

Intracellular Superoxide Dismutase Deficiency Resolution with Patented SOD Gel A Case Study

Due to fatigue, increased recurrent infections, and generalized pain, a 62 year old practicing physician had his intracellular vitamin levels determined using a relatively new test by Cell Science Systems® called a Cellular Micronutrient Assay and was found to have a significantly low intracellular superoxide dismutase (SOD) level. He was then prescribed a new OTC pain gel designed containing the first functional SOD1 and lidocaine (Serum X by AO Biologix™ — NDC# 82317-001-03). 100 days later, when re-tested, he had significantly elevated his intracellular level of SOD to a high normal range confirming that this first of its kind SOD gel delivers an appropriate and readily absorbable intracellular SOD dose. This is groundbreaking as it is the first validated, functional SOD product which has implications for previously untreatable diseases such as familial amyotrophic lateral sclerosis (ALS), various neuropathies, and many other conditions.

Patient

The patient was a 62 year old male physician with a history of hypertension, and hypothyroidism, who for the last two years had been suffering from increased fatigue, inflammation, and joint and muscular pain of unknown etiology. He sought assistance in determining the root cause. A previous RA panel, hsCRP, CBC, CMP and other inflammatory biomarkers had all been normal. The raw data from 23andMe compiled by nutrahacker.com had shown a SOD3 error (similar to SOD1 since both are copper zinc SOD) with this patient, which most likely explains his low intracellular SOD levels.

Testing

Intracellular vitamin testing has been around for almost thirty years and Cell Science Systems®' improved version of the technology offers one hundred markers measured.

Intracellular vitamin testing also matches up closely with any genetic SNPS or errors a patient may have, which, in the particular medical practice the patient had sought, is a necessity due to the genetic testing that is done with almost all the patients in the practice.

This testing shows the overall antioxidant protection of specific antioxidants in leukocytes. In the results of the test, a "Highly Protective" reading indicates an intracellular deficiency and propensity to utilize that specific antioxidant. "No significant response" would indicate that those cells are already well protected by that antioxidant, meaning no deficiency.

SOD gel (SERUM X™)

The pain gel was developed by AO Biologix™, a startup biologicals pharmaceutical of Pleasant Grove, Utah which specializes in the handling of antioxidants in patented ways that allow for maximum functionality and surprising benefits. They developed the first validated, functional, absorbable, reduced, stable glutathione and applied similar technologies in handling SOD1.

SOD1, an enzyme, in this gel product was developed in pursuit of an NDI for familial ALS and in the early pre-clinical ALS trials it was realized that SOD1 strongly helped alleviate inflammation and pain, and this set of observations, a completely unique observation with SOD, was added to the patent applications.

The biologically identical SOD1 in SERUM X™ is created using a recombinant human DNA bacterial manufactured method.

It was since determined that this product, Serum X pain gel, has very broad potential use cases. It has been on the market approximately 4 months as to the writing of this study.

Treatment of the SOD deficiency

The SERUM X™ pain gel was applied at 8 doses a day anywhere on the anatomy that felt inflamed. It was applied approximately 90 days. The patient had symptom improvement slowly at first but eventually had almost complete resolution of his joint inflammation.

The repeat Cell Science Systems CMA was drawn 114 days after the first test was drawn. Vitamins were started within ten days of the results.

The improvement was from severely deficient to the highest value for normal (they have their own normative values and ranges).

These results are significant and need more considerations and studies.



Patient Information:

DOB::	Gender: M	Lab ID:
Received: 04/07/2022	Collected: 04/06/2022	Reported: 04/14/2022
Clinic ID: 36406	HCP: Dr. Dan Purser MD	

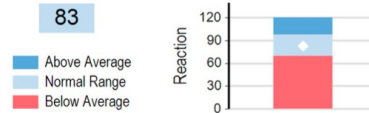


Lab Director
Harold Alvarez, M.D.

REDOX / APA (ANTIOXIDANT PROTECTION ASSAY)

The Redox score indicates an average response.

The Redox Score is an indication of your resistance to oxidative stress, relative to the general population. An average or below average response can be improved by appropriate use of nutrients and antioxidants as determined by the Antioxidant Protection Assay and guidance from your practitioner.



< 110% No Significant Response 110 - 119% Protective >= 120% Highly Protective

Antioxidants / Anti-inflammatories

Acai Berry	>140% Highly Protective	Milk Thistle	128% Highly Protective
Andrographis	116% Protective	NADH	
Astaxanthin	>140% Highly Protective	Noni Berry	>140% Highly Protective
Astragalus	113% Protective	Omega 3 DHA	
Beta-Carotene		Omega 3 EPA	
Camu Camu		Omega 6	
Catalase	>140% Highly Protective	Omega 7	>140% Highly Protective
Chlorophyll	126% Highly Protective	Omega 9	114% Protective
Coenzyme Q10	>140% Highly Protective	Piperine	>140% Highly Protective
Delta tocotrienol		Pomegranate	
Echinacea		Pycnogenol	
Elderberry		Pyroloquinoline	
Frankincense	>140% Highly Protective	Quercetin	>140% Highly Protective
Ginkgo Biloba		Resveratrol	
Glutathione	>140% Highly Protective	Rhodiola	123% Highly Protective
Goji Berry		Selenium	
Grape Seed		Shiitake	
Green Tea	115% Protective	SOD	>140% Highly Protective
Lavender	>140% Highly Protective	Sulforaphane	
Lipoic Acid		Turmeric	
Lutein		Vitamin C	137% Highly Protective
Lycopene		Wild Cherry Bark	
Maitake		Zeaxanthin	
Mangosteen	131% Highly Protective	Zinc	

These laboratory results are not intended to diagnose a disease state. The performance characteristics of all assays have been verified by Cell Science Systems, Corp. All information provided is only a suggested guideline and should not be substituted for professional medical advice, diagnosis, or treatment.

Patient Information:

DOB:	Gender: M	Lab ID:
Received: 07/30/2022	Collected: 07/29/2022	Reported: 08/08/2022
Clinic ID: 36406	HCP: Dr. Dan Purser MD	



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REDOX SCORE

79

The Redox Score is an indication of your resistance to oxidative stress, relative to the general population. An average or below average response can be improved by appropriate use of nutrients and antioxidants as determined by the Antioxidant Protection Assay and guidance from your practitioner.



ANTIOXIDANT PROTECTION ASSAY (APA)

Antioxidants / Anti-inflammatories

Acai Berry		Lycopene	
Andrographis		Maitake	
Astaxanthin		Mangosteen	
Astragalus		Melatonin	
Beta-Carotene		Milk Thistle	
Bilberry		Moringa	
Boswellia		NADH	
Camu Camu		Noni Berry	
Catalase		Piperine	
Chlorophyll		Pomegranate	
Cinnamon		Pycnogenol	
Coenzyme Q10		Pyrrroquinoline	
Delta tocotrienol		Quercetin	
Echinacea		Resveratrol	
Elderberry		Rhodiola	
Garlic		Selenium	
Ginger		Shiitake	
Ginkgo Biloba		SOD	
Glutathione		Sulforaphane	
Goji Berry		Turmeric	
Grape Seed		Vitamin C	
Green Tea		Wild Cherry Bark	
Lavender		Zeaxanthin	
Lipoic Acid		Zinc	
Lutein			

	≥ 120%	provides high protection against oxidative stress
	110% - 119%	some protective effect against oxidative stress
	100% - 109%	no significant protective effect

*The term **protective** describes the cell protection effect, i.e. the individual benefit of a specific nutrient to increase the antioxidative capacity

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