



Root Cause of Autism:

+ 10 Answers from Science



Martin Katz, M.D.

John Gildea, Ph.D.

David Roberts





John Gildea, Ph.D.

Dr. Gildea directs the multi-million-dollar Felder Core Laboratory at the University of Virginia. He has been a lead investigator on over 20 NIH-funded scientific studies, and has over 60 of peer-reviewed scientific articles.

Dr. Gildea has worked with supplements and cancer for the last 15 years, conducting the research that validated the gut supplement, Restore. He also conducted the innovative research that allowed for the creation of the first stabilized sulforaphane.

Martin Katz, M.D.

Dr. Katz is double board certified in both Family Medicine and Sports Medicine. During his final year in residency, he served as Chief Resident. Dr. Katz has practiced in a variety of settings, including private, community, and free clinic settings. This has given him a solid appreciation and extensive experience with regard to the importance of prevention through lifestyle medicine.

His interests include assisting athletes, patients and the public understand their ability to heal from injuries and illness, by providing the body the right tools.



PART 1

1. Reactive Oxygen Species (ROS)
2. Mitochondrial Dysfunction
3. Detoxification
4. Inflammation
5. Gut Health

PART 2

6. Sleep

7. Depression

8. Epilepsy

9. Infection

10. Anxiety

We will answer each of these questions for each topic:

- What is the problem?
- What does this effect?
- Why are they having this problem?
- What does the literature say to prove this?
- What is the solution and a few practical tips?

STATISTICS

- 3.5 million Americans have Autism today
- 1 in 37 boys
- 1 in 151 girls
- Prevalence has increased by 6-15 percent each year from 2002 - 2010.

Reactive Oxygen Species (ROS)

Reactive Oxygen Species (ROS)

Problem: Stress increases ROS which results in cellular damage

What does this effect: Electrons damage proteins and DNA.

Why are they having this problem? Environmental and genetic factors may increase vulnerability to oxidative stress in Autism.

Reactive Oxygen Species (ROS)

Solutions

- Diet low in toxins (organic)
- Increase Antioxidants
- Stimulate KEAP1 - Nrf2 - ARE antioxidant system
- Sulforaphane & curcumin

Mitochondrial Dysfunction

Mitochondrial Dysfunction

Problem: Individuals with autism have mitochondrial disease.

What does this effect: Abnormalities of energy generation.

Why are they having this problem? The etiology of mitochondrial dysfunction and how to define it in ASD is currently unclear.

Mitochondrial Dysfunction

Solutions

- Similar to ROS since oxidative stress causes mitochondrial dysfunction and dysfunctional mitochondria produce ROS
- ASEA - stimulates Krebs (TCA) cycle to boost energy
- Sulforaphane leads to mitophagy and increase in NAD

DETOXIFICATION

Detoxification

Problem: Studies indicate that children with Autism have altered glutathione metabolism which could play a key role in the condition.

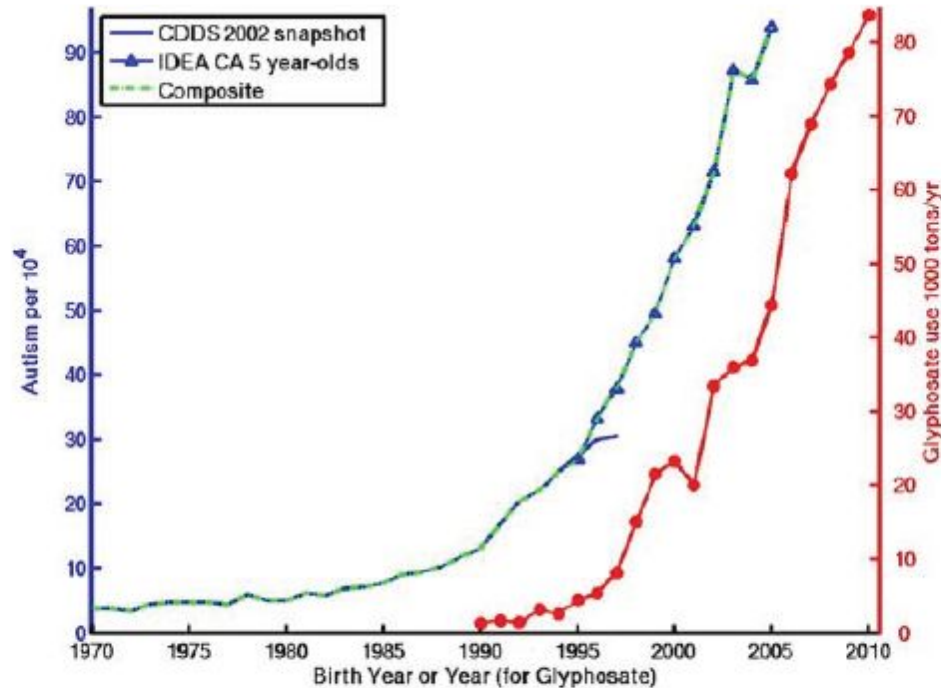
What does this effect: Glutathione plays a key role in the maintenance of intracellular redox balance and detoxification.

Why are they having this problem? Because of genetic and environmental factors (e. g. metals). The same toxin with no result in child without Autism may really effect autistic child

Detoxification

Solutions

- Stimulate detoxification
- When exposed to toxins, immediately juicing cilantro and taking broken cell chlorella (Phase III - excretion)
- Sulforaphane is the best Phase II detoxifier of any natural compound



Temporal trend in Autism compared to temporal trend in U.S. application of glyphosate to genetically modified corn and soy crops.

Nevison, CO. A comparison of temporal trends in the United States Autism prevalence to trends in suspected environmental factors. Environ Health. 2014; 13: 73.

INFLAMMATION

Inflammation

Problem: Gut inflammation that leads to whole body inflammation in children with Autism

What does this effect: Effects their brain and cognition.

Why are they having this problem? Poor diets that lead to a poor gut microbiome, which leads to dysbiosis and LPS, leading to leaky gut and inflammation.

Inflammation

Solutions

- Decrease inflammation
- Fix leaky gut (special diet)
- Anti-inflammatory supplements (sulforaphane & curcumin)

GUT HEALTH

Gut Health

Problem: The gut and brain are linked. 80% of children with Autism have gut issues.

What does this effect: Intestinal permeability increases inflammation.

Why are they having this problem? There is a cycle – poor food choices leads to leaky gut and poor microbiome. These both can lead to gut inflammation and later whole body inflammation, which effects the brain cognition.

Gut Health

Solutions

- Similar to inflammation - special diet to decrease leaky gut.
- Restore gut supplement
- Sulforaphane
- Curcumin
- Quercetin

Sulforaphane from Broccoli Reduces Symptoms of Autism: A Follow-up Case Series from a Randomized Double-blind Study

Global Advances in Health and Medicine

Volume 6: 1–7

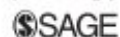
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Rhoda Lynch^{*,1}, Eileen L Diggins, BA¹, Susan L Connors, MD¹, Andrew W Zimmerman, MD^{1,2,3,4,5}, Kanwaljit Singh, MD, MPH¹, Hua Liu, MS, PhD^{6,7}, Paul Talalay, MD^{6,7}, and Jed W Fahey, MS, ScD^{6,7,8,9}

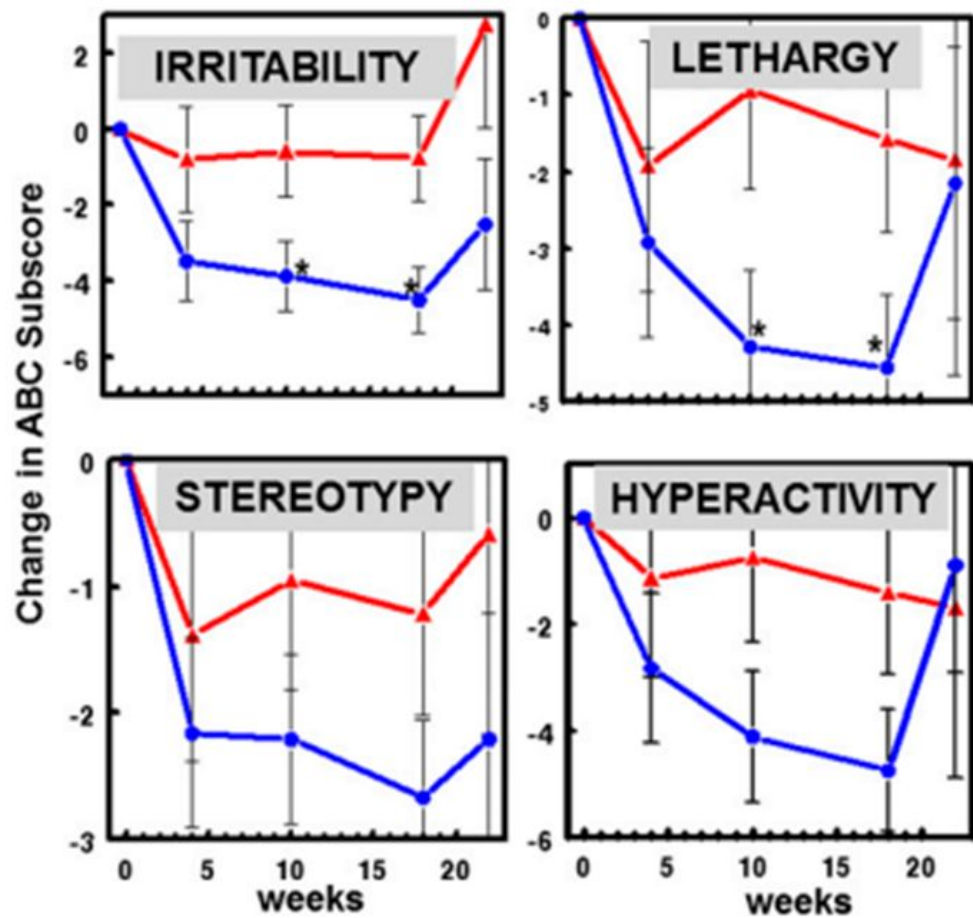
Abstract

Introduction: Autism spectrum disorder (ASD) affects 1 in 68 children, is characterized by impaired social interaction and communication as well as restricted or repetitive behaviors, and varies widely with respect to its causes and presentations. There are no validated pharmacologic treatments for the core symptoms of ASD. The social, medical, and economic burdens of ASD on families and caregivers are profound. We recently showed in a small clinical trial that sulforaphane (SF) from broccoli sprouts could significantly reduce the behavioral symptoms of ASD.

Methods: After we completed the intervention phase of the original trial (2011–2013), many caregivers used over-the-counter dietary SF supplements in order to attempt to maintain improvements similar to those noted during the intervention. We periodically followed the progress of study participants through the summer of 2016.

Results: Families of 16 of the 26 subjects who received SF as part of the original study responded to requests for further information. Of these subjects, 6 did not continue taking SF supplements after the study. Nine of the 16 subjects are still taking an SF supplement and a 10th planned to. We present the edited testimonials of their caregivers in this case series.

Conclusions: Many parents and caregivers articulated the positive effects of SF, both during the intervention phase and in the ensuing 3 years reported herein. These observations may contribute to understanding ASD and to treatments that may



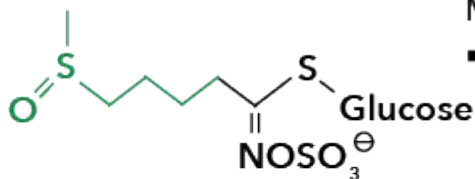
Sulforaphane Lowers Autism

- Young men age 13-27
- Social interaction improved in 46%
- Verbal Communication improved in 42%
- Abnormal behavior improved in 53%

Sulforaphane Breakdown

The glucosinolate found in broccoli.

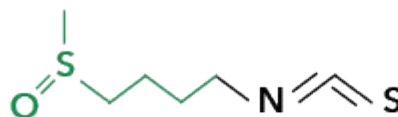
Glucoraphanin



The only known enzyme found in nature that can split a thio-linked glucose.

Myrosinase

Sulforaphane (SFN)



✦ The photochemical that leads to all the health benefits we needed.

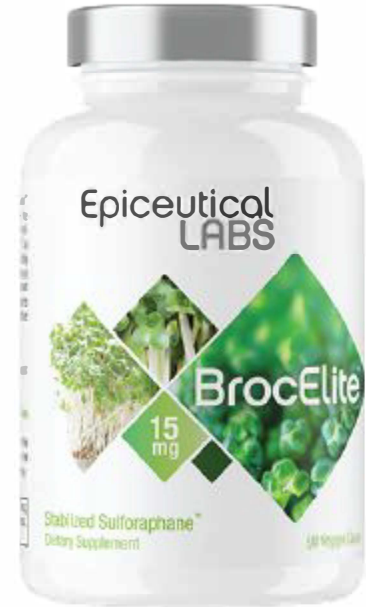
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