules like DNA is to apply current at different frequencies and measure the response as voltage spikes. Other techniques apply electric fields at different frequencies and measure current spikes. These current-voltage techniques are used in several commercially available spectrophotometers including dielectric spectroscopy. In fact there are numerous methods now available to measure the electrical conductivity of DNA. Published studies using these techniques report that individual molecules of DNA can conduct electrons, protons and polarons. These subatomic particles can travel down and through the DNA helix at varying rates. Depending on the type of DNA, its chemical and physical properties and its external environment (solvent properties), the charge transfer rate can be as slow as a multi-step non-conductor or as fast as a superconductor. Under resonance conditions, intrinsic energy fluctuations within DNA result in electron decoherence and charge transfer processes which occur via a one-step coherent superexchange (Xin-Qi 2001). This superconductive process is believed to occur via a quantum tunneling mechanism (Zikic, 2006). Thus, the electrical conductivity of DNA can either occur as a classical (ohmic) multi-step, incoherent hopping process or via quantum tunneling. Although this is acknowledged by main stream science, the implications for understanding how the body heals are largely unrealized.

Conductivity measurements taken by Del Giudice and Cyril Smith demonstrated discrete voltage jumps at specific resonance frequencies in lysozyme, a typical biomolecule (Del Giudice, 1989). They are considered resonance frequencies because their extremely narrow bandwidths are consistent with Josephon-like behavior. Such measurements are believed to measure macroscopic quantum coherent behavior of biomolecules similar to Josephson-like behavior observed in superconductors. Del Giudice mathematically modeled this behavior as Josephson supercurrent mediated by intrinsic coherence domains (DelGiudice, 1988). These results indicate the ability of current-voltage techniques to measure macroscopic quantum properties of biomolecules.

B. The Quantum Biology Research Lab's (QBRL) Methodology

The QBRL has developed a method for measuring the electrical property of biomolecules by applying weak voltage spikes at varying frequencies (from 25-100 kHz) and measuring the current response in nanoamps. The standard current-voltage measurement technique was modified using proprietary method to increase the likelihood of measuring quantum superexchange. This is achieved in part by taking experimental measurements under resonance conditions. This novel technique has previously been used at QBRL to characterize the electrical properties of human DNA in general and its quantum properties in particular.

Such measurements have been shown to be extremely sensitive to external energies like electromagnetic energy (classical and non-classical), acoustic energy, bio-energy, paramagnetic energy and subtle energy stored in various commercial devices. Although these results are highly dependent on the exact excitations conditions, they are indeed reproducible. The method can readily be applied to all biomolecules and living cells.

II. EXPERIMENTAL PROTOCOL

All measurements were obtained by placing a sample of DNA in a glass chamber containing two electrodes, one to excite the sample with a weak voltage surge and one to measure the current response. Stock solutions (30ug/ml) of human placental DNA (Sigma Chemical Co) were made in distilled water and diluted using distilled water in the presence of varying amounts of sodium chloride. Measurements of the various solvent systems were taken two days prior to starting the LifeWave experiments.

Control experiments with a human subject were also measured before starting the patch experiments. **The single human subject used in all experiments was the experimenter himself, who was a willing and able participant (and therefore a consent form was not required).** Control experiments involved holding a vial containing human DNA over Pericardium 8 (P8) on the left palm and on the right palm. The vial was held in place with the three little fingers of the same hand. The subject sat in the same position in the lab for varying amounts of time (20-45 minutes) while intellectually focusing his mind on an internet search. The subject did not focus their attention on the vial and was asked to maintain a neutral state of mind to ensure no intentional bias was present during these experiments. However, the experiments were not done blind.

This exact procedure was followed for all experiments with and without a patch. The next day the experimental procedure was followed by holding a fresh DNA sample (an aliquot of the original stock solution) on top of a LifeWave patch placed on P8 on the left and right hand.

The following table indicates the placement of patches and the DNA vial.

Condition	Left Hand	Right Hand
Aeon	Blank	Patch + DNA vial
EE	Tan patch	White Patch + DNA vial
SP6	Patch + DNA vial	Blank

Electrical conductivity measurements of the DNA solutions were performed immediately after the treatment period was complete. Conductivity values obtained for the solvent were subtracted from measurements of DNA (in solvent) to obtain the conductivity values associated with only the DNA molecules.

The following experimental variables were used to create resonant conditions:
A. DNA preparation

a) Addition of NaCl to the solvent at various concentrations (0.01- 1%)
b) dilution of stock DNA (1/10 to 1/100)

B. Spectrophotometer Settings and Measurement Setup

c) different excitation voltages (from 10-50 mV)
d) different excitation frequency (25-100 kHz)
e) separation of electrodes (2-20 mm)
f) exposure time (20- 60 minutes)

C. Data Analysis

g) amplitude vs polarity vs shape of current response
h) probabilistic measure of percent occurrence vs signal strength

Using these experimental variables, resonance conditions were found so that optimal differences could be obtained between control and experimental (patch) conditions. Using these resonance conditions, 10-14 sequential measurements were made for each control and experimental condition. The sequential measurements were repeated on two additional occasions (on separate days) (n=3) for all control and experimental conditions reported in the Results section.

III. DATA ANALYSIS

Following an optimal 45 minute treatment period, the current response measured (compared to baseline) varied enormously over the sequential measurements - 20% to 600% stimulation. More consistent data was obtained when the total number of current

spikes was determined, rather than the magnitude of each spike. The percent occurrence was then calculated as the number of current responses divided by the total number of sequential measurements. Statistical analyses were then performed using standard t-tests on the calculated percent occurrence values. These values are presented in the tables in the Results section. In some cases, statistical significance was also determined by calculating 2σ (twice the standard deviation) for the controls. This number represents the "margin of error" and any experimental values greater than the margin of error can be considered to be statistically significant at the 95% confidence level (p=0.05).

IV. RESULTS

Varying frequency and amplitude of the excitation signal and changing the experimental variables stated above mostly resulted in current response values similar to those of the controls. Thus for most experiments there were not differences in the electrical conductivity of DNA placed on P8 with or without a patch. However, under some excitation parameters, statistically significant differences were observed between control and experimental conditions. The 3 tables below show the current responses (as percent occurrence values) obtained under these conditions.

TABLE 1A - AEON

Freq (kHz)	Ampl (mV)	Condition	Average	SD	n	P
39.8	10	Control	44.4	19.2	3	
		Patch	80.0	14.1	3	0.049 (1-tail)

TABLE 1B – AEON

Freq (kHz)	Ampl (mV)	Condition	Average	SD	n	P
79.4	12	Control	40.7	12.8	3	
		Patch	70.0	2.8	3	0.030 (1-tail)

It is reasonable to use one-tailed p-values since we are only looking for data where the experimental values are greater than the control values (stimulation in electrical conductivity). Nonetheless when reanalyzing the data in Table 1, using the margin of error method, it can be seen for both sets of data, that the patch values are much higher than the 2σ values for their respective controls. Taking both sets of statistical data together, it is therefore reasonable to conclude that the Aeon patch does statistically increase the electrical conductivity of DNA.

TABLE 2 -EE

Freq (kHz)	Ampl (mV)	Condition	Average	SD	n	P
1.8	11	Control	48.1	6.4	3	
		Patch	74.5	9.4	3	0.016 (2-tail)

TABLE 3 – SP6

Freq (kHz)	Ampl (mV)	Condition	Average	SD	n	P
35.5	8.0	Control	34.4	5.1	3	
		Patch	57.4	8.5	3	0.028 (2-tail)

V. DISCUSSION

The results in the three Tables indicate that under resonance conditions using certain excitation parameters (frequency and amplitude) the three LifeWave patches tested increase the electrical conductivity of human DNA. In order to reach this conclusion for the Aeon patch, two different statistical methods were used to analyze the raw data. This was necessary because of the relatively large standard deviation values obtained under these experimental conditions and the relatively few independent measurements (n=3). Based on delta values between experimental and control runs, we can conclude that the Aeon patch when excited at 39.8 kHz is the most effective at stimulating DNA. The EE patch and the SP6 patch were somewhat less effective and showed a similar response to each other.

The fact that DNA stimulation only occurs at certain excitation frequencies (and their corresponding voltages) indicates that this frequency say, 35.5 kHz for the SP6 patch, is required for the transfer of information from the patch to the DNA.

In these experiments, there are three different energies interacting with the DNA:
1. the geomagnetic field in the lab located in Ridgway, CO
2. the bio-energy emitted by the P8 acupoint
3. the energy emitted from the LifeWave patch

In addition to these three energies, there is a fourth energy (an electric field) generated from the voltage spike (at a particular frequency) used to excite the DNA during each measurement. However, the only difference between the control and experimental conditions is the presence of the energy from the LifeWave patch. It is proposed here that information is transferred from the patch to the DNA, when excitation frequency matches the resonance frequency of the patch. If this hypothesis is correct than the following resonance frequencies may be assigned to the LifeWave patches.

Patch	Resonance Frequencies (kHz)
Aeon	39.8 and 79.4
EE	1.78
SP-6	35.5

As explained in the introduction, increased electrical conductivity is associated with and in some cases controls the functional properties of DNA in the cell. Since measurements are made under resonance conditions, conductivity of electrons is believed to be occurring via a unistep super-exchange mechanism involving quantum tunneling. Therefore we can also conclude that this particular quantum property of DNA is enhanced by all three Lifewave patches. The ability of an energy field generated from the Lifewave patches to stimulate quantum processes at the biomolecular level is of fundamental importance. This conclusion is consistent with the known clinical efficacy of the Lifewave patches to promote a variety of healing processes in the body.

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A prior contract was agreed upon by Lifewave and Quantum Biology Research Lab, where it was stipulated $5000 (half of the total amount) would be paid upfront and the remaining $5000 would be paid upon completion of the final report.

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