



Lighthouse IntelliTech

6340 Lake Worth Blvd #403

Fort Worth, TX 76135

Hydrate 8X: The Basics

The facilitated transport of water is a new discovery

Hydration for Life...H+...The Power of Water™

The basic principles behind the development of Hydrate 8X are supported by two key Nobel Prize winning discoveries in chemistry; the facilitated molecular flow of water (H₂O) through aquaporin channels and the production of cellular energy through the proton flux (H⁺) associated with the Krebs cycle. Hydrate 8X enhances both phenomena and improves hydration of the human body [health].

- 1) Dr. Peter Agre in February 2003 was awarded a Nobel Prize in Chemistry for the discovery of **Aquaporin Channels**. Dr. Agre observed the protein Aquaporin allowing water to flow bi-directionally through the cell membrane wall. Starting in April 2003, Dr. Lawrence Stowe of Lighthouse IntelliTech(a Public Charity dedicated to reversing chronic illness) engineered applications of structured water technology to facilitate the transport of the water molecule by the aquaporin channel in the hydration of the human body, in this case making cellular hydration more efficient and effective, e.g. Hydrate 8X.
- 2) Dr. Hans Krebs in 1953 was awarded a Nobel Prize in Chemistry for describing the **Citric Acid Cycle**; the key sequence of metabolic chemical reactions that produces usable energy in cells –it is also known as the **Krebs Cycle**. Structured water, Hydrate 8X is the only water that can rapidly hydrate the cells and simultaneously donate a proton [H⁺] to the Krebs cycle. The explanation of the structure of Hydrate 8X coupled with the importance of individual proton donation to the Krebs cycle explains why hydration in the human body occurs 8 times more rapidly with Hydrate 8X.

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"The body's cell hydration channels" is a layman's term for Dr. Agre's "aquaporin channels".

Aquaporin proteins are water transporting proteins that move water molecules through the cell membrane wall and are essentially "the plumbing system for cells". Every cell is primarily composed of water; however, water does not merely sit in the cell, it moves through it in a very organized way. H₂O flows through the aquaporin channel one molecule at a time, but in a dynamic facilitated fashion not through a static diffusion gradient controlled by osmotic pressure. Structured water changes the dynamics of the water transport. Water that enters the cell is said to hydrate the cell.

Water (H₂O, HOH, H+ OH-) is the most abundant molecule on Earth's surface. One molecule of water has two hydrogen atoms covalently bonded to a single oxygen atom at a unique 104.45 degree angle. This gives water many of its unique properties. These properties can be manipulated through the water structuring process and technology.

Hydrate 8X delivers "high performance hydration" and is explained by:

The energy state or the vibrational state of the water molecule determines how easily a single water molecule can flow through the aquaporin channel and hydrate the cell. The energy state of the water molecule controls its electromagnetic properties and hence its dynamic interaction with the Aquaporin protein. Hydrate 8X's patent pending process changes a normal water molecule into an energized water molecule allowing the Hydrate 8X water molecule to more easily pass through the aquaporin channel. These physical properties are described by tests of surface tension [ASTM D-1331], viscosity [D-1445], conductivity [ASTM 2510-B], boiling point analysis [USP 24 Method 721] and NMR [Oxygen Isotope 17]. These are collectively known as, Analytical Test Results.

Surface tension is a property that when tested describes the "wetness" of a fluid. Wetness means how readily a fluid adheres to a surface. A low surface tension means the fluid will not readily stick to a surface, thus, "wetter" water. The aquaporin channel has a surface that the water must flow over to enter the cell.

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Each aquaporin protein is a channel through the plasma membrane of the cell wall. To make hydration more effective water molecules must penetrate the cell as efficiently as possible. Nature's process of Hydrogen bonding [H₂O molecules joining together] is a major determinate of the efficiency of transport across the cellular membrane. A lower surface tension supports improved hydration. Hydrate 8X is the only water to naturally possess this lower surface tension without including chemical additives to artificially lower the surface tension of the water.

Viscosity measures the "thickness" of a fluid. The higher the viscosity of a fluid the more difficult it is to travel through a channel [aquaporin]. It requires more pressure to move a high viscous fluid, e.g. ice cream at room temperature is originally a fluid mixture that thickens as it cools; as the fluid gets thicker the crank on the ice cream machine becomes harder to turn—or the liquid becomes more viscous eventually turning into a solid.

Humans develop high blood pressure when their blood thickens. Blood thinners are used to reduce blood viscosity allowing it to more easily flow through arteries and veins. The blockage of flow is especially true if the passageway becomes obstructed for some reason [plague]. Less viscous blood will try and flow around a blockage; otherwise, it requires a lot of pressure to move the blood through the blocked blood vessel. This may result in the artery rupturing or a blood clot breaking away from the artery wall. Toxins, like Mercury, tend to block the entry of a water molecule into the aquaporin channel. This blockage will rapidly dehydrate the cell. Conversely, the toxin may block water leaving the cell and metabolic waste will accumulate in the cell and increase oxidative stress [inflammation].

The energy of the water molecule determines the viscosity of the water. Hydrate 8X is measured to have a lower viscosity than normal water, allowing for more efficient hydration and detoxification. Hydrate 8X's proprietary technology changes the viscosity of the water, thus, "thinner" water.

Nuclear Magnetic Resonance [NMR] measures the response of a chemical substance to an imposed magnetic field. All chemical compounds have a distinct NMR signature. One can deduct the

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structure of a substance from its NMR readings. NMR identifies structure by determining how many individual water molecules interact with each other through the hydrogen bonding process and place a proton shield around the oxygen molecule. By definition all waters have structure, Hydrate 8X has its own unique structure. NMR describes the vibration characteristics associated with the structure.

The structure of water is determined by the energy state of the water molecules. Hydrate 8X has a distinct NMR reading from other waters. The NMR reading implies that Hydrate 8X has reduced the amount of proton (H+) bonding between water molecules, and therefore a single water molecule of Hydrate 8X is less bonded to other water molecules and is more readily absorbed into the aquaporin channel. The NMR readings show that Hydrate 8X changes the structure of the water allowing for more efficient and effective hydration.

Human Hydration Trial: The Hydrate 8X Fenestra Research Labs' clinical trials showed that Hydrate 8X is absorbed 8 times (8X) more efficiently than the base line Las Vegas tap water; nine [9X] more efficiently than Coke's Dasani bottled water and nine *9X+ more than Pepsi's Propel fitness water. Propel also increased blood glucose levels by 10%, not a desirable outcome for a diabetic.

Three distinct market segments exists for Hydrate 8X: **1]** -Hydration improvements for patients with chronic health problems (i.e. Diabetes), **2]** - Hydration improvements for athletic performance and **3]** - Hydration improvements for the public's general health (immune system).

CONCLUSION: Hydrate 8X supports more **effective** intracellular fluid restoration by taking advantage of the process Nature uses, the dynamic facilitated transport of water through the aquaporin channel. The more the cell is hydrated with Hydrate 8X structured water, the better the protons of the individual water molecule are made available to the Krebs cycle. The improved proton flux increases the cellular production of usable energy (ATP) throughout the cell. Hydrate 8X water is the only water that can rapidly hydrate the cells and simultaneously donate a proton to the

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Krebs cycle! Previously this was not the case, since the normal molecular clusters of water (stronger hydrogen bonds) slows down the absorption of single water molecules into the aquaporin channel and the water bond angle of the hydrogen protons $[2H^+]$ controls the dynamic interactions between the aquaporin protein and the water molecule $[H_2O]$. The water bond angle also controls the ability of the water molecule to present a free proton $[H^+]$ to the Krebs cycle. Hydrate 8X for the same reason (improved cellular hydration and energy production) also plays a critical role in preparing the body for the human cell therapy procedures (adult stem cell transplants) pioneered by Lighthouse IntelliTech.

OUTCOMES: Hydrate 8X more **efficiently** and **effectively** hydrates the body resulting in improved overall metabolic function delivering therapeutic benefits of: enhanced mental clarity, better lubricated joints and disks, more efficiently regulated body temperature, increased muscle tension levels, less oxidative stress on cells [inflammation], improved blood sugar regulation [diabetics] and elimination of kidney toxins more effectively. In addition, the body's extra cellular to intracellular hydration ratios are improved and resultantly the robustness of the immune system is elevated.

The outcomes of Hydrate 8X hydration are improved overall health as well as improved athletic performance. **The facilitated transport of water is a new advance. *Hydration for Life...H+...The Power of Water™ is not a hollow tag line.***

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