How Molecular Hydrogen Can Help Your Immune System

Analysis by Dr. Joseph Mercola ✓ Fact Checked

February 12, 2023
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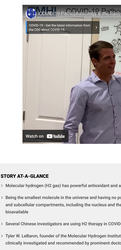

Mark Alan Hughes on treatment hydrogen protocols

STORY AT-A-GLANCE

- Molecular hydrogen (H2 gas) has powerful antioxidant and anti-inflammatory effects, making it potentially useful for COVID-19
- Being the smallest molecule in the universe and having no polar charge, the hydrogen molecule is also able to diffuse through all cell membranes and subcellular compartments, including the nucleus and the mitochondria. It doesn't need any transporters to do this, so it's exceptionally bioavailable
- Several Chinese investigators are using H2 therapy in COVID-19 patients, and preliminary results are encouraging
- Tyler W. LeBaron, founder of the Hydrogenation Institute, explains the pathophysiology of COVID-19, and the rationale for why H2 is being clinically investigated and recommended by prominent doctors and organizations for COVID-19
- It's important to pulse or create an acute elevation of H2 in your system over a short period rather than having continuous exposure. That acute elevation is what activates the Nrf2 pathway that upregulates your endogenous antioxidants

> **From Dr. Joseph Mercola**
>
> Since COVID-19 first entered the scene, exchange of ideas has basically been outlawed. By sharing my views and those from various experts throughout the pandemic on COVID treatments and the experimental shots, I became a main target of the White House, the political establishment and the global cabal.
>
> Propaganda and premature censorship have been deployed to seize control over every part of your life, including your health, finances and food supply. The major media are key players and have been instrumental in creating and fueling fear.
>
> I am republishing this article in its original form so that you can see how the progression unfolded.

Originally published April 25, 2020

Molecular hydrogen (H2) gas has powerful antioxidant and anti-inflammatory effects,[1] as explained in this video by Tyler W. LeBaron, founder of the science-based nonprofit Molecular Hydrogen Institute.

In his video, LeBaron reviews the pathophysiology of COVID-19 and explains why H2 is being clinically investigated by discussing the proposed mechanisms of how molecular hydrogen might ameliorate disease.

In fact, several Chinese investigators are using H2 therapy in COVID-19 patients,[2] and preliminary results[3] are encouraging enough that Dr. Zhong Nanshan, the epidemiologist who discovered the SARS virus (SARS-CoV) in 2003, is now recommending H2 therapy for COVID-19.[4]

While more research is needed to confirm benefits and beneficial outcomes in COVID-19 cases, the latest COVID-19 treatment guide[5] by the Chinese National Health Commission includes hydrogen inhalation.

LeBaron includes a video clip of Chinese patients given a hydrogen-oxygen inhaler mix, who say it eliminated chest pain and cough, and allowed for deeper breathing without discomfort. That said, LeBaron notes:

> *"There is still no clinically published evidence that H2 will truly benefit COVID-19 and this information is solely for educational purposes. It does not constitute clinical evidence, and is not intended to replace the guidance from your health care practitioner."*

Pathophysiology of COVID-19

As explained by LeBaron, the SARS-CoV-2 virus responsible for COVID-19 enters the lungs, where it attacks the type 2 pneumocytes,[6] alveolar cells responsible for the secretion of surfactants that reduce the surface tension of fluids in your lungs and are thus important for elasticity.

The SARS-CoV-2 virus uses a spike protein to anchor itself to the ACE-2 receptor[7] of the cell. This is how it gains entry and releases its positive-sense single-strand RNA into the cell. By inserting its RNA, the virus essentially hijacks the cell, as it begins viral replication to occur inside the cell.

In response, macrophages (white blood cells) are activated to combat the infection, and they in turn release a variety of cytokines, including interleukin-6 (IL-6), IL-1 and TNF-alpha, into your blood plasma. Once the cytokines enter your plasma, neutrophils are recruited, thus increasing vasodilation (expansion of your blood vessels) and capillary permeability.

Inside the cell, reactive oxygen species (ROS) are also created in an effort to kill the infected cell and prevent viral replication. This is an essential part of your body's defense system. However, as the process progresses you end up with increasing amounts of ROS and inflammation. Worse, as the virus continues to attack your type 2 pneumocytes, your lungs cannot work correctly.

As the surface tension of the fluids in your lungs is reduced, your alveoli can no longer maintain the proper gas exchange, and your oxygen requirement goes up. Declining elasticity of the lungs also makes breathing more difficult. Add in high amounts of ROS, and the whole ahead ends up dying. This is part of what's causing the cough.

As inflammation and vasodilation progresses, you can end up with low blood pressure, which is why you feel fatigued and weak. Lower blood pressure also causes low blood perfusion, which in turn means your cells will not get the oxygen and nutrients they need for optimal function. It also impairs metabolic waste removal. The end-stage lives (hypoxia) result in feeding short of breath.

Unless successfully treated, this chain of events leads to cell death, multi-system organ failure (lungs, liver and kidneys), acute respiratory distress (ARD) and, ultimately, death.

Stopping the Destructive Cycle

To save the patient, something needs to be done to stop this destructive cascade of events. How do we inhibit viral replication and boost immune system function? As explained by LeBaron, most of the destruction occurs by ROS and systemic inflammation.

ROS are molecules that cause oxidative damage. However, they're not all bad all the time. Neutrophils that produce ROS also produce nitric oxide and superoxide, which are crucial. Superoxide helps kill the pathogen, but you also don't want too much of it, so it needs to be regulated.

Nitric oxide also needs to be regulated. While it can inhibit viral replication and helps boost your immune system, you don't want too much. As levels of superoxide and nitric oxide rise, they start forming peroxynitrites, which are extremely damaging, which in turn form hydroxyl radicals, the most cytotoxic ROS.

Normally, when superoxide has done its job, it's converted by superoxide dismutase into hydrogen peroxide, which in turn is converted into water and oxygen.

This process is regulated by a transcription factor called Nrf2/keap1. When this transcription factor is activated, it goes into the cell's nucleus, where it binds with the antioxidant response element (ARE), which triggers your body's natural antioxidants such as glutathione and catalase.

As noted by LeBaron, Nrf2 → which is involved in phase 2 detoxification → regulates more than 200 protective proteins and enzymes. The problem is that when ROS is overabundant and out of control, the Nrf2 system is depleted and can no longer regulate the inflammatory process.

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Understanding Molecular Hydrogen

Molecular hydrogen or H2 has the ability to activate the Nrf2/keap1 pathway, thereby replenishing your endogenous antioxidants. In so doing, H2 helps regulate and maintain homeostasis in the whole system, preventing the infection from getting out of control and causing self-death.

Hydrogen can also downregulate NOX and NOS enzymes, thus lowering superoxide and nitric oxide production respectively. This is good, as when these two molecules are reduced, they can combine to form peroxynitrite, which is also a very powerful oxidant. It also supports your mitochondrial function. Importantly, H2 selectively reduces peroxynitrite and hydroxyl radicals.

This gives H2 a significant advantage over other antioxidants such as vitamin C, which act indiscriminately with superoxide and nitric oxide — both of which also have important and beneficial functions. H2 does not interact with either superoxide or nitric oxide. The only thing H2 can react with are the most dangerous ROS such as peroxynitrites and hydroxyl radicals.[8]

As a result, your superoxide and nitric oxide are left to perform beneficial functions while the H2 eliminates the most dangerous byproducts of superoxide and nitric oxide, while simultaneously increasing your body's natural production of antioxidants and regulating the enzymes that produce superoxide and nitric oxide. To get a clearer picture in your mind of how H1 steps in to break the destructive chain, see LeBaron's video.

H1 also steps in to prevent a cytokine storm from occurring. A cytokine storm occurs when the upregulation of cytokines is greater than your body can handle. Cytokines are regulated by transcription factors, and ROS regulate these transcription factors. Inflammatory transcription factors, in turn, create more inflammation, which stimulate more ROS production.

This is a vicious cycle that results in increased cell death, which leads to multiorgan failure, which leads to death. H1 has been shown to regulate these transcription factors in several animal and human studies, thus breaking the vicious cycle. This is what makes H2 so anti-inflammatory. As summarized by LeBaron at 10:50 of his video:

> *"Hydrogen gas, being a very simple, small molecule, can help to regulate the redox status of the cell by selectively reducing the very bad [ROS], help to regulate and improve the Nrf2/keap1 pathway to maintain our body's redox homeostasis.*
>
> *It also has regulatory effects on inflammation, to lower chronic, harmful systemic inflammation by regulating everything. Just decreasing or inhibiting it [referring to ROS] is not want we want to do. We need all of these things.*
>
> *This is in our immune system. We don't just want to get rid of it. Yes, it is what is killing us, but it is also very important to have, so that we can get better. So, that is the ... rationale for [using hydrogen gas] for COVID-19."*

Dosing and Availability

Although the specific clinical studies on COVID-19 are being conducted with H1 inhalation, H1 dissolved in water has been shown to be more effective than inhalation in other animal disease models.[9] Additionally, another article[10] suggests that the H1-infused nitric oxide-producing beverage from H2Blev called HydroShot, should also be clinically investigated for its reported preliminary effects.

However, while there are various ways of getting H1, the simplest and most practical delivery system is molecular hydrogen tablets that are dissolved in water. They are portable and can be taken anywhere, including travel and on airlines, and they consistently provide a high H1 concentration. When using the tablets it's important to drink the water as soon as the tablets are dissolved and the water is still "white," as the H1 dissipates quickly.

The molecular hydrogen tablets have the additional advantage of providing 80 mg of ionic elemental magnesium with each tablet. Magnesium can serve as a natural calcium channel blocker to help regulate high intracellular calcium levels that can wreak havoc in your body.

Also, the alcohole quantity of H1 is far less important than pulsing or creating an acute elevation of H1 in your system over a short period. That acute elevation is what activates the Nrf2 pathway. When exposure is continuous, even if elevated, it has virtually no effect.

Clearly, we need more research to be better able to answer dosing questions, but in the interim, it seems customizing the dose to your personal circumstances would be most appropriate. So, if you're in normal, non-stressful circumstances at home, not really doing anything very stressful and not exercising much, maybe taking 1ro once a day is sufficient.

However, if you exercise a lot, you may want to take it two to three times a day to help reduce the oxidative stress from your exercise. Ditto if you're traveling and exposing yourself to free radical stress from ionizing radiation at 35,000 feet. In such a circumstance, it might be appropriate to take it every two hours while you're in the air.

Considering their safety, ease of use, and beneficial effects on immune function and health, molecular hydrogen tablets are a no-brainer solution in my view, and they could be quite helpful for many conditions, including COVID-19, which is why H1 is being clinically investigated.

My #1 Best-selling Book – Now in Paperback!

My latest book, "The Truth About COVID-19," is an instant best-seller. After thousands of reviews it has a nearly perfect 5-star rating, so grab your copy today before it's too late!

The Truth About COVID-19
by Doctor Joseph Mercola
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Guillermo Joined On 4/7/2015 8:47:48 AM
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China is treating severe cases of covid-19 with a mixture of molecular hydrogen (2/3) and oxygen (1/3) with good results. Zhong Nanshan, epidemiologist and pulmonologist and head of the China group of experts in the fight against coronavirus, explains it in this video. The use of hydrogen gas inhalation will release and avoid the dangers of urgent fans needed for more critical cases. The inhalation method allows the patient to breathe normally and recover with fewer complications. youtu.be/...?t=3.55&v=eLYq. Hydrogen reduces inflammation and cytokines oxygen radicals. Hydrogen reduces damage from sepsis, has neuroprotective properties, helps treat COPD, reduces tissue damage from cardiac arrest. Hydrogen reduces damage from fans. www.molecularhydrogenstudies.com (2018)

Beneficial biological effects and the underlying mechanisms of molecular hydrogen - comprehensive review of 321 original articles. medicalgasresearch.biomedcentral.com/articles/10.1186/2045-9912-5-10/tables/3 (2015) Molecular hydrogen exerts multiple biological effects including anti-inflammation, antioxidation, anti-apoptosis, anti-shock, and autophagy regulation, which can attenuate organ damage and tumors caused by sepsis. Molecular hydrogen antagonizes oxidative stress through multiple pathways, including neutralization of hydroxyl and peroxynitrite radicals, upregulation of superoxide dismutase, catalase, and manganese-superoxide antioxidant gene expression, and suppression of inducible nitricoxidesynthase activity nitric oxide synthase, endothelial nitric oxide synthase and nicotinamide adenine dinucleotide phosphate oxidase. www.ncbi.nlm.nih.gov/...PMC6367600 (2019)

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Molecular hydrogen increases the levels of coenzyme Q, essential for coronavirus patients with cardiovascular pathologies. Cycle Q contains three forms of Coenzyme Q. Coenzyme Q is produced from (ubiquinone), radical form (semiquinone), or reduced form (ubiquinol). It can act as a donor of electrons and protons in the Q cycle, and stimulates the production of coenzyme Q and treats mitochondrial dysfunction. www.ncbi.nlm.nih.gov/...pmc/articles/PMC7 (2020)

2% H2 gas could suppress sepsis lung injury by regulating the expression of heme oxygenase 1, secreted by macrophages and activated monocytes, secreting and mediating cytokines of inflammation. Antibodies that neutralize HMGB1 confer protection against tissue damage and injury during sepsis. This action is performed through the nrf2 pathway, which plays a major role in the protective effects of H 2 gas on lung damage caused by sepsis. insights.ovid.com/international-immunopharmacology/inimp/2019/04000/h... (2019)

pubmed.ncbi.nlm.nih.gov/...sigtrans.2016.0012 (2016) Molecular hydrogen protects against sepsis-induced cognitive decline through the mTOR-autophagy pathway. www.sciencedirect.com/.../S1567576915301813 (2020)

Inhaling hydrogen counteracts fun-induced lung damage. Prominent effects are observed, especially in diseases mediated by oxidative stress, including central hypoxia, parkinson's, ischemia / reperfusion of the spinal cord, heart, lung, liver, kidney, and intestine. Positive evaluations in type 2 diabetes mellitus, metabolic syndrome, hemodialysis, inflammatory and mitochondrial myopathies. www.ncbi.nlm.nih.gov/...PMC6389116 (2019) www.ncbi.nlm.nih.gov/...PMC4615055 (2015) www.ncbi.nlm.nih.gov/...PMC3577272 (2012) www.ncbi.nlm.nih.gov/...PMC3457852 (2011)

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DIET NRF2 offers an opportunity to improve the NRF2 pathway, naturally. It is made up of various forms of Resveratrol, which can be obtained from common sources such as berries, green and white teas, chocolate, grapes, apples, citrus, onions, broccoli, curcumin, turmeric and carotenoids such as, astaxanthin (assumption and lutein, dark green vegetables and leaves (cabbage and broccoli, especially the seed extract) and spices of saffron, turmeric or paprika) are a particularly rich source of polyphenols.

1) flavonoid polyphenols such as green tea epigallocatechin 3-gallate (EGCG) and apple quercetin, (2) non-flavonoid polyphenols such as tumor curcumin and grape resveratrol (3) phenolic acids or phenolic diterpenes such as rosmarinic acid or carnosic acid, both of rosemary, (4) terpenes such as astaxanthin; and (5) organosulfur compounds including isothiocyanate, L-sulforaphane, broccoli and allicin, garlic Rhodiolrosea www.mar-reactions.com/blog/nrf2-explained-in-human-terms (2019) transcendingpower.com/.../nrf2-promoting-foods (2019) COVID-19 Potential of Microalgae Derived Natural Astaxanthin As Adjunctive Supplement in Alleviating Cytokine Storm jsuare.com/.../...jsquare.pdfs (2020)

Mark as Spam · Posted On: 4/25/2020 3:17:27 AM

Like | Dislike

juststevee
Joined On 5/6/2012 11:13:54 AM
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Gut, having give Doc's H2 product a try I can only echo what also reports, WOW, it is like the body is smiling all over. I'm also a huge fan of astaxanthin & had excellent results improving eyesight since affected by meds causing sinus infections and a parade of cascading infections reaching to a closed loop. Not recommended for everyone but personally, nearly impossible to have a sun burn, it almost takes a deliberate act. Personally, H2 has eliminated the residue aches & pains of past injury's and accidents, and dampened down those aches remnants of the most severe ones. I am cautious as to continue in physical activity's not to inadvertently stir up an old injury because the old irritator isn't there to remind me to back off.

H2, at least here, works to help a great immune foundation along with the KetoFast, and the best real foods that can be grown or found. Once again, thank you for all your help and insights helping me improve my general welfare. Between Doc & you, the little tips and information from posters building on what I've found on my own over the years just keeps continuing to create a good solid foundation to deal with issues. Stupendous! Have you given H2 a go? Note: I'm NOT in any way affiliated, but I do know I'm not have & sometimes don't get to check back on the many great comments, insights & experiences people share. A Garden of Love calls & needs tending so time to short-root days.)

Mark as Spam · Post Quote: 4/25/2020 5:08:42 AM

Like · Dislike

Guillermous
Joined On 4/17/2015 6:47:48 AM
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Thanks JUST. You have become a doctor of yourself. for the experience accumulated in your life. Yes, take care of your weak points and keep your pulmonary system, which, as you know is part of a related cell, as Holistic Medicine teaches us. Good final and good cooks, it is essential, Yes, take care of the two Gardens of love, your family and the land that gives you food.

Mark as Spam · Post Quote: 4/25/2020 10:48:40 AM

Like · Dislike

Randyfast
Joined On 5/6/2010 8:42:42 PM
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Just, No, I haven't. I don't know if it's even available around here. I don't make purchases online.

Mark as Spam · Post Quote: 3/10/2020 7:25:24 AM

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grulla
Joined On 1/11/2012 8:03:55 AM
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"China is treating severe cases of covid-19 with a mixture of molecular hydrogen (2/3) and oxygen (1/3) with good results." And the rest of their hydrogen production is used for their balloons...think Hindenburg. :-(

Mark as Spam · Post Quote: 3/10/2020 3:37:21 PM

Like · Dislike

abe5680
Joined On 3/20/2016 12:36:00 AM
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Fantastic news! I have a couple of bottles of molecular hydrogen in the fridge :-). That came into my mind as I was picking out the supplements I already had for Covid-19. I've only actually tried the molecular hydrogen brew once - and my body was absolutely buzzing with what I could only describe as VERY happy little cells afterwards - it was almost as if my body was SMILING! I'm now so doubt that this stuff is really good. I will definitely make the time to watch this video. Great to see that, in fact, it appears to have been many "natural" remedies that have come to the fore during this "crisis." Vitamin C, Zinc, Melatonin, and H2 all fabulous (as well as various herbs). Perhaps this may finally signal the start of a change in the way we humans decide to manage our health. I have certainly felt no fear during this "crisis" due to my knowledge of natural medicine, as well as what I am able to continue learning from my various sources. Great to see an article on H2. The simple things really are often the best!

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Guillermous
Joined On 4/17/2015 6:47:48 AM
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Yes, ABE, we have great potential in Natural Medicine to support so against Covid-19. China is treating severe cases of covid-19 with a mixture of molecular hydrogen (2/3) and oxygen (1/3) with good results. Zhong Nanshan, epidemiologist and pulmonologist and head of the China group of experts in the fight against coronavirus, explains it in this video: https://youtu.be/GxqEFCGfXHw Without forgetting the DIET MIRT, which offers an opportunity to improve the NrF2 gene, naturally. It is made up of various forms of flavonols.

This can be obtained from convenient sources such as berries, green and white tea, chocolate, grapes, apples, citrus, onions, broccoli, cucumin, turmeric and cardamonds such as, astaxanthin zeaxanthin and lutein, dark green vegetables and leeves (cabbage and broccoli, especially the seed extract and spices of saffron, turmeric or paprika) are a particularly rich source of polyphenols. www.ncbi.nlm.nih.gov/pubmed/29139993 (2019) COVID-19: Potential of Hydrotherapy Derived Natural Astaxanthin As Adjunctive Supplement in Alleviating Cytokine Storm papers.ssrn.com/.../papers.cfm

Mark as Spam · Post Quote: 4/25/2020 4:08:58 AM

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forbiddenhealing
Joined On 2/21/2011 9:51:45 AM
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I can vouch for the benefits of H2 on lung function, H2/O2 inhalation is helpful but the "spike" of drinking infused water even better... Still not a stand alone for treating covid, bronchitis or COPD - H2O2 mist definitely clears nasal passages/lungs quickly...and Mega C orally or IV powers those macrophages to produce H2O2 as it generates H2O2 in body fluids and squelches oxidative damage from free mechanary metals and systemic inflammation. Tons of citrus, green veggs, Zn, Se, Mg and a refusal of the media scare presented respiratory symptoms of "my corona."

When pharma purposely forced a world shutdown over covid-19 and inflated statistics of its lethality, I saw terrorists and WMDs, days no all over again... Masks, quarantine and ventilators became their fuzzy focus like a need to topple Saddam Hussein. And claims of "treatments" had for a vaccine was critical medical malpractice resulting in genocide, as they 'controlled up' proven inexpensive protocols. Even today the despicable media likens sunshine/heat and H2O2 to drinking bleach calling all alternatives "fake" as an equally despicable government erects the metal detect and spices of saffron, turmeric or paprika) are a particularly rich source of polyphenols. www.ncbi.nlm.nih.gov/pubmed/29139993 (2019) COVID-19: Potential of Hydrotherapy Derived Natural Astaxanthin As Adjunctive Supplement in Alleviating Cytokine Storm papers.ssrn.com/.../papers.cfm

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Yes, RANDALL, attention to the peaks of H2, and H2O2 of vitamin C and to cardiovascular diseases are the most common causes of morbidity and mortality worldwide. Redox dysregulation and inflammation arise from, and result in, cellular alterations and pathological conditions, leading to cardiovascular disease. People with cardiovascular disease have a worse prognosis on Covid-19.

Hydrogen can be delivered through various methods, such as inhaling H 2, consuming HO-rich water, injecting H 2-rich in saline, and increasing the production of intestinal H 2 by bacteria through nondigestible carbohydrates. HRW ingestion peaks in 5–15 min and returns to baseline 45–90 min after administration, depending on the dose administered. Excess H 2 is expired through the lungs when too much is delivered. Hydrogen has been shown to reduce hyperbaric oxygen-induced toxicity to cells, while maintaining antioxidant levels of superoxide dismutase (SOD), catalase, and glutathione peroxidase. All of this contributes to the ability of hydrogen to alleviate the damaging effects of hyperbaric oxygen.

The biological effects of hydrogen have been attributed to the main molecular mechanisms: 1. Specific scavenging activity of hydroxyl and peroxynitrite radicals. 2. reduction of inflammatory reactions. 3. modulation of signal transduction, or alterations of gene expressions. H 2 appears to modulate the expression of various genes, including NF-κB, N-terminal c-Jun kinase (JNK), Fibroblast growth factor 21 (FGF-21), pancreatic-duodenum homeobox-1 proliferator-activated receptor (PPC- 1α), proliferator-cell nuclear antigen, vascular endothelial growth factor (VEGF), glial fibrillary acidic protein (GFAP), and many other transcription factors and regulatory proteins.

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Molecular hydrogen regulates signaling pathways and gene expression by modulating the expression / activities of various biomolecules, as well as various mRNAs, which may explain the therapeutic effects of anti-reperfusion injury, anti-radiation injury, anti- inflammation, anti-apoptosis, antimetabolic, antioxidant disorders, antimutagenic and antiaging. H 2 modulates the route NrF2. A significant mechanism in cell defense against oxidative stress is the induction of phase II enzymes by activating the signaling pathway of the antioxidant response element NrF2 www.ncbi.nlm.nih.gov/.../PMC6560250 (2019) Tyler W. LeBaron, et al.

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Kiwitur
Joined On 6/3/2015 9:47:59 AM
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The mask, gloves, gown, ventilator scam reminds me of the dust tape scam that was perpetuated under Bushs' red, yellow, green light warning system after 9-11 and the poison gas mania. "Red light! Go buy duct tape and tape your windows and doors!" Those bastards all had huge investment in Sin and dust tape manufacturers and you can bet the same crowd has huge investments in the foil / just mentioned. BASTARDS!

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Guillermous
Joined On 4/17/2015 6:47:48 AM
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forbiddenhealing
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Mirandola...Anyone following Mers for last few weeks has been "exposed" to fifty different presentions/remedies/cures, and can shotgun cover/chronic disease with a number of substances and practices... But they hesitate to SYL not understanding grams/milligrams/dilutions/applications. not rocket science, just do it, Know thicker sink. Start megadosing C and use provitale, keep moving as they treating enemies/sunshine and laugh at all the politicians, douchebags and doctors on TV with death counts and the standardized CDC/WHO tap. Their income counts, your life doesn't. This thing has been around since January and my guess is natural vaccination has already happened to a large number of people...and the death count is mostly due to hamfisted medical malpractice and the failure of the pharma monopoly for decades...

Mark as Spam · Post Quote: 4/25/2020 10:00:23 AM

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rexalrose
Joined On 11/15/2011 8:59:01 AM
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Good pictorial explanation! Tyler had me when he pointed to increased GSH production...

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Guillermous
Joined On 4/17/2015 6:47:48 AM
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Yes, ROSE. To consider the production of antioxidant enzymes by intestinal hydrogen. About 150 years ago, molecular hydrogen (H2) has been identified as a major component of intestinal gas in humans, with subsequent studies detailing its production by coliform bacteria from the large intestine as a consequence of fecal fermentation. H2 is absorbed by the mucosa of the colon in the circulation acting as an anti-inflammatory biomolecule that manifests cardioprotective effects or safeguards against tissue injury and then released by respiration outside the body. The H2 origin in the human body with the gastrointestinal flora may not be an exclusive deposit of the endogenous, the microbiota of the respiratory, digestive, skin, etc., they can generate bioactive hydrogen. The H 2 produced by intestinal bacteria acts as a unique antioxidant and prevents cardiovascular events.

Dietary turmeric also induced H 2 production by intestinal bacteria. www.ncbi.nlm.nih.gov/.../PMC6560250 (2019) Tyler W. LeBaron, et al. search.proquest.com/openview/2012ca7b6f94e0b38189c178320f43ea/1?pq-on... (2017) www.ncbi.nlm.nih.gov/.../PMC5721988 (2018) Feeding high in dietary fiber and resistant starch, which generates H2 in the gut microbiota, may be effective in suppressing ischemic liver injury, which results from oxidative stress, in rats fed pectin and amylose diet, with increased glutathione liver. Pectin and high amylose starch increase caecal hydrogen production and relieve hepatic ischaemia reperfusion injury in rats. pdfs.semanticscholar.org/8bce/c99c94ebeeb5fd42e29f8b5dd0727a3bc82.pdf (2013)

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Almond
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New paper: An estimated 13 million people worldwide killed by the COVID vaccines.Thats twice as many as were killed by the virus. In the US, the estimates are 670K Americans killed. Perhaps it's time to declare that the vaccines are a worldwide emergency? almondmark.substack.com/.../new-paper-an-estimated-13-million

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shardanney1
Joined On 7/28/2011 10:25:45 PM
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I really like the idea of using this product, especially because it also contains ionic magnesium, but I wonder if it would still be okay to inhale H2O2 through my nebulizer once a day routinely &/or more if I get a respiratory virus?

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jaxonnut
Joined On 12/9/2010 9:37:11 PM
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Where do you purchase the H2 tablets?

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seestars
Joined On 12/29/2010 2:11:59 PM
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Mercola has just started selling. I put it in 2 oz. of room temp water first thing in morning. Let dissolve and drink immediately. Price not too bad. 90 pills in a bottle, one a day for $43. 30 day supply for $18.

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pinklocrypt
Joined On 10/11/2007 5:25:45 AM
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What benefits does drinking H2 water have?

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Guillermous
Joined On 4/17/2015 6:47:48 AM
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H2 pinklocrypt: Molecular hydrogen is introduced into cells and protect our DNA and our genes, so that the mitochondria produce the energy necessary for the growth, repair and regeneration of the body, improving our longevity. Molecular hydrogen is 60 times smaller than vitamin C, this provides great hydration capacity to hydrogen water, and great power to hydrogen to cross the blood brain barrier. Studies have shown that hydrogen exerts antioxidant, anti-apoptotic, anti-inflammatory, and cytoprotective properties that are beneficial to the cell. avoiding chronic and neurodegenerative diseases.

Increases superoxide dismutase and glutathione levels just like the NrF2 diet. The consumption of water in dissolved hydrogen improves the pathology of mitochondrial disorders. Drinking H2 water stimulates energy metabolism, measured by O2 consumption and CO2 production. Hydrogen molecular medicine www.ncbi.nlm.nih.gov/.../PMC6560250 (2019) Tyler W. LeBaron, et al. www.molecularhydrogeninstitute.com (2018) www.ncbi.nlm.nih.gov/.../PMC5721988 (2017) www.molecularhydrogenstudies.com/blog (2020)

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NevelandsWanderer
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Kelly Neill asks a simple question on Twitter. A question we all need an answer to. Worth re-tweeting to politicians everywhere twitter.com/.../1252147633946754048

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Guillermous
Joined On 4/17/2015 6:47:48 AM
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Hi MM. Some information of interest. 3. 30 million (or 20%) of Twitter's daily users are American And according to Statista, 49 million Americans make up 15% of monthly users, worldwide. That makes Americans the largest percentage of Twitter's user base. Japan and the U.K. are the company's second- and third-biggest markets. American Twitter users are more likely to be Democrats than the average American Twitter has a reputation as the most political of all the social media platforms. It's used heavily by world leaders, for instance. How does that look in America? According to Pew, 36% of U.S. based Twitter users are Democrats, while only 26% of Americans identify that way. Meanwhile, only 21% of Twitter users are Republican, though 26% of Americans identify that way. blog.hootsuite.com/twitter-statistics/

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