

Glyphosate + Aluminum + Mercury + Glutamate = Autism



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AutismOne 2018



Outline

- Brief Introduction to Glyphosate
- Glyphosate and the Gut
- Mouse Models of Autism
- Vaccine Toxicants and Autoimmune Disease
- Aluminum in Vaccines
- Glyphosate IN MMR?
- Summary

Brief Introduction to Glyphosate

Roundup and GMO Crops

GMO Roundup-Ready corn, soy, canola, sugar beets
cotton, tobacco and alfalfa

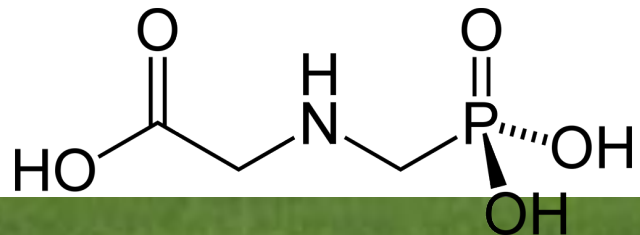
What is glyphosate?



Roundup as a Desiccant/Ripener just before Harvest

Wheat, Oats, Barley, Rye,
Sugar cane, Beans, Lentils,
Peas, Flax, Sunflowers,
Pulses, Chick Peas



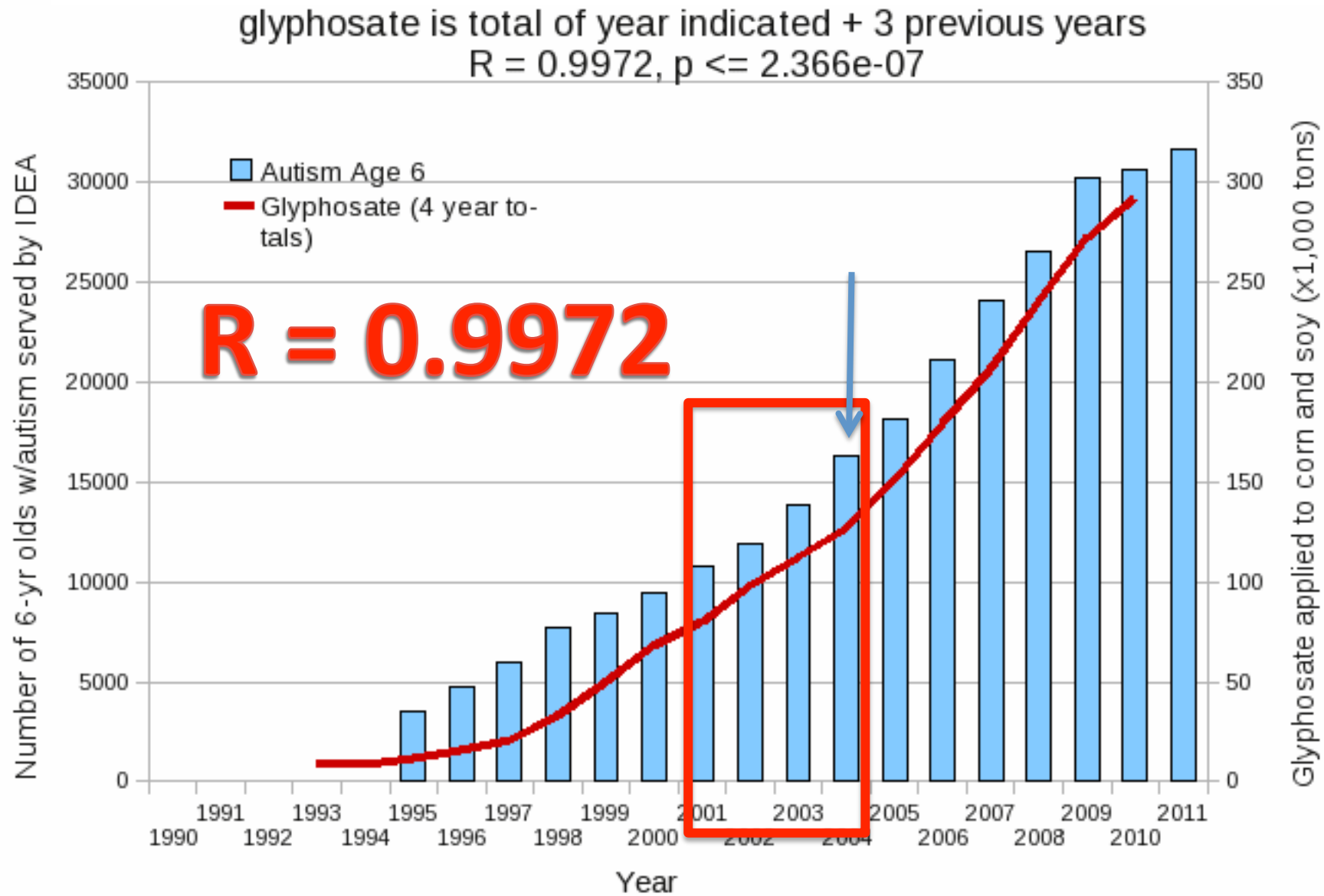


Glyphosate!!

- Glyphosate is now the #1 herbicide in use in the U.S. and is increasingly used around the world
 - Developed and patented by Monsanto in the 1970's
 - Introduced into the US food chain in 1974
 - Came out from under patent in 2000
- Inhibits an enzyme in the *shikimate* pathway involved in the synthesis of tyrosine, tryptophan and phenylalanine (the three *aromatic amino acids*)
- Huge expansion of GMO corn, soy, cotton and canola crops has led to sharp increases in the last two decades

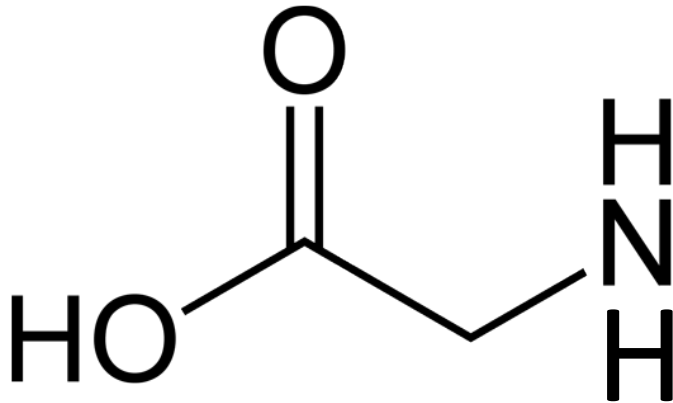


Autism Prevalence: 6 year olds*



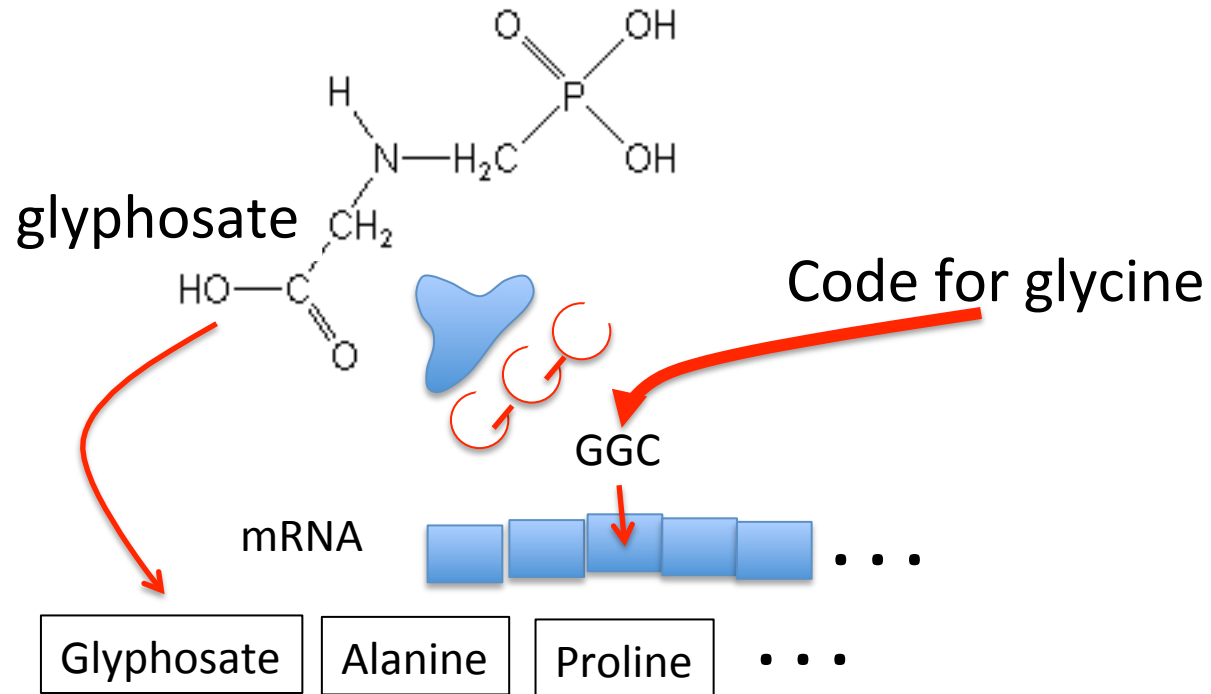
* Figure 15, Seneff et al., Agricultural Sciences, 2015, 6, 42-70

**Glyphosate is a non-coding
amino acid analogue of glycine**



Glypinesate

What If Glyphosate Could Insert Itself Into Protein Synthesis by mistake???



Any proteins with conserved glycine residues are likely to be affected in a major way

Multiple species of bacteria and multiple species of weeds have developed resistance to glyphosate by swapping out a crucial glycine residue in the enzyme EPSP synthase in the shikimate pathway, replacing it with alanine.*

A bacterial gene coding for alanine instead of glycine is the basis of the GMO Roundup-Ready crops**

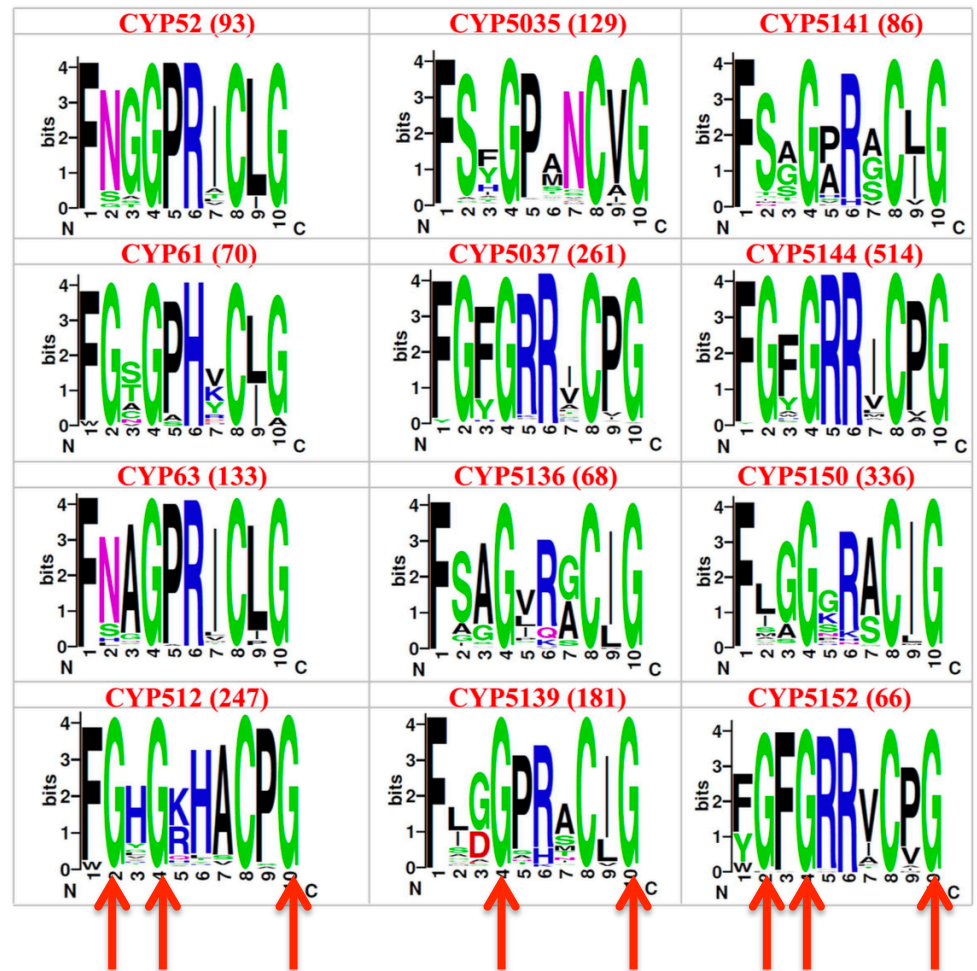
*S Seneff et al. J Bioinfo Proteomics Rev 2016; 2(3): 1-21.

**T Funke et al. Proc Natl Acad Sci U S A 2006; 103(35): 13010-13015.

Glyphosate Disrupts Cytochrome P450 (CYP) Enzymes*

- Glyphosate has been shown to severely suppress CYP enzymes in rat liver
- CYP enzymes have a unique FXX**G**XRXCX**G** motif with two and sometimes three critical glycine residues**

GLYCINES



*A Samsel and S Seneff. Entropy 2013; 15: 1416-1463.

**K Syed and SS Mashele. PLOS ONE 2014; 9(4): | e95616.

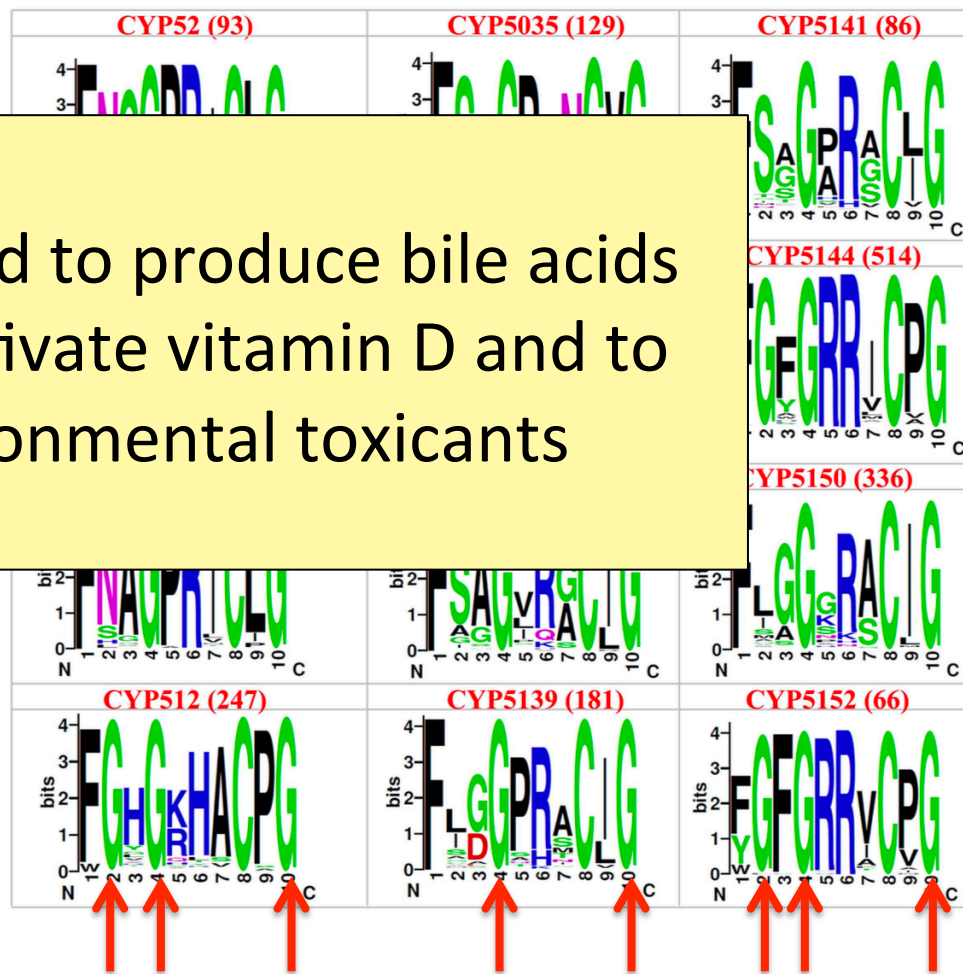
Glyphosate Disrupts Cytochrome P450 (CYP) Enzymes*

- Glyphosate has been

CYP enzymes are needed to produce bile acids for digesting fats, to activate vitamin D and to detoxify many environmental toxicants

unique **FXGXXKXG** motif with two and sometimes three critical glycine residues**

GLYCINES

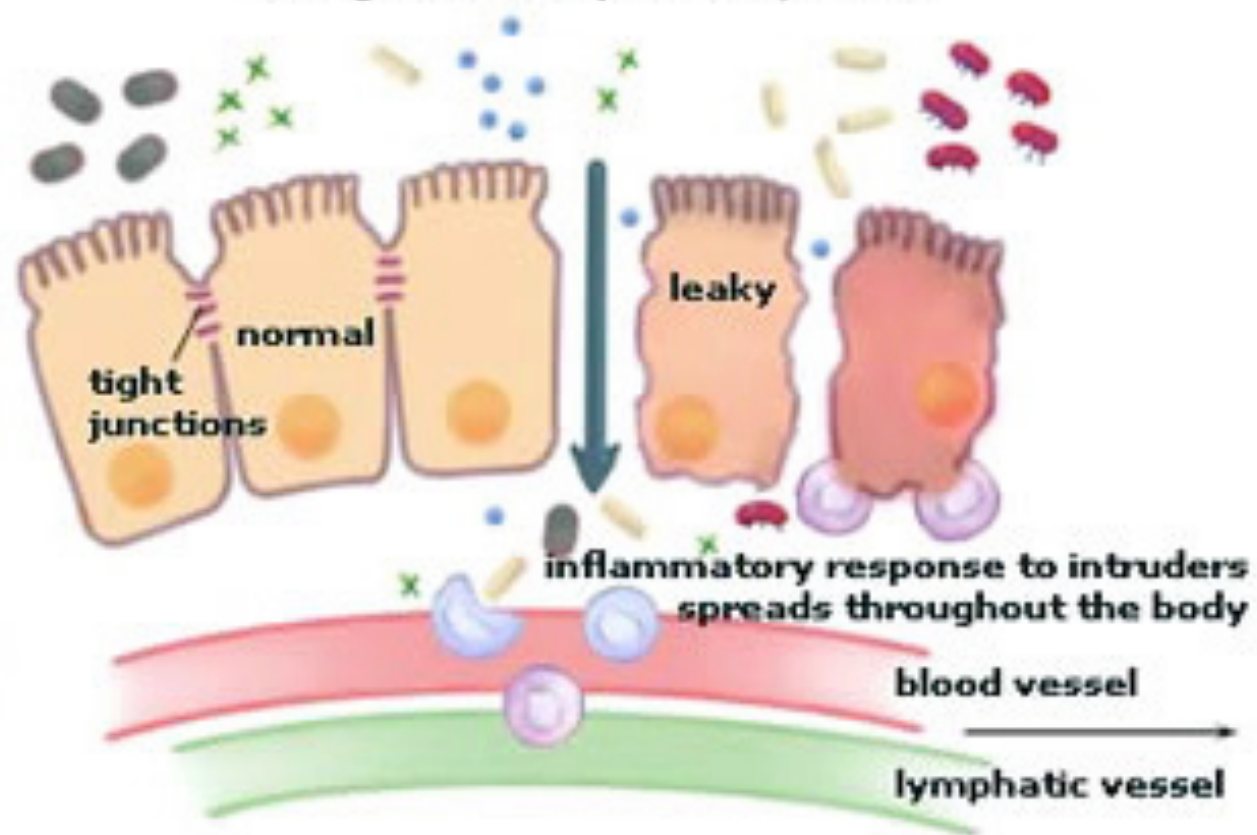


*A Samsel and S Seneff. Entropy 2013; 15: 1416-1463.
**K Syed and SS Mashele. PLOS ONE 2014; 9(4): | e95616.

Glyphosate and the Gut

LEAKY GUT

undigested food particles / toxins



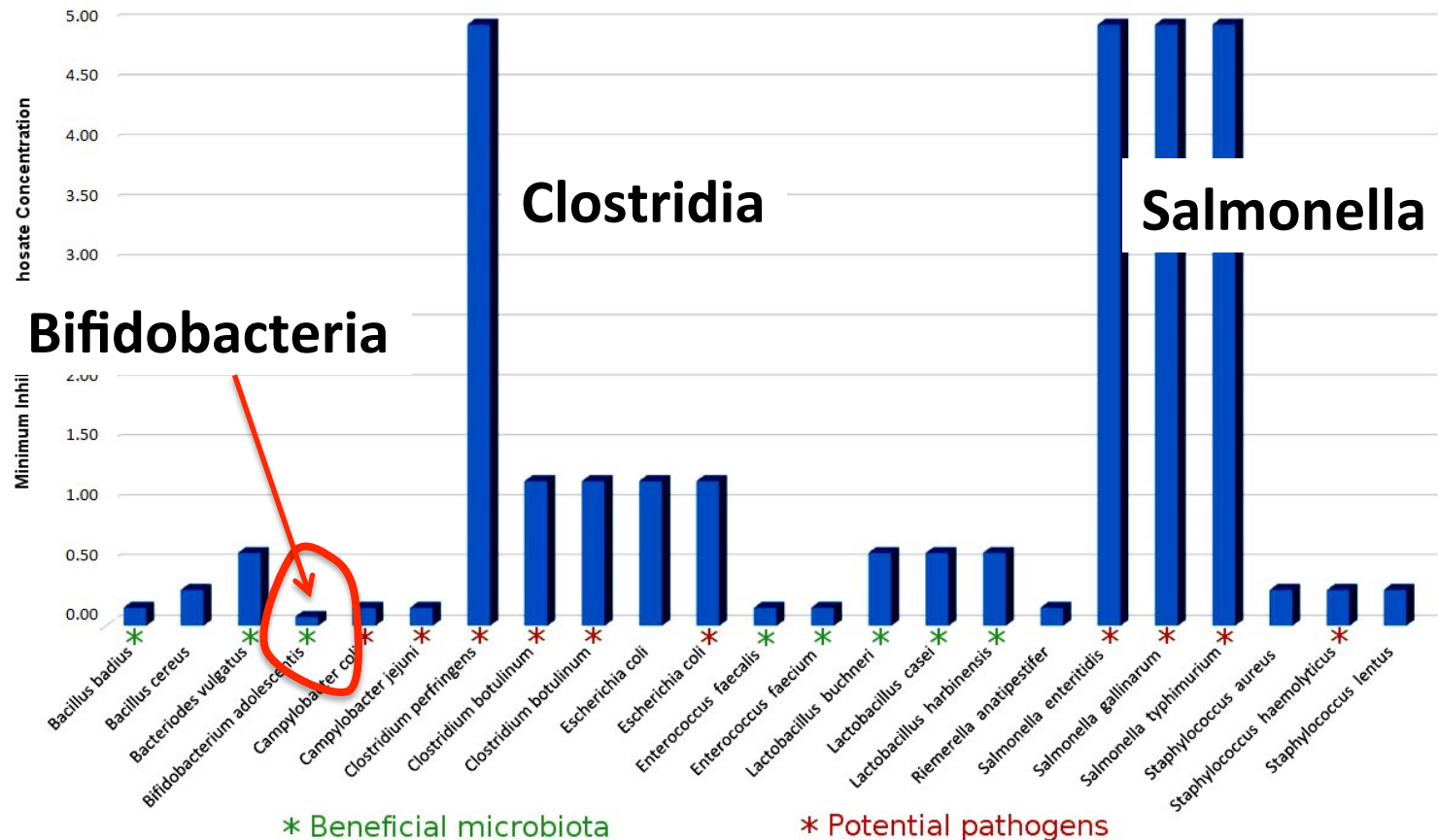
Glyphosate and the Gut: Pathogen Overgrowth

- Glyphosate is an antimicrobial agent that preferentially kills beneficial microbes, allowing pathogens to flourish in the gut*
- Immune cells invade the gut and release inflammatory cytokines
 - This causes increased risk to inflammatory bowel diseases such as Crohn's and ulcerative colitis

* Samsel and Seneff. Entropy 2013; 15: 1416-1463.

Pathogen Overgrowth in Poultry Microbes Exposed to Glyphosate*

Shehata AA, Schrödl W, Aldin AA, Hafez HM, Krüger M. The effect of glyphosate on potential pathogens and beneficial members of poultry microbiota in vitro. Curr Microbiol. 2013 Apr;66(4):350-8.



*Plot provided by Dr. Martin Michener

Glyphosate and the Gut: Digestive Enzymes

- Glyphosate has been found as a contaminant in digestive enzymes trypsin, pepsin and lipase*
- Trypsin impairment prevents proteins like gluten in wheat from being digested
- Undigested proteins induce release of zonulin which opens up gut barrier**
- Zonulin lingers because trypsin is defective

* A Samsel and S Seneff. J Biol Phys Chem 2017;17:8-32

** JJ Gildea et al. J Clin Nutr Diet. 2017, 3:1.

Trypsin, Pepsin and Lipase are all contaminated with glyphosate*

Enzyme	Glyphosate (PPB)
Pepsin (ELISA)	<40
Pepsin (GC-MS)	430
Pepsin (HPLC-MSMS)	290
Trypsin (ELISA)	62
Lipase (ELISA)	24



*A Samsel and S Seneff. Journal of Biological Physics and Chemistry 2017;17: 8-32

Trypsin, Pepsin and Lipase are all contaminated with glyphosate*

E
P
P
P
T
L

Trypsin's activation domain contains four crucial glycine rich subdomains:*

N-terminus to Gly 19

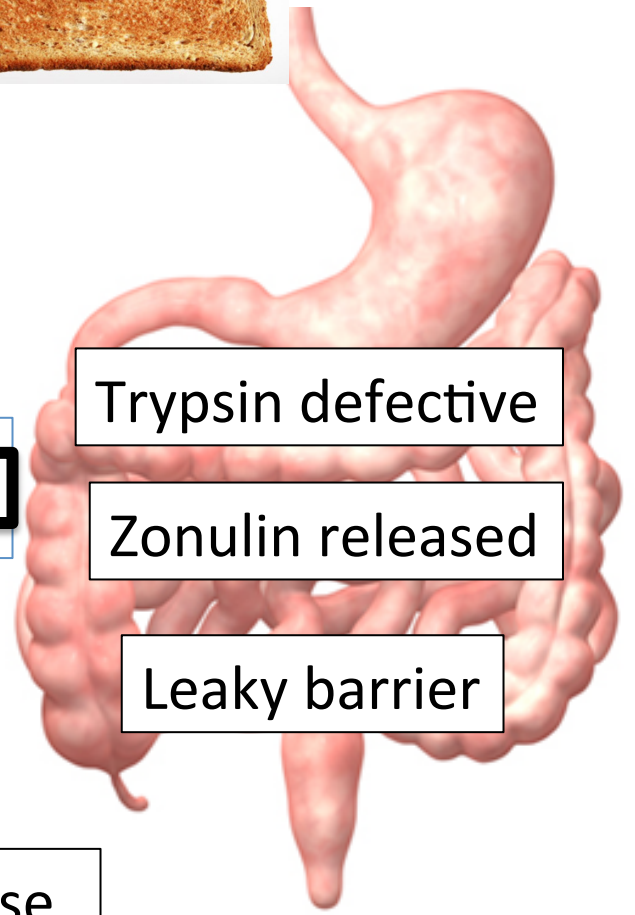
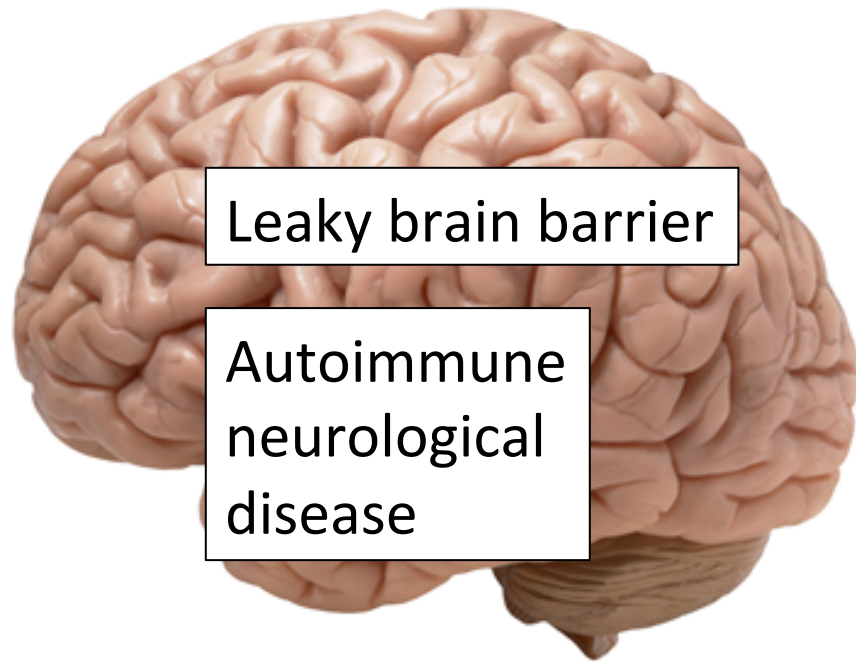
Gly 142 to Pro 152

Gly 184 to Gly 193

Gly 216 to Asn 223

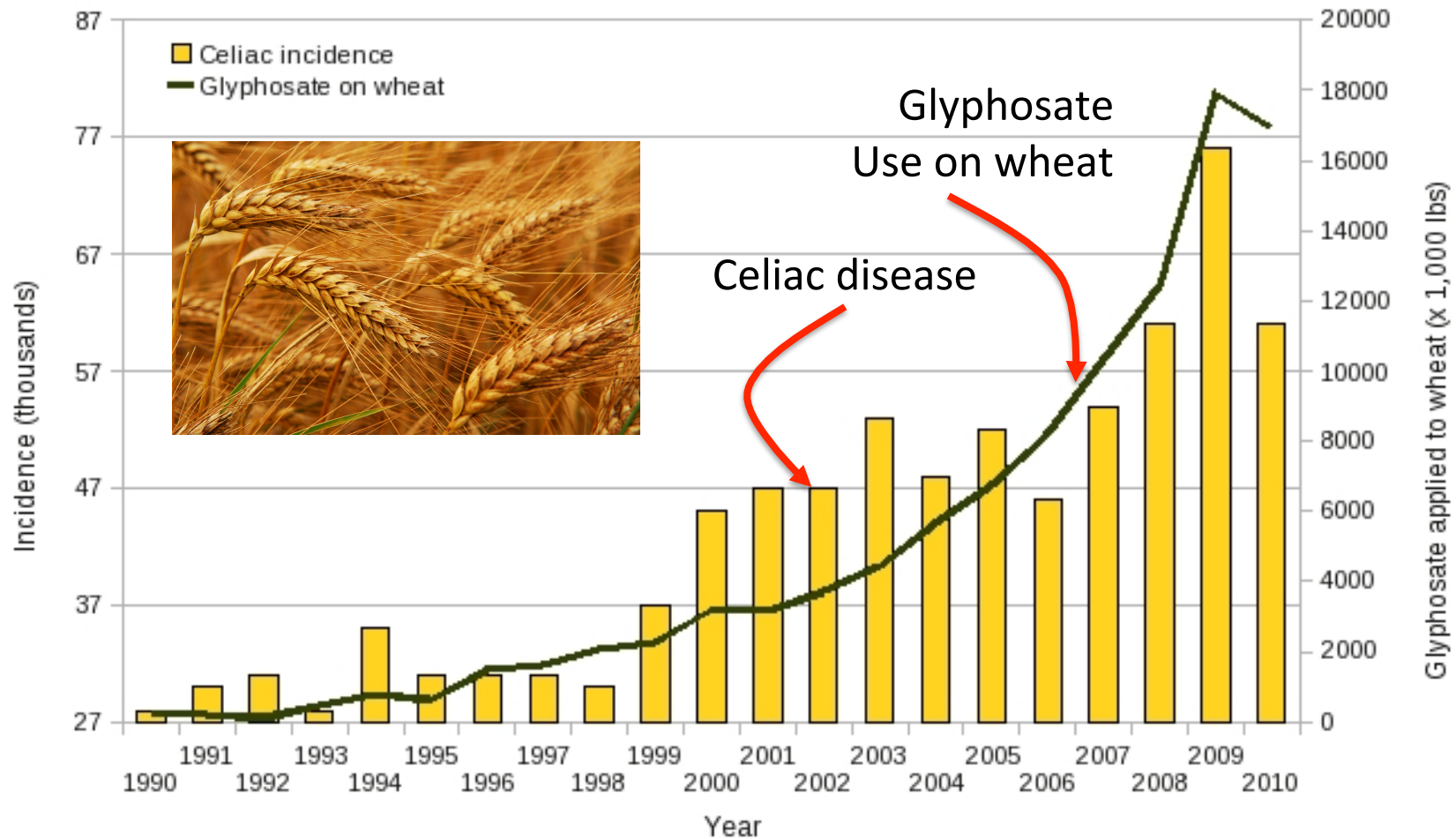
*A Samsel and S Seneff. Journal of Biological Physics and Chemistry 2017;17: 8-32

A Scenario for Gluten Intolerance



Systemic immune response induces multiple complex symptoms

Glyphosate and Celiac Disease*



*Samsel and Seneff, Interdiscip Toxicol. 2013;6(4): 159–184.

Celiac Disease, Glyphosate and Non Hodgkin's Lymphoma

- Glyphosate preferentially kills *Bifidobacteria**
- Bifidobacteria are depleted in celiac disease**
- Celiac disease is associated with increased risk to non Hodgkin's lymphoma***
- Glyphosate itself is also linked directly to non Hodgkin's lymphoma****

*A.A. Shehata et al., Curr Microbiol. 2013 Apr;66(4):350-8.

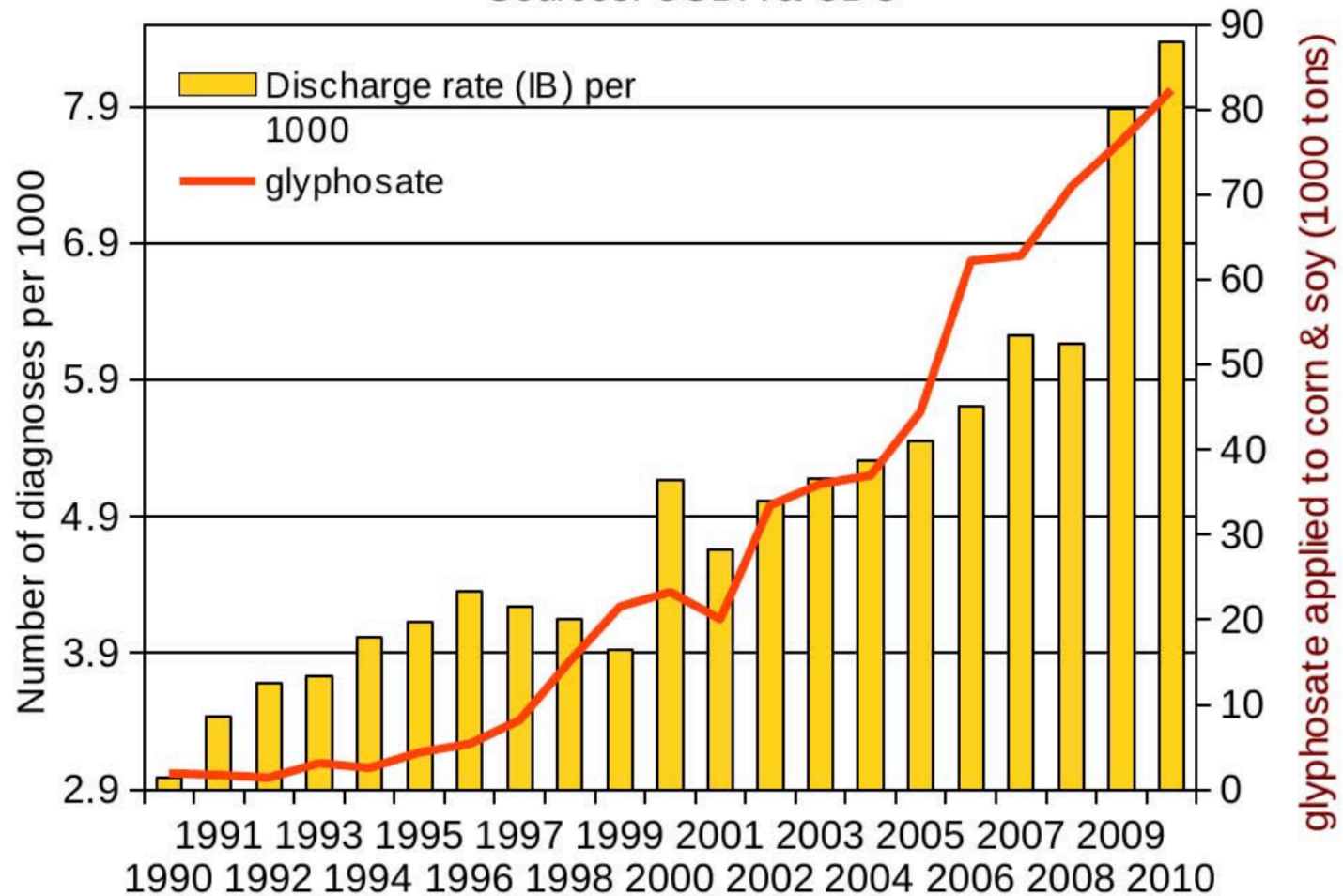
** M. Velasquez-Manoff, NY Times Sunday Review, Feb. 23, 2013.

*** C. Catassi et al., JAMA. 2002 Mar 20;287(11):1413-9.

****M. Eriksson et al., Int J Cancer. 2008 Oct 1;123(7):1657-63.

Hospital discharge diagnoses (any) of Inflammatory Bowel disease (Crohn's and Ulcerative Colitis ICD 555 & 556)

plotted against glyphosate applied to corn & soy ($R = 0.9378$, $p \leq 7.068e-08$)
Sources: USDA & CDC



*Figure 20, NL Swanson et al. Journal of Organic Systems 9(2), 2014, p. 25.

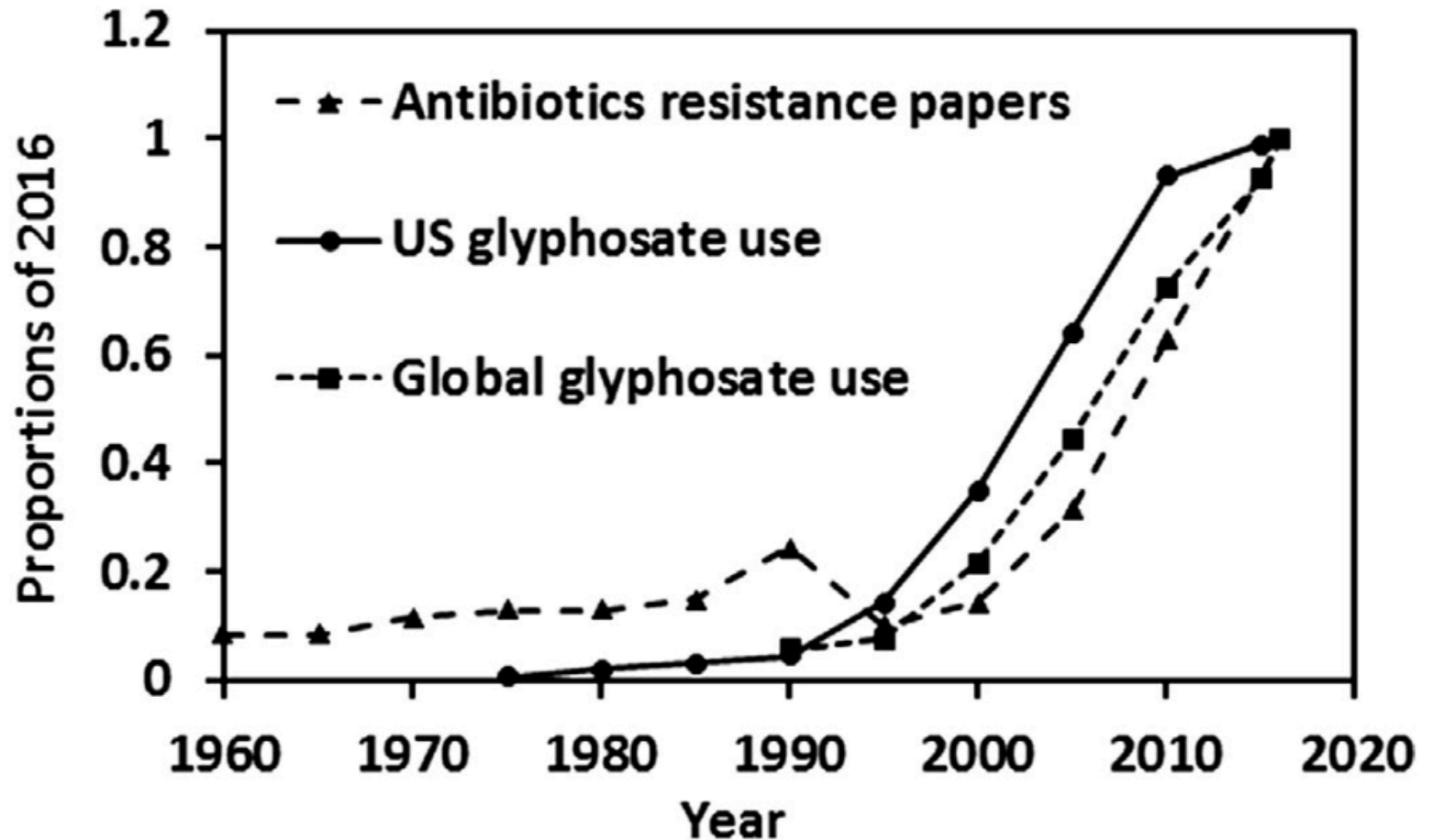
Glyphosate Induces Antibiotic Resistance*

- Actinobacteria produce a free radical scavenger in response to glyphosate that provides resistance to a wide range of antibiotics, including penicillin
- E. coli exposed to glyphosate develop an "efflux pump" that increases resistance to the fluoroquinolone Ciprofloxacin and the aminoglycoside Kanamycin.
 - Same effect observed in Salmonella exposed to glyphosate



*AHC Van Bruggen et al. Science of the Total Environment 2018;616-617: 255–268.

Glyphosate Usage and Papers on Antibiotic Resistance*



*AHC Van Bruggen et al. Science of the Total Environment 2018;616-617: 255–268.

Myosin in the Gut

- Myosin is a motor protein found in high levels in skeletal muscles
- Myosin is also essential for gut motility (peristalsis) and for the release of bile acids into the upper intestine
- Myosin contains a highly conserved glycine at position 699*
 - If this is changed to alanine, the proteins' contractile ability is reduced to less than 1%.
- Glyphosate has been shown in fish studies to suppress myosin expression**

*F Kinose et al. The Journal of Cell Biology 1996;134(4): 895-909.

**Ana Paula Rezende dos Santos et al., Chemosphere 2017;168:933e943.

Myosin in the Gut

- Myosin is a motor protein found in high levels in skeletal muscles

- SIBO (Small Intestinal Bacterial Overgrowth) is associated with impaired peristalsis*

- If this is changed to alanine, the proteins' contractile ability is reduced to less than 1%.

- Glyphosate has been shown in fish studies to suppress myosin expression**

*AC Dukowicz et al. Gastroenterol Hepatol (N Y) 2007; 3(2): 112-122.

Mouse Models of Autism

A BTBR Mouse Model of Autism*

These mice had all the mouse features of autism

They were fed “standard rodent chow” – glyphosate contaminated?

Some features in the gut:

- Reduced levels of bile acids (due to impaired CYP7A1 activity in the liver)
- Further reduced levels of secondary bile acids (impaired metabolism by gut microbes)
- Reduced levels of Lactobacillus and Bifidobacteria (microbes that metabolize bile acids)
 - These microbes are preferentially killed by glyphosate
- Serotonin deficiency (due in part to tryptophan conversion to kynurenine to fight infection)
 - Serotonin is derived from tryptophan, a product of the shikimate pathway which glyphosate disrupts

*AV Glubeva et al. EBioMedicine. 2017 Oct;24:166-178.

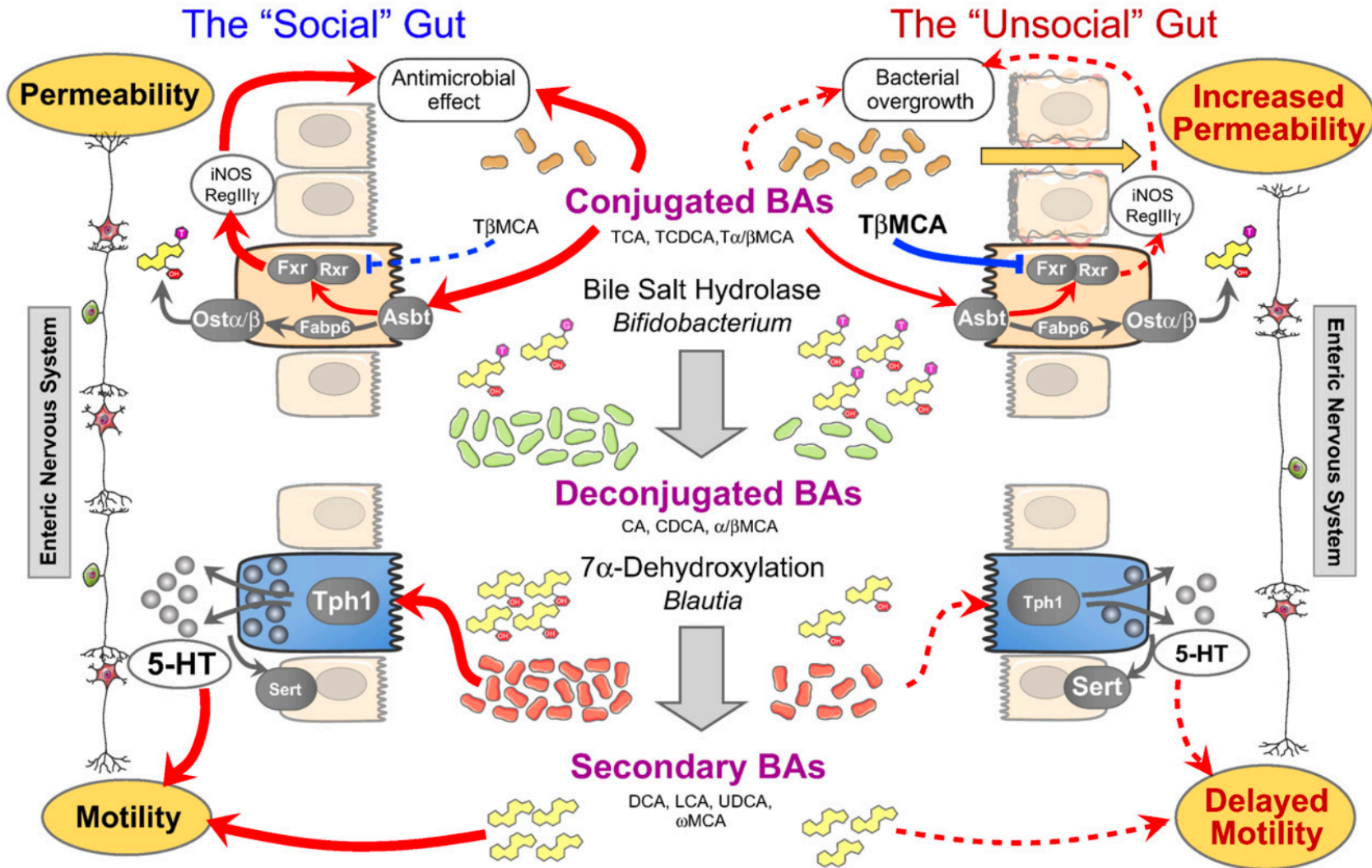
C57BL/6



Good sociability
Low engagement in repetitive behaviors
Normal cognition
Low anxiety

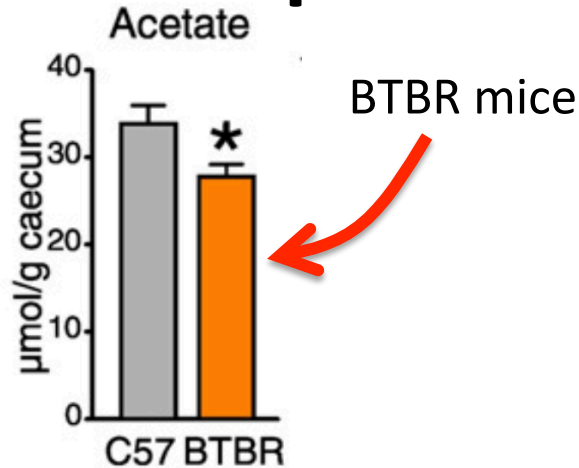
Impaired sociability
Enhanced engagement in repetitive behaviors
Impaired cognition
High anxiety

BTBR $T^+ Itpr3^{tf/J}$

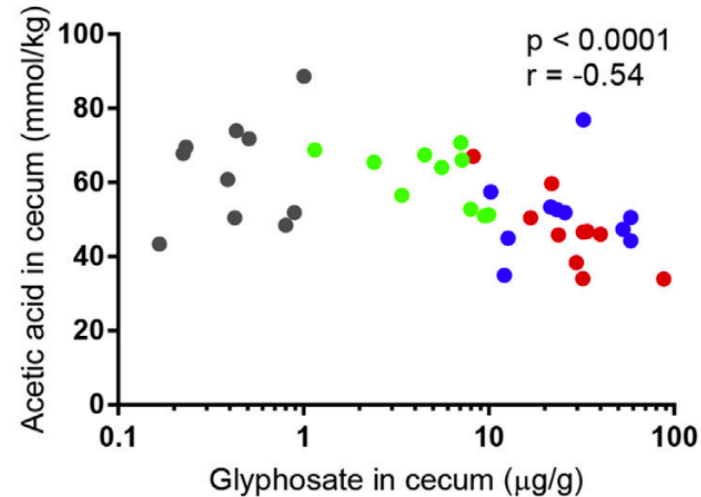
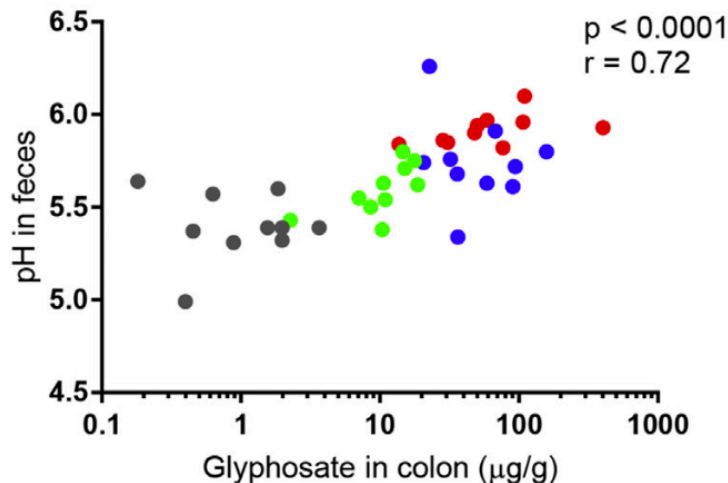


*Figure 8. AV Glubeva et al. EBioMedicine. 2017 Oct;24:166-178.

BTBR mice have low acetate, and glyphosate disrupts acetate synthesis in gut*



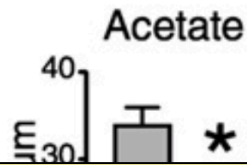
Children with autism had only 3.5 mg/ml acetate in stool samples compared to 5.1 in controls. **



* LN Nielsen et al. Environmental Pollution 2018;233:364e376.

** Adams et al. BMC Gastroenterology 2011; 11:22.

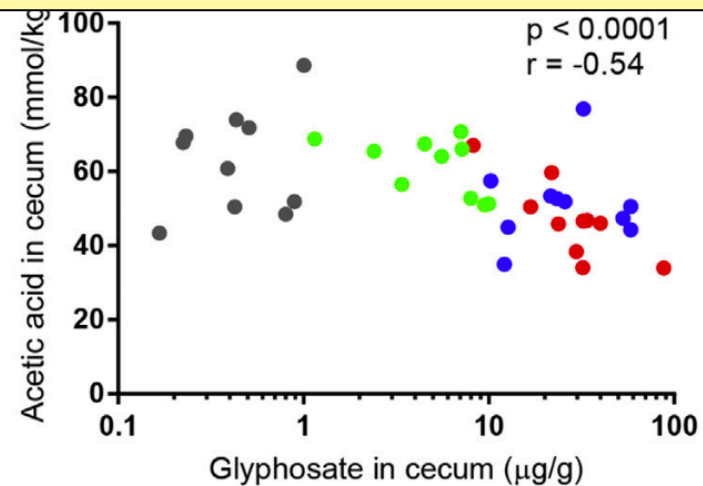
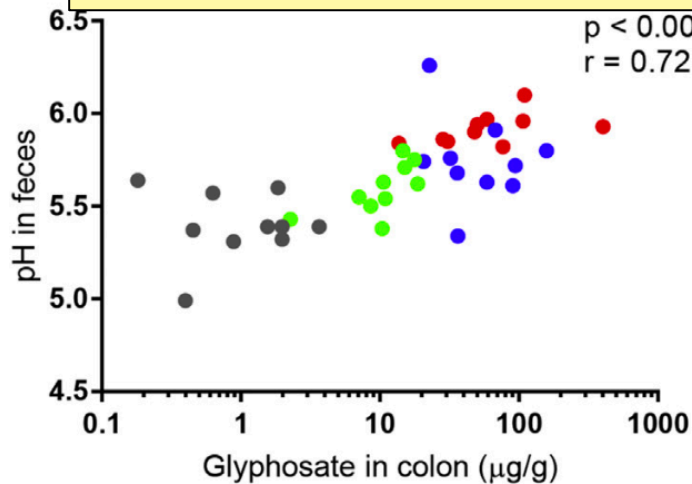
BTBR mice have low acetate, and glyphosate disrupts acetate synthesis in gut*



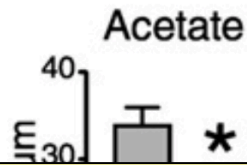
BTBR mice

Children with autism had

Bifidobacteria produce significant amounts of acetate



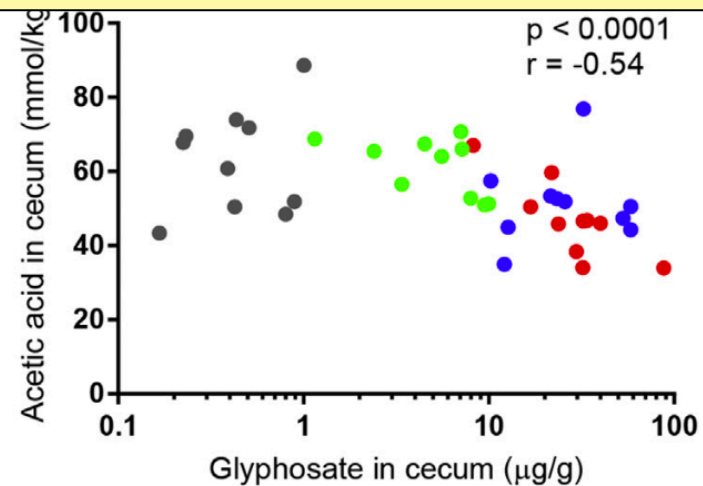
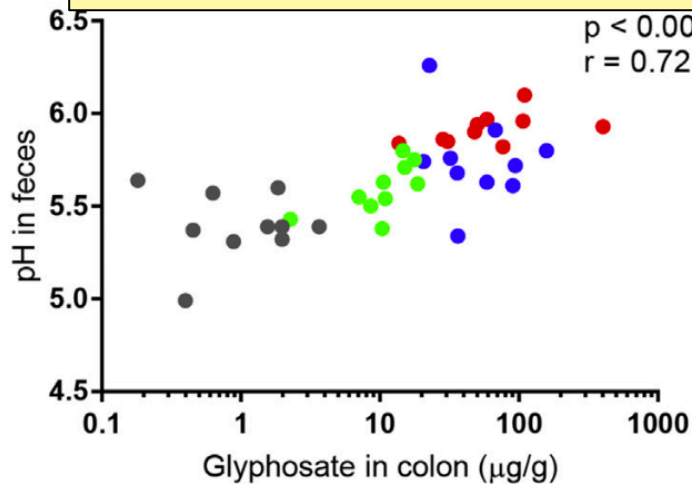
BTBR mice have low acetate, and glyphosate disrupts acetate synthesis in gut*



BTBR mice

Children with autism had

Elevated pH linked to glyphosate exposure results in small intestinal bacterial overgrowth (SIBO)



Evidence Linking Autism to Clostridia Overgrowth*

- 14 autistic children with gut disorder compared to 21 controls
- Significant increase in *Clostridia* species in the gut in autistic children
- Associated with reduced tryptophan levels and increased expression of inflammatory markers
 - Tryptophan is a product of the shikimate pathway, which glyphosate blocks
 - Macrophages in inflamed tissue take up tryptophan, reducing bioavailability to the brain
- Proposed role for antibiotics
 - Glyphosate is a patented antimicrobial agent (2010)

*RA Luna et al., Cellular and Molecular Gastroenterology and Hepatology 2017;3(2): 218-230

Elevated Urinary Glyphosate and Clostridia Metabolites With Altered Dopamine Metabolism in Triplets With Autistic Spectrum Disorder or Suspected Seizure Disorder: A Case Study *

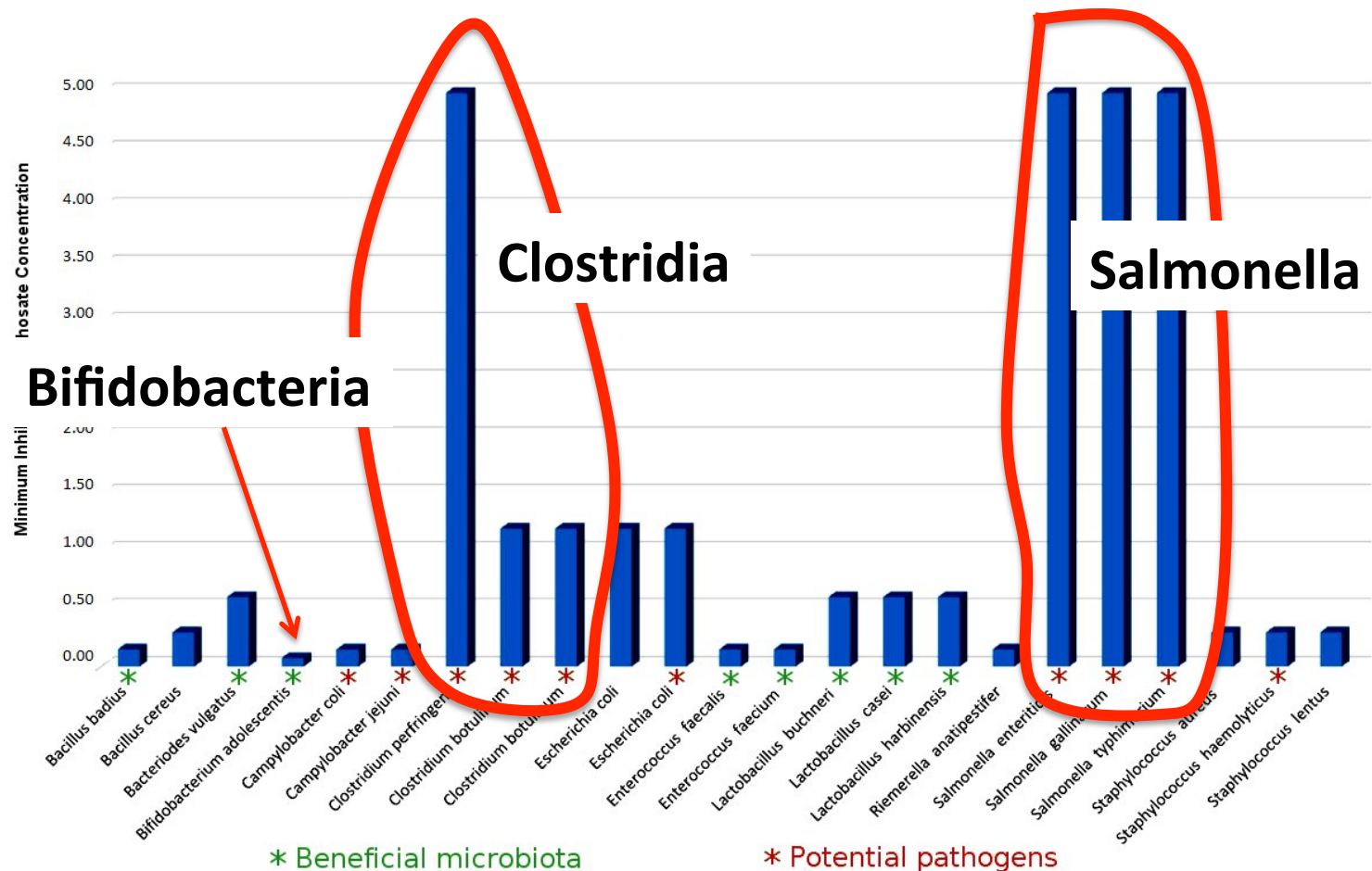
William Shaw, PhD

- Triplets: two boys, one girl. Both boys have autism and girl has seizure disorder
- Very high levels of glyphosate in urine in all three
- *Clostridia* overgrowth due to glyphosate disruption of gut microbes
 - Clostridia produce toxins HPPHA and p-cresol, which block the conversion of dopamine to norepinephrine.
 - Damage to neurons in the brain through oxidative stress

*W. Shaw. Integrative Medicine 2017;16(1);50-57.

Pathogen Overgrowth in Poultry Microbes Exposed to Glyphosate*

Shehata AA, Schrödl W, Aldin AA, Hafez HM, Krüger M. The effect of glyphosate on potential pathogens and beneficial members of poultry microbiota in vitro. *Curr Microbiol.* 2013 Apr;66(4):350-8.



*Plot provided by Dr. Martin Michener

Recapitulation

- Glyphosate contamination in food proteins makes them hard to break down
 - This leads to autoimmune disease
- Glyphosate contamination in digestive enzymes makes them defective
 - Undigested proteins induce Celiac disease and leaky gut
- Glyphosate is a key factor in the emergence of antibiotic resistant pathogens
- Mouse models of autism are consistent with glyphosate damage in the gut
- Glyphosate promotes Clostridia overgrowth in the gut
 - This induces inflammatory bowel disease, an epidemic today
 - Autism has been linked to Clostridia overgrowth
 - Clostridia release toxins that induce an inflammatory response

Vaccine Toxicants and Autoimmune Disease

Vaccine Induced Immune Overload*

Mercury, aluminum, formaldehyde, MSG, neomycin, gentamycin, streptomycin, polymyxin B, polyethylene glycol, squalene, killed and/or live viruses, viral contaminants, etc.

→ Type 1 and type 2 diabetes, NASH, autism, asthma, food allergies, thyroiditis, vasculitis and autoimmune rheumatic diseases like lupus, rheumatoid arthritis, psoriasis and metabolic syndrome.

*Classen JB, J Mol Genet Med 2014, S1:025

Autoimmune Disease and Molecular Mimicry*

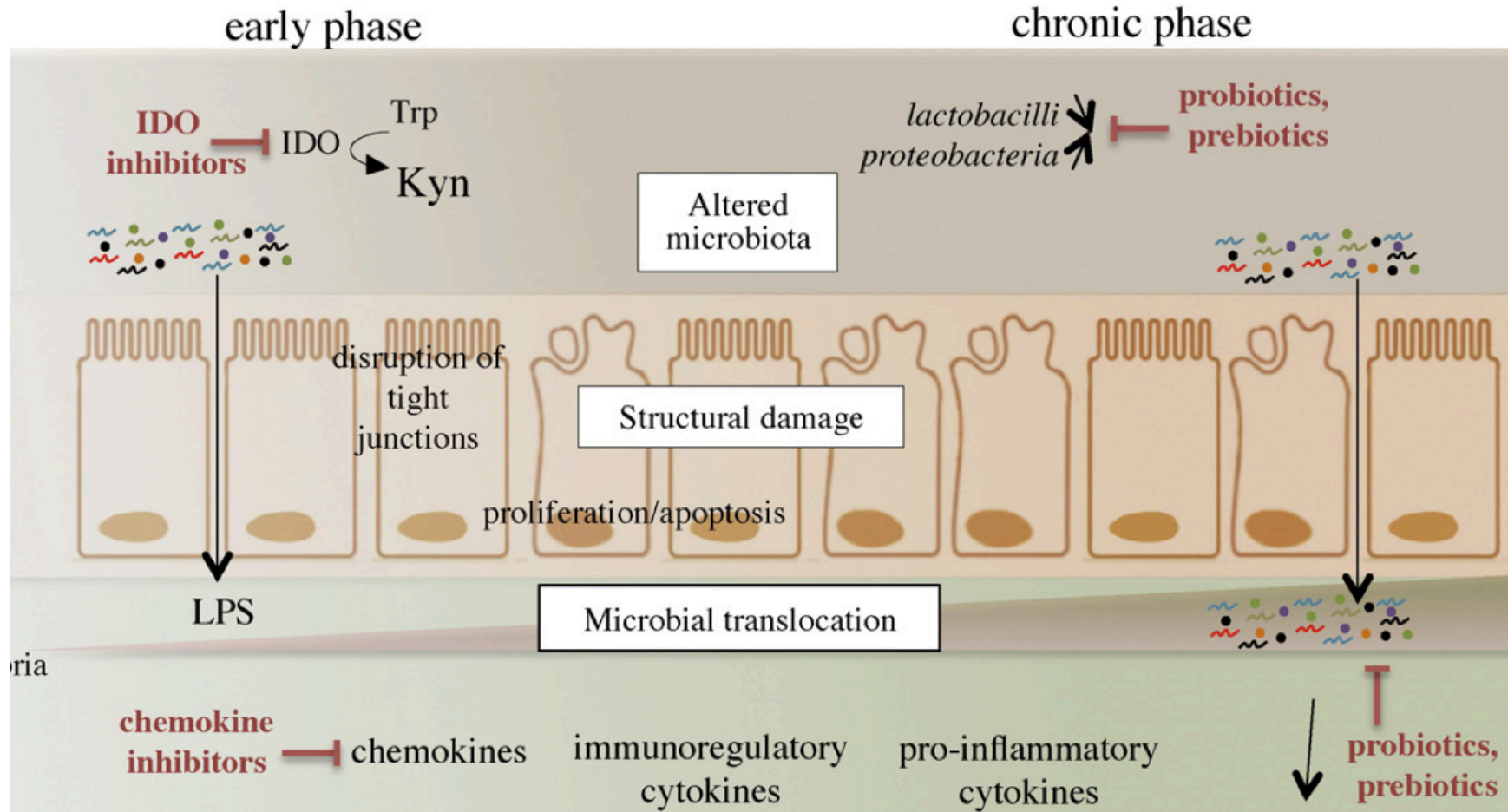
- A peptide sequence in a foreign protein resembles a sequence in a human protein
- The immune system develops antibodies to the foreign protein and then these act as *autoantibodies* and attack the human protein that looks similar
 - This is how you get *autoimmune disease*
- The foreign protein could be from a virus in a vaccine or from a live infection or it could be from a food source like wheat gluten

*MF Cusick et al., Clin Rev Allergy Immunol. 2012; 42(1): 102–111.

Hypothesis

- Cumulative glyphosate exposure sets up a weakened immune system, a leaky gut barrier and a leaky brain barrier
- Vaccines introduce foreign proteins that may contain glyphosate as a contaminant
- Child develops overactive antibody response to foreign protein contaminated with glyphosate and, through molecular mimicry, this leads to autoimmune disease

A Model from Gut Dysbiosis to Autoimmunity*

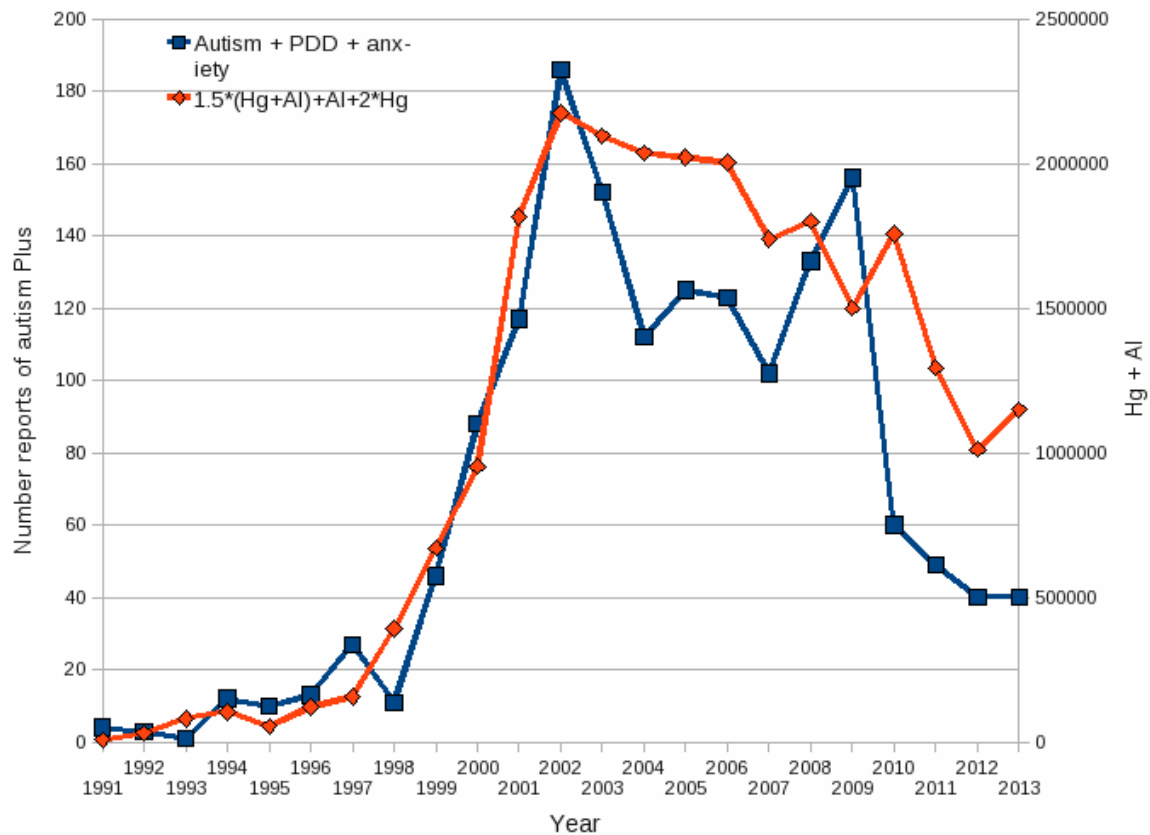


*Figure 1, R. Ponte et al. EBioMedicine 1016;4:40-49.

Aluminum & Mercury

Autism & PDD & Anxiety

R = 0.9024, p <= 1.115e-07



VAERS
database

Formula: $Al + 1.5 \times (Al \text{ w/ } Hg) + 2.0 \times Hg$

"Autoimmune (autoinflammatory) syndrome induced by adjuvants" (ASIA)*

- Alum-containing vaccines become insidiously unsafe in certain individuals
 - Increased risk to develop autoimmune diseases
- Chronic fatigue, muscle pain, joint pain, brain fog
- Alum nanoparticles adsorb vaccine antigens on their surface -> resistance to proteolysis
- Defects in autophagy → biopersistence of alum particles
- Trojan horse effect: immune cells carry Al into brain
- Leaky brain barrier → Alum accumulates in brain

*RK Gherardi et al., Frontiers in Neurology February 2015; 6:4.

Methodological Issues and Evidence of Malfeasance in Research Purporting to Show Thimerosal in Vaccines Is Safe*

- Over 165 studies have found Thimerosal to be harmful:
 - Death, allergic reactions, malformations, autoimmune reactions, developmental delay
 - Neurodevelopmental disorders, including tics, speech delay, language delay, attention deficit disorder, and autism
- Six studies used by the CDC to support Thimerosal's safety are flawed



*B Hooker et al., BioMed Research International 2014, Article ID 247218

Glyphosate and Mercury Synergy

- Glyphosate reduces glutathione levels in the liver
- Glutathione binds with mercury and detoxifies it*
 - This causes a further reduction in glutathione supply
- Desulfovibrio (overgrowth with glyphosate exposure) converts mercury to the toxic form, methylmercury
- Desulfovibrio flourish when assimilatory sulfite reductase is defective
 - This enzyme has been shown to be suppressed by glyphosate in E coli**
- Autism is linked to overgrowth of Desulfovibrio***

*H Khan et al. J Pharm Sci. 2012 Apr;25(2):395-400.

**W Lu et al. Mol. BioSyst.2013; 9: 522-530.

***SM Finegold. Med Hypotheses 2011;77(2):270-4.

Glutamate is an Additive in Vaccines!

- Flu vaccines (FluMist), MMR (measles, mumps and rubella), Rabies vaccine and Varicella vaccine (chicken pox) all contain glutamate
- Anecdotal evidence links these vaccines with autism
- My own studies on VAERS revealed a correlation between autism and MMR*
- **Glyphosate's depletion of manganese prevents glutamate breakdown**



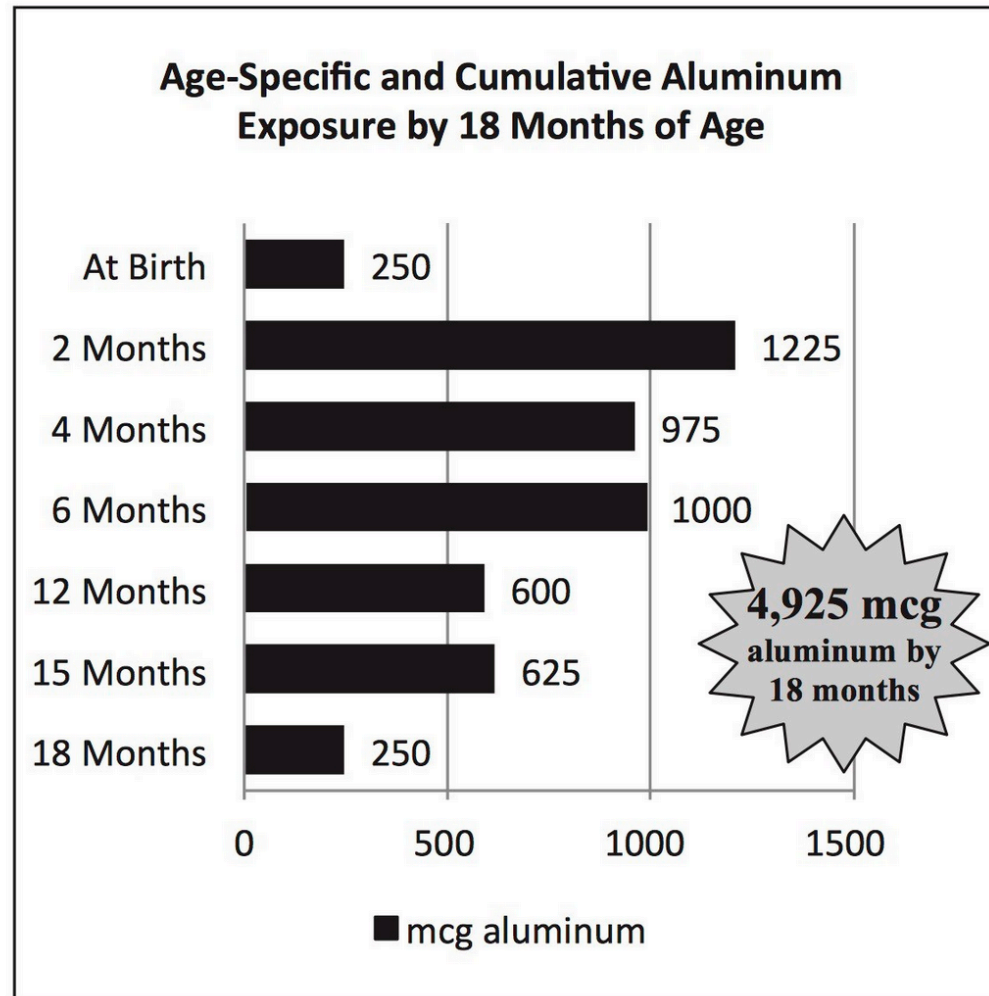
*S. Seneff et al., Entropy 2012, 14, 2227-2253.

Recapitulation

- Vaccines contain many toxic chemicals and viral antigens that can lead to multiple autoimmune diseases
 - Molecular mimicry causes autoimmune attack on human tissues
 - Glyphosate exposure sets up leaky barriers that increase autoimmune risk
- Total aluminum and mercury burden in vaccine adverse reaction reports correlates strongly with mentions of autism, ADHD and pervasive developmental delay
- Thimerosal in vaccines is highly toxic but CDC has downplayed its toxicity
- Glyphosate works synergistically with glutamate and mercury in vaccines

Aluminum in Vaccines

Cumulative aluminum exposure from childhood vaccines*



*Source: The vaccine manufacturers' product inserts and the CDC's 2016 vaccination schedule

Aluminum Adjuvant in Vaccines*

- DTaP (diphtheria, tetanus, and pertussis): **170–625 mcg**, depending on manufacturer
- Hepatitis A: **250 mcg**
- Hepatitis B: **250 mcg**
- Hib (for meningitis; PedVaxHib brand only): **225 mcg**
- HPV: **225 mcg**
- Pediarix (DTaP–hepatitis B–polio combination): **850 mcg**
- Pentacel (DTaP–Hib–polio combination): **330 mcg**
- Pneumococcus: **125 mcg**

*vactruth.com/2014/01/28/toxic-levels-of-aluminum/

“Subcutaneous injections of aluminum at vaccine adjuvant levels activate innate immune genes in mouse brain that are homologous with biomarkers of autism”*

- Study on mice exposed to aluminum hydroxide
- Injected them with aluminum several times during early life, mimicking the US vaccination schedule
- Predominantly in brain in males:
 - Activated several immune stimulating cytokines such as CCL2, interferon gamma and TNF alpha
 - Activated NF kappa B signaling pathway and release of chemokines Il-4 and IL-6.
 - This induces a neuroinflammatory response that is characteristic of autism in humans
- Affected predominantly cerebral cortex in males and cerebellum in females

*D Li et al. Journal of Inorganic Biochemistry 2017;177: 39-5.

“Aluminum hydroxide nanoparticles show a stronger vaccine adjuvant activity than traditional aluminum hydroxide microparticles”*

- Aluminum hydroxide is commonly used as an adjuvant in vaccines
- Aluminum hydroxide microparticles only weakly potentiate antibody response
- Special processing can produce tiny aluminum nanoparticles under 200 nanometers in diameter
- These are much more effective in stimulating an immune response and they induce a smaller inflammatory response at the injection site
- Plausible explanation is that they are easier for the macrophages to take up, along with the bound antigen

*X Li et al. J Control Release. 2014; 173: 148-157.

“Aluminum hydroxide nanoparticles show a stronger vaccine adjuvant activity than traditional aluminum hydroxide microparticles”*

- Aluminum hydroxide is commonly used as an adjuvant in vaccines
- Aluminum hydroxide microparticles are used as adjuvants in vaccines
- Specific nanoparticles are used as adjuvants in vaccines
- The immune response is enhanced by the adjuvant
- Plausible explanation is that they are easier for the macrophages to take up, along with the bound antigen

There is a big problem with this strategy because the macrophages clear the aluminum from the injection site, but they can carry it as stealth cargo into the brain.

*X Li et al. J Control Release. 2014; 173: 148-157.

“Non-linear dose-response of aluminium hydroxide adjuvant particles: Selective low dose neurotoxicity”*

Alhydrogel is the main adjuvant licensed for human and animal vaccines (aluminum hydroxide gel)

"We conclude that Alhydrogel1 injected at low dose in mouse muscle may selectively induce long-term Al cerebral accumulation and neurotoxic effects."

- Lowest dose contained exclusively small agglomerates the size of bacteria, favoring capture by macrophages
- Immune cells transport the aluminum to the blood, the spleen and the brain

"The dose makes the poison" view is overly simplistic

*G Crépeaux et al. Toxicology 2017;375:48-57.

“Remarkably, the study found that the lowest dosage (200 mcg/Kg) was the most toxic! For many outcomes, the 400 and 800 mcg/Kg dosages had no observable adverse effects, but the 200 mcg/Kg dosage did.”

- J.B. Handley*

*November 27, 2017

<https://medium.com/@jbhandley/new-study-massive-aluminum-levels-in-autism-brains-is-this-the-smoking-gun-for-vaccines-54ae85ec2a9c>

Biopersistence and brain translocation of aluminum adjuvants of vaccines

*Romain Kroum Gherardi **, *Housam Eidi*, *Guillemette Crépeaux*, *François Jerome Authier* and *Josette Cadusseau*

*“Thus alum and other poorly biodegradable materials taken up at the periphery by phagocytes circulate in the lymphatic and blood circulation and can enter the brain using a **Trojan horse mechanism** similar to that used by infectious particles.”*



Journal of Trace Elements in Medicine and Biology

Available online 26 November 2017

In Press, Accepted Manuscript — Note to users



Aluminium in brain tissue in autism

Matthew Mold^a, Dorcas Umar^b, Andrew King^c, Christopher Exley^a 

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<https://doi.org/10.1016/j.jtemb.2017.11.012>

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- Samples taken from temporal, frontal, parietal and occipital lobes and hippocampus of 5 autistic brains, postmortem
- Values of 17.10, 18.57 and 22.11 micrograms/gram dry weight: among highest ever seen
- **Hypothesis:** aluminium entry into the brain via immune cells circulating in the blood and lymph is expedited in Autism Spectrum Disorder due to a leaky brain barrier

Potent 5 minute video: Prof. Chris Exley on aluminium in autism*

Some highlights:

- The amount of aluminium found in autism brains was extraordinarily high**
 - They saw more aluminium than they'd seen in almost any other circumstance
 - Majority was intracellular aluminium within non-neuronal cell populations
- Aluminium in vaccines is almost certainly playing a role in autism
 - The results changed his mind on this topic
- Research was only possible because of philanthropy

*www.youtube.com/watch?v=SmkVv8pcVhc&feature=youtu.be

**M Mold et al. Journal of Trace Elements in Medicine and Biology 2018; 46: 76-82.



Aluminium in brain tissue in autism

Matthew Mold^a, Dorcas Umar^b, Andrew King^c, Christopher Exley^a, 

How Aluminum Adjuvant Causes Autism



Source : [Vaccine Papers](#)

Carried into the brain on the backs of immune cells!

*Source: vaccinepapers.org

Glyphosate and Aluminum: Partners in Crime



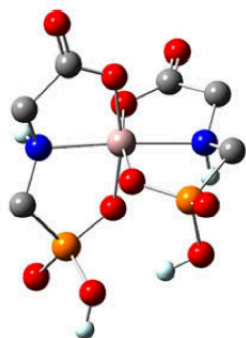
- Glyphosate induces pathogens like *C. difficile* in gut, leading to *leaky gut syndrome*
 - *C. diff* produces *p-cresol* which promotes aluminum uptake by cells
 - p-Cresol is a known biomarker for autism
 - p-Cresol is an important factor in *kidney failure* which leads to aluminum retention in tissues → dementia
- Glyphosate *cages* aluminum to promote entry
- Glyphosate promotes *calcium uptake* by voltage-activated channels
 - Aluminum gains entry as calcium mimetic
- Aluminum promotes calcium loss from bones → pineal gland calcification

Aluminum Glyphosate*

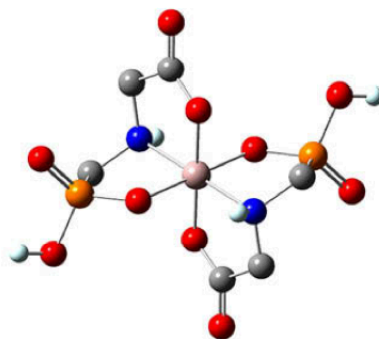
Six different ways two glyphosate molecules can chelate aluminum



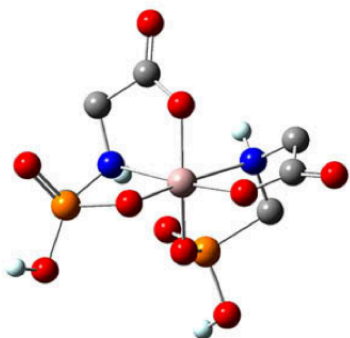
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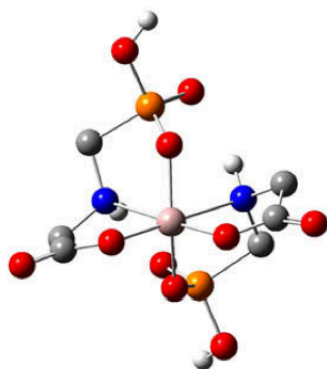
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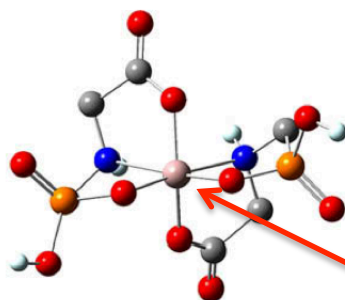
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B4

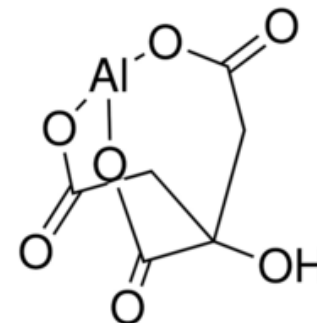


B5



B6

aluminum



Aluminum citrate**



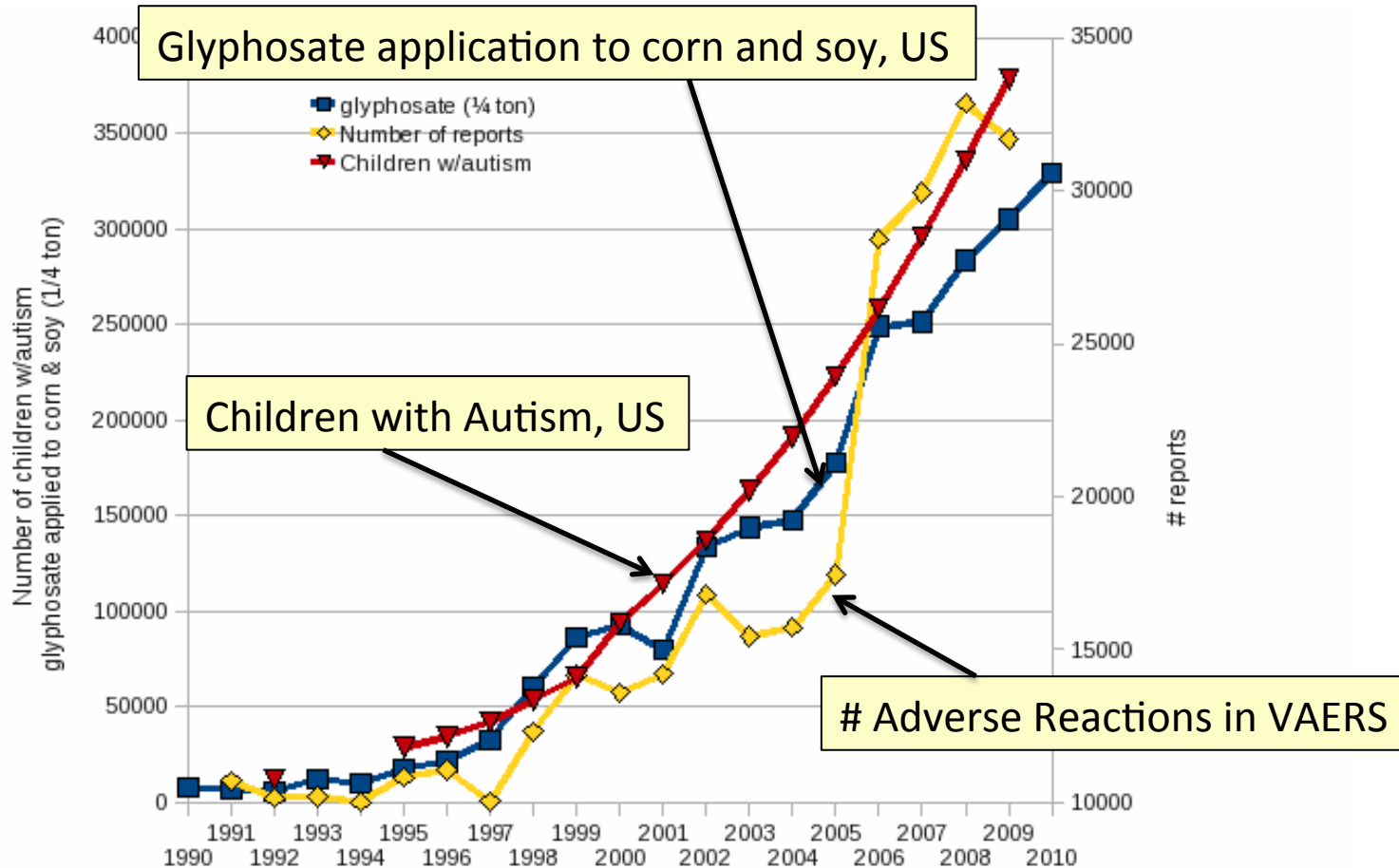
ALUMINA

* M. Purgel et al., Journal of Inorganic Biochemistry 103 (2009) 1426–1438

** P. Sianina et al., Clin. Chem. 32/3, 539-541, 1986.

Glyphosate IN MMR?

Autism, Glyphosate, Vaccine Reactions*



*Collaboration with Nancy Swanson

MIT Computer Science and Artificial Intelligence Laboratory

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, J Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Dr. Andrew Wakefield

We describe a consecutive series of 12 children with ileocolitis and regressive

Methods 12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Findings Onset of behavioural symptoms was associated with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities ranging from lymphoid nodular hyperplasia to atrophic ulceration. Histology showed patchy chronic inflammation in seven, but no granulomas. Behavioural disorders included

integrative dysfunction (one), and possible encephalitis (two). There were no abnormalities and EEG tests were normal. Laboratory results were significantly raised urinary methylmalonic acid compared with age-matched controls ($p=0.03$), low haemoglobin in four children, and low serum IgA in four children.

Interpretation We identify associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.

Lancet 1998; 351: 637–41
See Commentary page

Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features of these children.

Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology with a history of a pervasive developmental disorder with loss of acquired skills and intestinal symptoms (including abdominal pain, bloating and food intolerance), were investigated. All children were admitted to the ward for a week, accompanied by their parents.

Clinical investigations

We took histories including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 cases the history was obtained by the senior clinician (JW-S). Neurological and psychiatric assessments were done by consultant staff (PH, MB) with HMS-4 criteria.¹ Developmental assessments included a review of prospective developmental records from parents, health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SHM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum; ascending, transverse, descending, and sigmoid colons, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) including visual, brain stem auditory, and sensory evoked potentials (where compliance made these possible), and lumbar puncture were done.

Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal-fluid lactate were measured to exclude known causes of childhood neurodegenerative disease. Urinary

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“We have identified a chronic enterocolitis in children that may be related to neuropsychiatric dysfunction. In most cases, onset of symptoms was after measles, mumps, and rubella immunisation. Further investigations are needed to examine this syndrome and its possible relation to this vaccine.”

... laboratory results were significantly raised urinary methylmalonic acid compared with age-matched controls ($p=0.03$), low haemoglobin in four children, and low serum IgA in four children.

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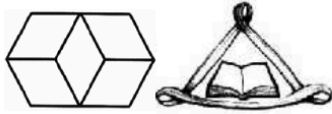
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Some Adverse Reactions of MMR*

“A shortened version of the vaccine damage associated with the MMR vaccine includes vomiting, diarrhea, anaphylaxis, ear pain, nerve deafness, diabetes, arthritis, myalgia, encephalitis, febrile seizures, pneumonia, and death.”

*<https://vactruth.com/2016/06/23/japanese-government-bans-mmr-vaccine/>
http://www.merck.com/product/usa/pi_circulars/m/mmr_ii/mmr_ii_pi.pdf
http://www.merck.com/product/usa/pi_circulars...pdf



Glyphosate pathways to modern diseases VI: Prions, amyloidoses and autoimmune neurological diseases

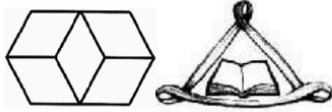
Anthony Samsel¹ and Stephanie Seneff^{2, *}

¹ *Samsel Environmental and Public Health Services, Deerfield, NH 03037, USA*

² *Computer Science and Artificial Intelligence Laboratory, MIT, Cambridge, MA 02139, USA*

Usage of the herbicide glyphosate on core crops in the USA has increased exponentially over the past two decades, in step with the exponential increase in autoimmune diseases including autism, multiple sclerosis, inflammatory bowel disease, type 1 diabetes, coeliac disease, neuromyelitis optica and many others. In this paper we explain how glyphosate, acting as a non-coding amino acid analogue of glycine, could erroneously be integrated with or incorporated into protein synthesis in place of glycine, producing a defective product that resists proteolysis. Whether produced by a microbe or present in a food source, such a peptide could lead to autoimmune disease through molecular mimicry. We discuss similarities in other naturally produced disease-causing amino acid analogues, such as the herbicide glufosinate and the insecticide L-canavanine, and provide multiple examples of glycine-containing short peptides linked to autoimmune disease, particularly with respect to multiple sclerosis. Most disturbing is the presence of glyphosate in many popular vaccines including the measles, mumps and rubella (MMR) vaccine, which we have verified here for the first time.

*A Samsel and S Seneff, *Journal of Biological Physics and Chemistry* 2017;17:8-32.



Glyphosate pathways to modern diseases VI: Prions, amyloidoses and autoimmune neurological diseases

Antibodies to glyphosate are produced by a number of people in a food source, such as a peptide

¹ Samsel

² Cossentino

“Most disturbing is the presence of glyphosate in many popular vaccines including the measles, mumps and rubella (MMR) vaccine, which we have verified here for the first time.”

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Glyphosate in Vaccines?

- For MMR, flu vaccine, and rabies vaccine, live virus is grown on *gelatin* derived from ligaments of pigs
 - Pigs are fed GMO Roundup-Ready corn and soy feed
- Gelatin (derived from collagen) contains significant amounts of both glycine and glutamate
 - These two neurotransmitters excite the NMDA receptors in the brain
 - Glyphosate substitution by mistake for glycine is a possibility!
- Glyphosate stimulation of NMDA receptors could cause neuronal burnout

Glyphosate Contamination in Vaccines (Parts Per Billion)*

Merck	ZOSTAVAX	0.62	Shingles
Merck	MMR-II	3.74	Measles, Mumps and Rubella
Merck	VARIVAX	0.56	Varicella, Chicken Pox
MERCK	PNEUMOVAX	ND	Pneumococcal 18
MERCK	PROQUAD	0.66	Measles, Mumps, Rubella, Varicella
GSK	ENERGIX-B	0.34	Heptatitis B

*A Samsel and S Seneff, Journal of Biological Physics and Chemistry 2017;17:8-32.

Glyphosate and Glutamate*

- Acute exposure activates NMDA receptors and voltage-dependent calcium channels
 - Oxidative stress and neural cell death
 - Increased glutamate release into the synaptic cleft → *excessive extracellular glutamate levels*
 - Decreased glutathione content
 - Increased peroxidation of lipids (fats)



*<http://www.greenmedinfo.com/blog/roundup-weedkiller-brain-damaging-neurotoxin>

Symptoms of Adverse Reactions to MMR before and after 2002*

More Common Before 2002

Reaction	Count Before 2002	Count After 2002	<i>p</i> -value
joint pain	126	65	0.036

More Common After 2002

Reaction	Count Before 2002	Count After 2002	<i>p</i> -value
hospitalization	71	319	0.00037
seizures	203	462	0.0014
shortness of breath	100	216	0.010
hives	324	504	0.011
mumps	5	51	0.014
abscess	51	120	0.022
autism	69	143	0.024
eczema	4	36	0.026
ear infection	16	56	0.031
anaphylactic shock	16	54	0.034
facial swelling	45	95	0.040
swelling	860	1018	0.048

*Data analyzed from the VAERS database

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seizures	203	462	0.0014
shortness of breath	100	216	0.010
hives	324	504	0.011
mumps	5	51	0.014

These are all characteristic symptoms of allergies to MSG

anxiety	69	143	0.024
eczema	4	36	0.026
ear infection	16	56	0.031
anaphylactic shock	16	54	0.034
Facial swelling	45	95	0.040
swelling	860	1018	0.048

*Data analyzed from the VAERS database

Measles Virus and Hemagglutinin*

- The measles virus synthesizes the protein hemagglutinin
 - Antibodies to hemagglutinin are essential following MMR vaccination to induce immunity
- Hemagglutinin bears a sequence resemblance to myelin basic protein (MBP) → potential for autoimmune reaction
- MBP is essential for the formation of the myelin sheath surrounding nerve fibers
 - Children with a rare genetic defect involving deletion of MBP can suffer from microcephaly**
- Autoantibodies to MBP along with excessive levels of antibodies to measles hemagglutinin are linked to autism***

*Oldstone, MBA, Ed. Molecular mimicry: Infection inducing autoimmune disease. Springer Berlin Heidelberg; January 9, 2006.

**AD Kline et al., Am J. Hum. Genet. 1993;52:895-906.

***VK Singh et al., J Biomed Sci 2002;9(4):359-64.

Autism and Measles Hemagglutinin*

- 125 autistic children and 92 control children
- 60% of the children with autism had high levels of antibodies to measles hemagglutinin specific to the MMR vaccine
 - 90% of these had autoantibodies to myelin basic protein (MBP)
- 0% of the control children had high antibody titers to either hemagglutinin or MBP
- There were no elevations in antibodies detected against any proteins in the mumps or rubella viruses

*VK Singh et al., J Biomed Sci 2002;9(4):359-64.



Evidence that Food Proteins in Vaccines Cause the Development of Food Allergies and Its Implications for Vaccine Policy

Vinu Arumugham*

San Jose, CA, USA

Abstract

Nobel Laureate Charles Richet demonstrated over a hundred years ago that injecting a protein into animals or humans causes immune system sensitization to that protein. Subsequent exposure to the protein can result in allergic reactions or anaphylaxis. This fact has since been demonstrated over and over again in humans and animal models.

Large Proteins in Vaccines: Allergenic*

“Vaccines clog our lymphatic system and lymph nodes with *large protein molecules* which have not been adequately broken down by our digestive processes, since *vaccines bypass digestion* with injections. This is why vaccines are linked to *allergies*, because they contain large proteins which as circulating immune complexes (CICs) or 'klinkers' cause our body to become allergic.”

*Dave Mihalovic, ND, http://whale.to/v/vaccines_cause_allergies.ht

Precedent: Glyphosate in Drugs?*

- Trasylool (aprotinin) is a protein derived from *bovine lung* used to reduce bleeding during open heart surgery
- Rare acute reaction to Trasylool involves precipitous drop in blood pressure, acute kidney failure, and sudden death
 - Piglets injected with glyphosate salts had similar acute reaction with high mortality rate
- Cows fed GMO Roundup-Ready feed had highest residue levels of glyphosate in lungs

*S Seneff et al., Agricultural Sciences 2015; 6:1472-1501.

Recapitulation

- Glyphosate has been detected in multiple vaccines, with highest concentrations in MMR
 - Many vaccines include gelatin and fetal bovine serum as ingredients, both of which are contaminated with glyphosate
- Glyphosate incorporated into a virus protein can lead to resistance to breakdown and autoimmune disease through molecular mimicry
- A causal link between MMR and autism can be explained through autoimmune attack on myelin basic protein through molecular mimicry with measles hemagglutinin
- Multiple large proteins found in vaccines are allergenic
- Glyphosate is likely also present in certain biological drugs and may explain rare bizarre life-threatening adverse reactions

Summary

- Glyphosate is working synergistically with mercury, aluminum and glutamate in vaccines to cause an epidemic in autism
- Glyphosate disrupts the gut microbial balance and impairs digestion of proteins, leading to leaky gut and food allergies
- Aluminum in multiple vaccines accumulates in the brain and damages neurons
 - Glyphosate enhances aluminum uptake