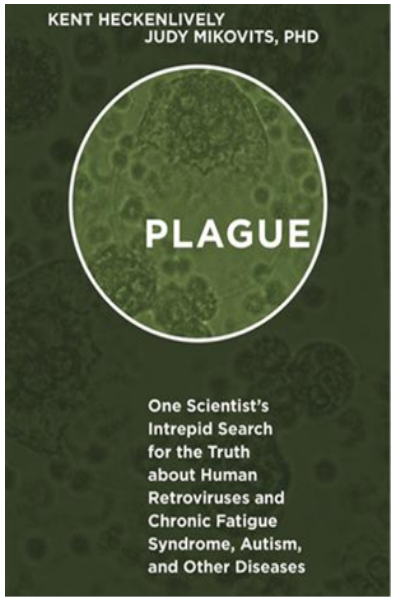
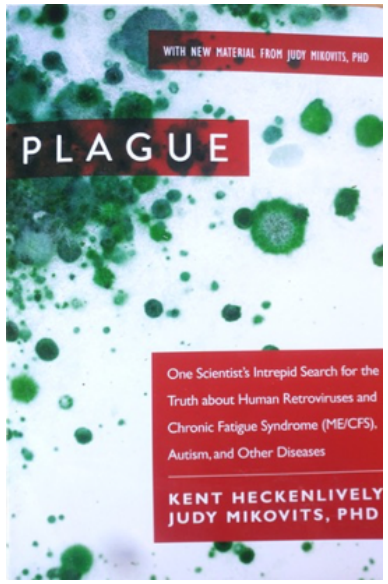
GOD's People are destroyed from lack of Knowledge (Hosea 4:6)

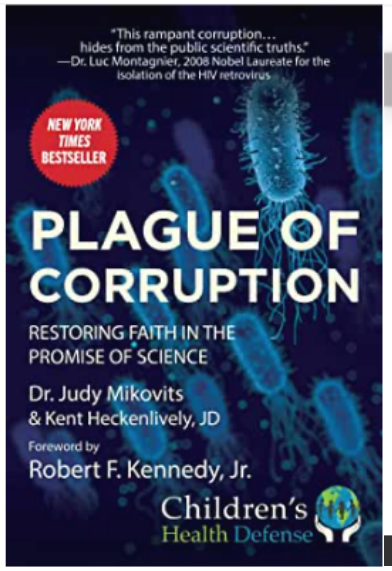
THE FEAR OF THE LORD is the Beginning of Knowledge but Fools Despise Wisdom & Instruction (PROVERBS 1:7)



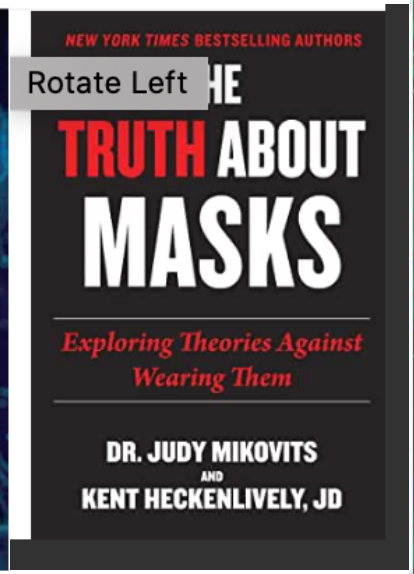
2014 (James 1:19-22)



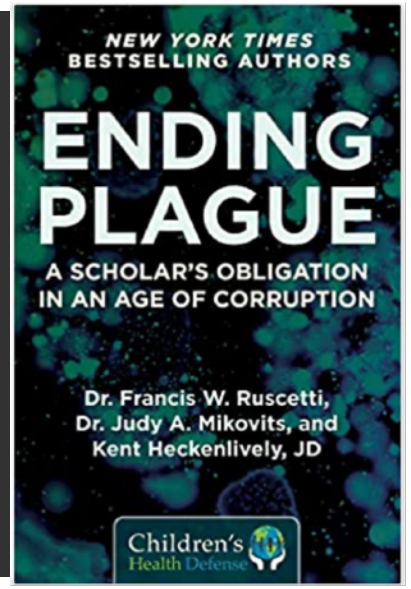
2017



2020 (Psalm 91)



2020 1(Cor 3:18)



2021(Ephesians 5:11)

2021(2 Chronicles 7:14)

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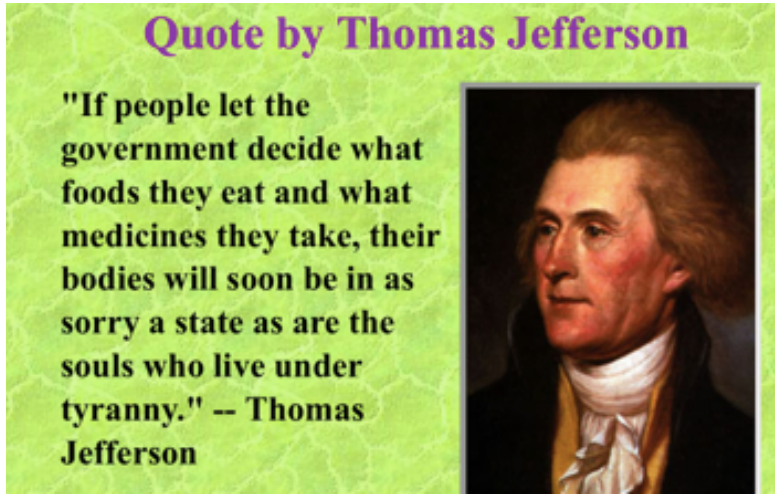


VACCINE AIDS = COVID19: Autoimmune, Autoinflammatory Disease & Cancer *Unintended* Consequences of 3 DECADES LIABILITY FREE VACCINES

Prostate Cancer*	Crohn's Disease*	Gulf War Syndrome*
Breast Cancer *	Hashimoto's Thyroiditis*	Autism / ASD*
Multiple Myeloma*	Polymyositis*	Multiple Sclerosis*
Non-Hodgkins Lymphoma*	Sjogren's Syndrome *	Parkinson's*
Chronic Lymphocytic Leukemia*	Bechet's Disease*	ALS*
Mantle Cell Lymphoma*	Primary Biliary Cirrhosis*	Fibromyalgia*
Hairy Cell Leukemia*	Inflammatory Bowel Disease*	Chronic Lyme Disease*
Bladder Cancer *	Psoriasis, Dermatitis	OCD*
Colorectal Cancer*	Diabetes*	ADHD*
Kidney Cancer *	Cardiovascular Disease*	PTSD*
Ovarian Cancer*	ME / CFS*	Psychosis*
	Lupus/SLE*	Rheumatoid Arthritis*

**Neuroendocrine Tumors*

KEY to IMMUNITY is do not defile the TEMPLE of GOD

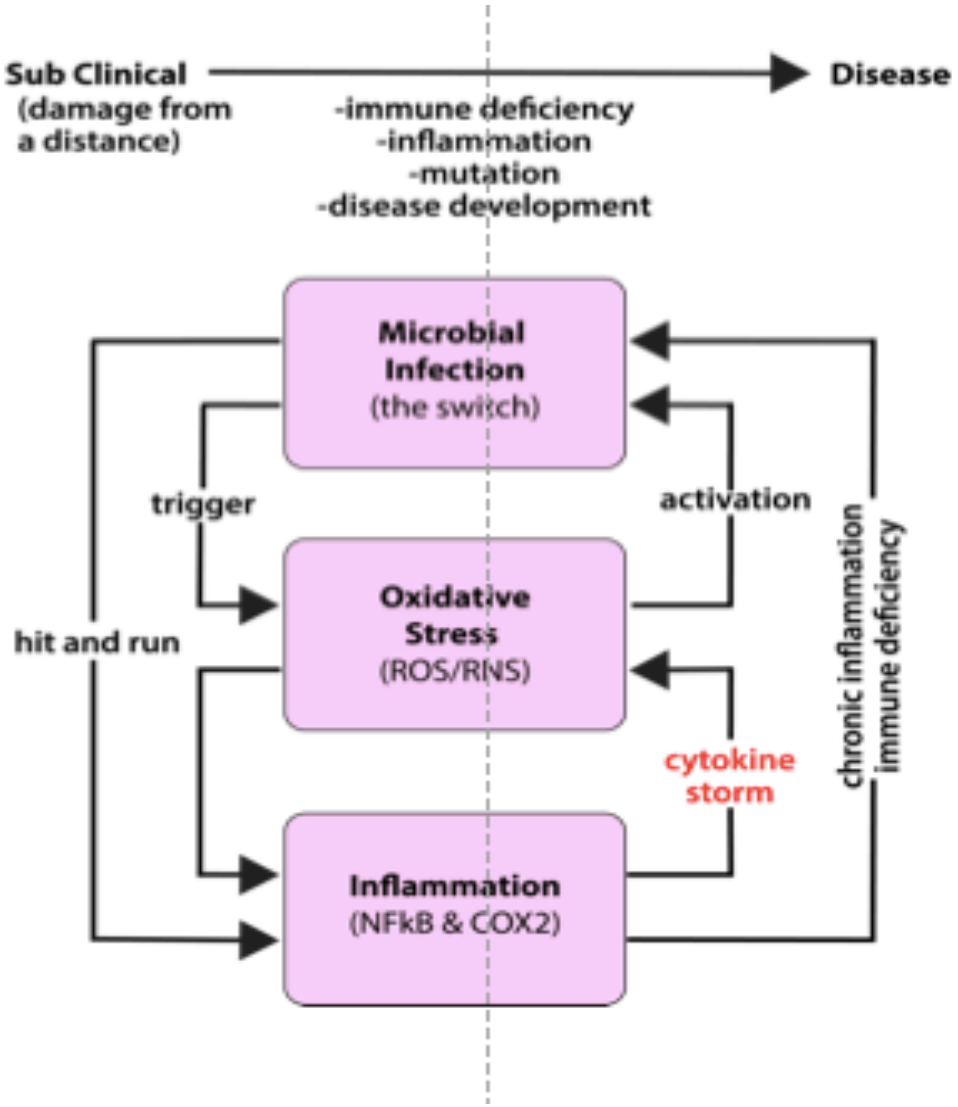
NEVER GET ANOTHER VACCINE

Trends in Parasitology, April 2014, Vol. 30, No. 4

Effects of environmental change on zoonotic disease risk: an ecological primer

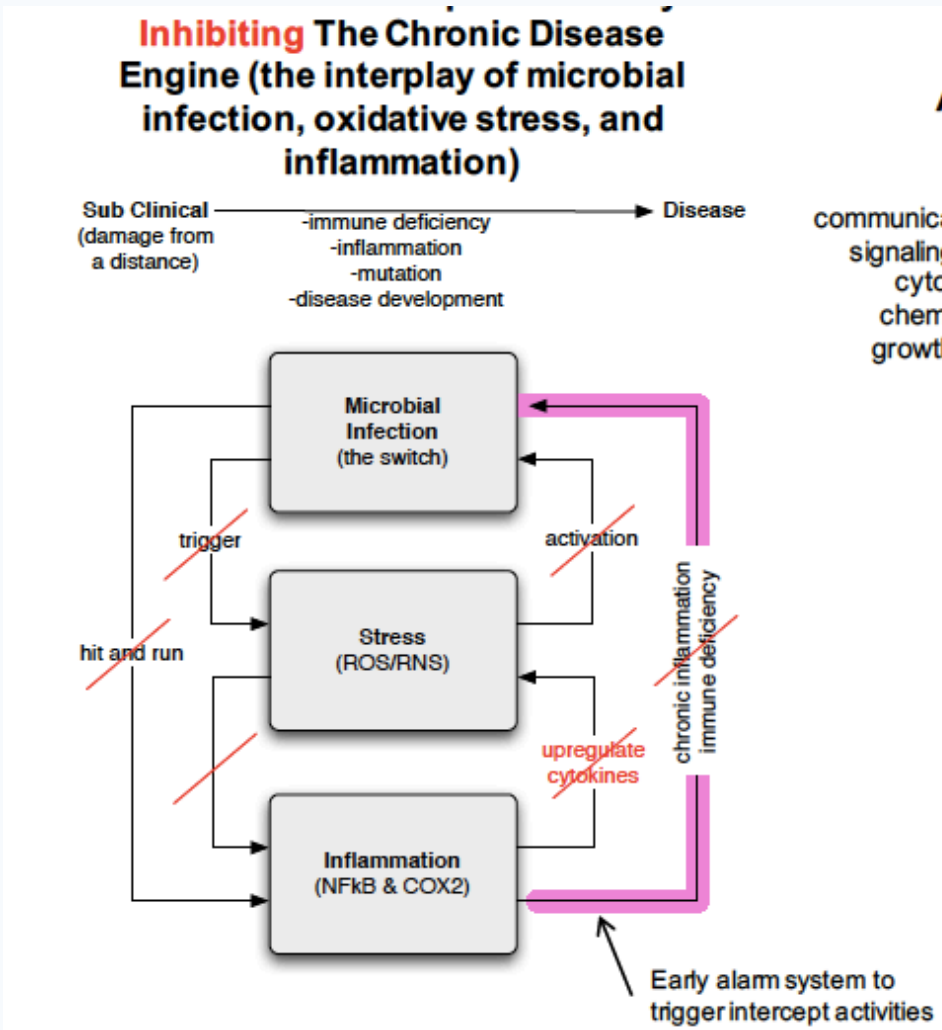
HAZARDS of GMOS: ALL Vaccines are GMO

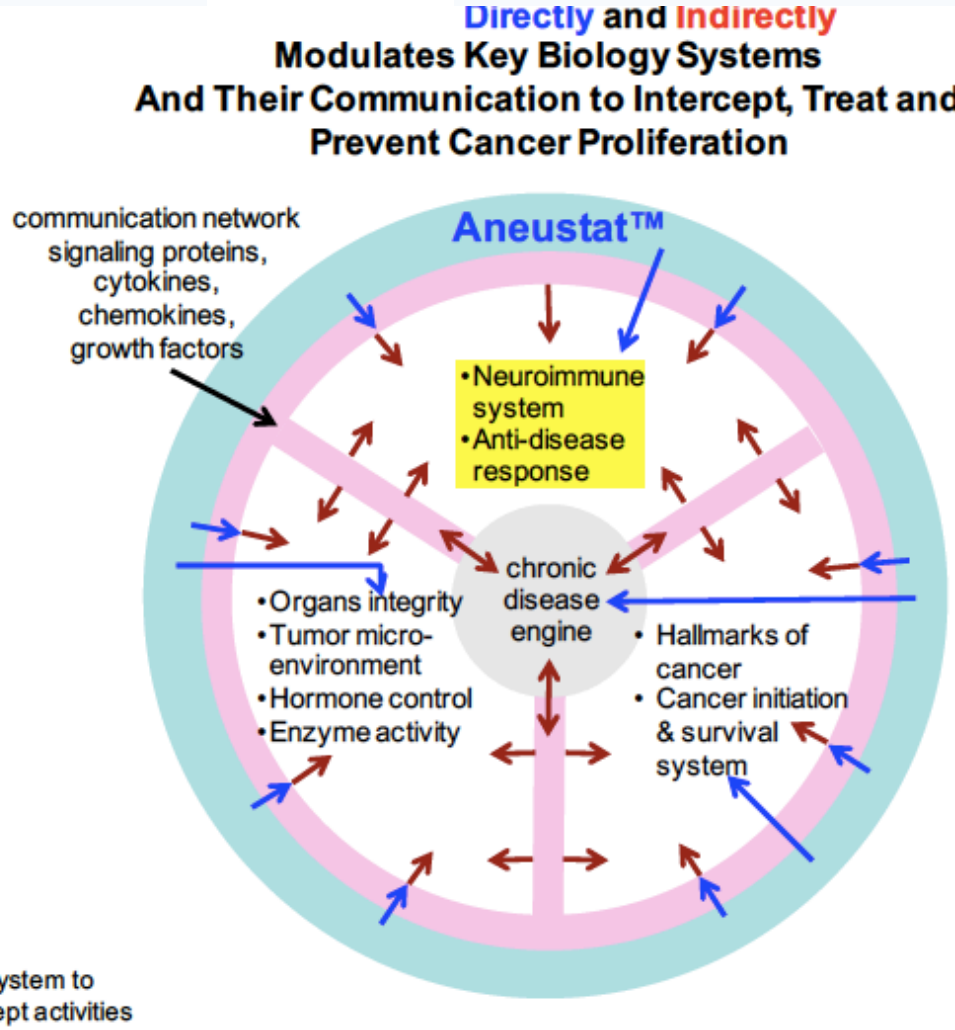
1. Uncontrollable, unpredictable impacts on safety due to the genetic modification process *
Scrambling the host genome *
Widespread mutations *
Inactivating genes *
Activating genes *
Creating new transcripts (RNAs) including those with regulatory functions *
Creating new proteins *
Creating new metabolites or increasing metabolite to toxic levels *
Activating dormant viruses *
Creating new viruses by recombination of viral genes in GM insert with those in the host genome *
2. Toxicity of transgene protein(s) introduced (intentionally or otherwise)
Transgene protein toxic *
Transgene protein allergenic or immunogenic *
Trangenic protein becoming allergenic or immunogenic due to processing *
Unintended protein created by sequence inserted may be toxic or immunogenic
3. Effects due to the GM insert and its instability *
Genetic rearrangement with further unpredictable effects *
Horizontal gene transfer and recombination *
Spreading antibiotic and drug resistance *
Creating new viruses and bacteria that cause diseases
Creating mutations in genomes of cells to which the GM insert integrate including those associated with cancer *
4. Toxicity of herbicides used with herbicide tolerant GM crops *



GMOS cause aberrant expression of animal retroviruses, end up in milk, food!

FOOD IS MEDICINE: 1/2 Day Education in Medical School Of God Given Solutions





Toxic GMO Foods:

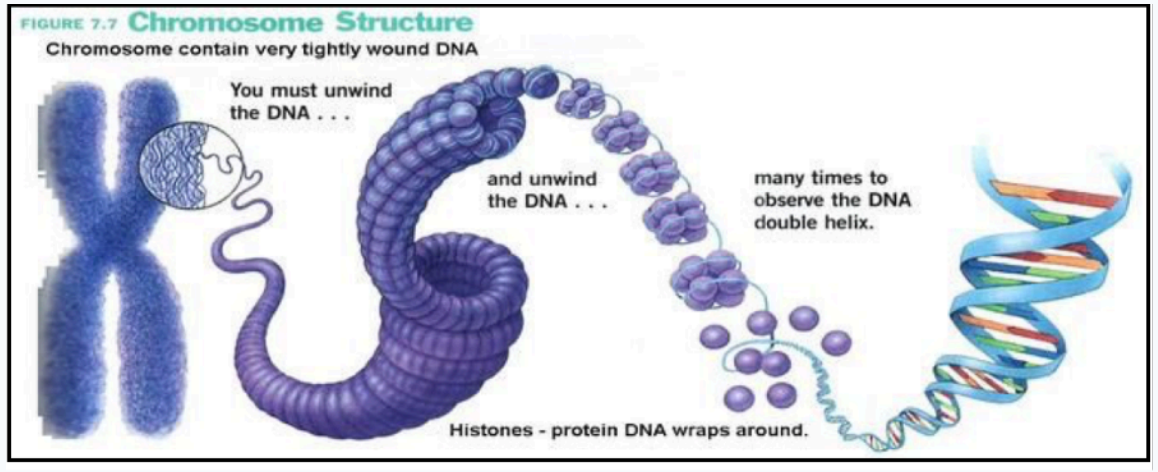
- Fats/Oils
- Type 1 Interferons
- Mineral Depleted Soil
- PhytoCannabinoids
- GlyPhosate

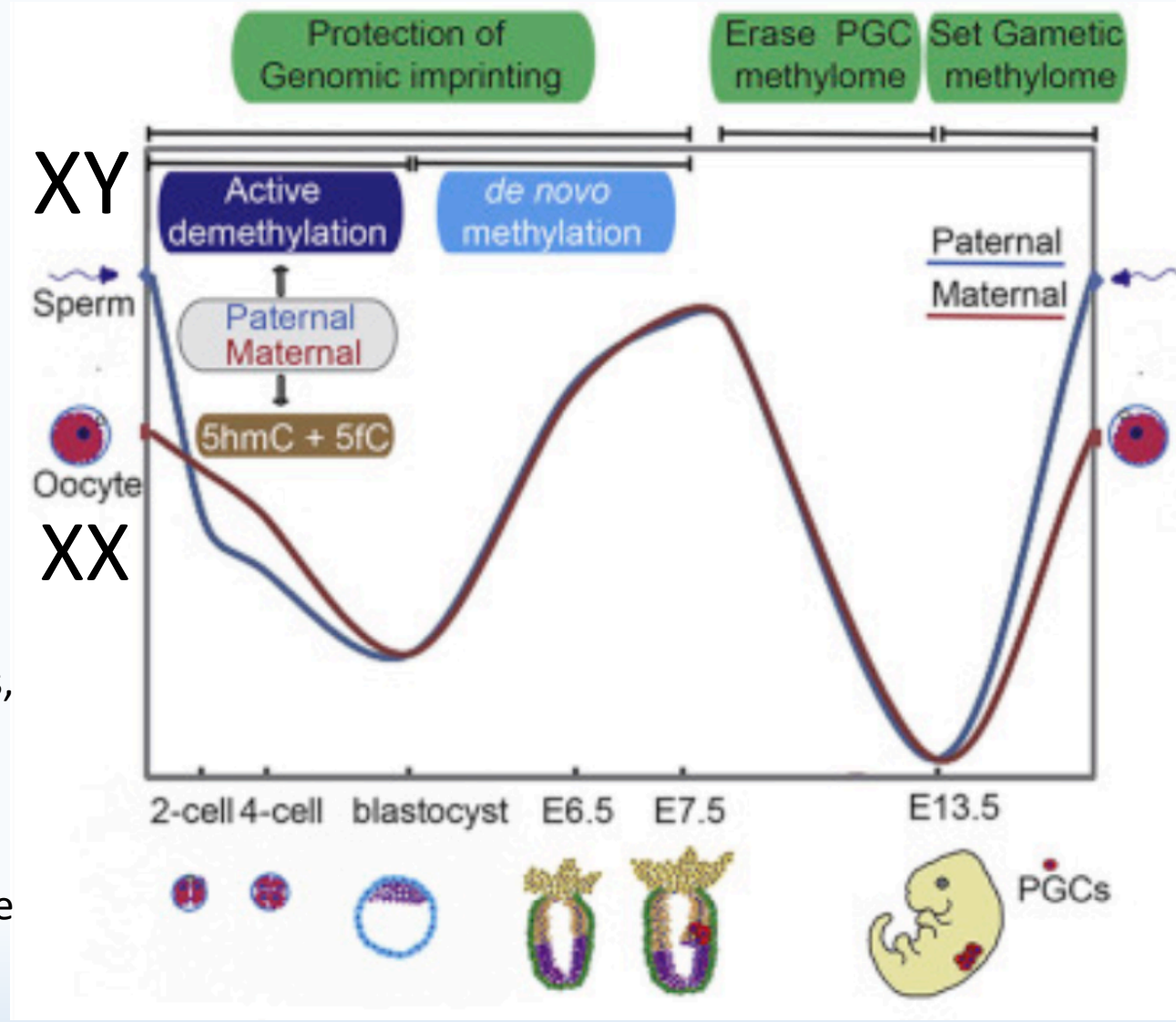
Parental Methylomes protect Chromosomes

Leading Edge
Previews

Beyond DNA: Programming and Inheritance of Parental Methylomes

Jamie A. Hackett[1,2,3] and M. Azim Surani[1,2,3,*]
[1]Wellcome Trust/Cancer Research UK Gurdon Institute
[2]Wellcome Trust/MRC Stem Cell Institute
[3]Department of Physiology, Development, and Neuroscience
University of Cambridge, Cambridge CB2 1QN, UK
*Correspondence: a.surani@gurdon.cam.ac.uk
http://dx.doi.org/10.1016/j.cell.2013.04.044

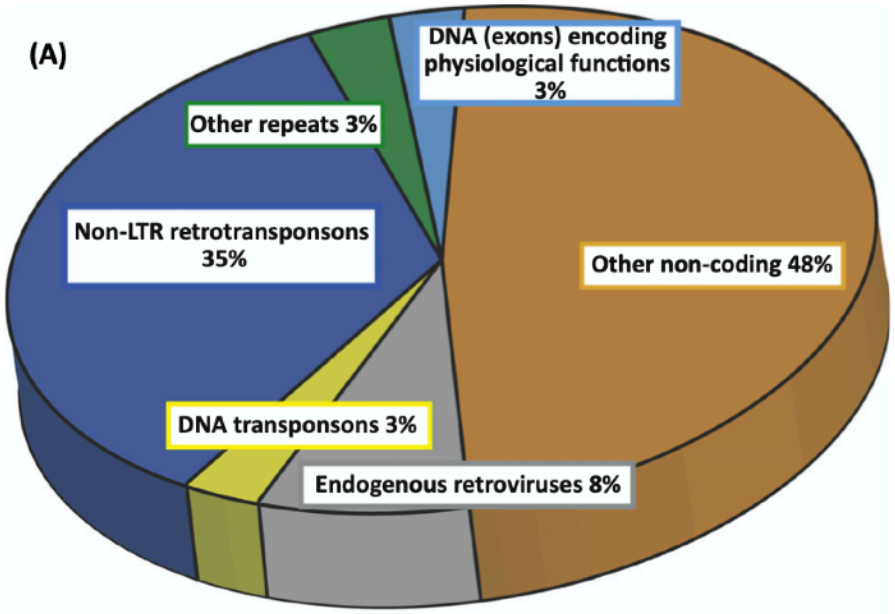




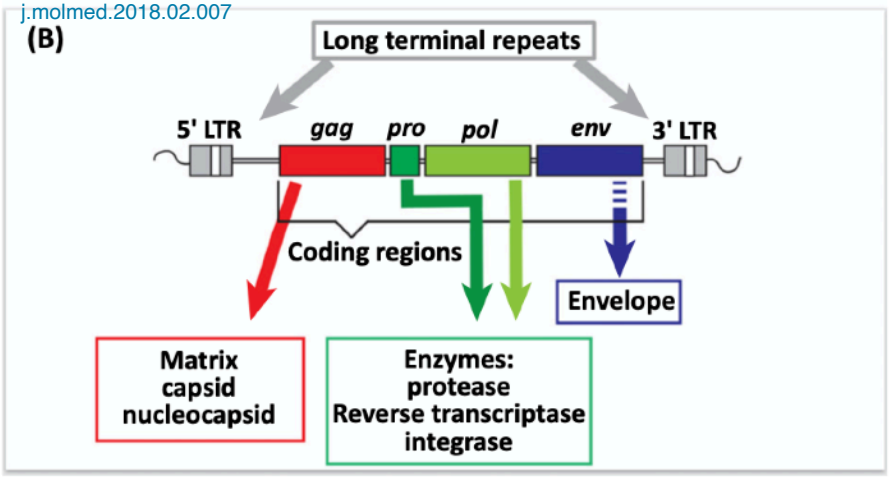
Sperm and oocytes are highly distinct and specialized cell types, yet together they generate the totipotent state following fertilization. Significantly, although they make an equivalent genetic contribution to the zygote, their epigenetic states are highly asymmetric due to their diverse origins and are therefore reset soon after fertilization

Human Endogenous (God GIVEN) VIROME: Protection against Viral Infections

Retroviruses, heavy metals, GMOs, and environmental toxins: Drivers of Accelerated Disease Evolution via altered balance between Endogenous (HERVS) and Exogenous Viruses



Trends in Molecular Medicine, April 2018, Vol. 24, No. 4 https://doi.org/10.1016/j.molmed.2018.02.007



- 8% of our genome composed of sequences of viral origin
- stable elements at the interface between self and foreign DNA.
- HERV envelope Syncytin “Velcro” Fertilized embryo
- LTR participate in the transcriptional regulation of cellular genes
- HERV basal expression in healthy tissues
- HERV RNA, DNA, Proteins shape & expand the interferon network
- HERVs play a central role in the evolution and functioning of human innate immunity

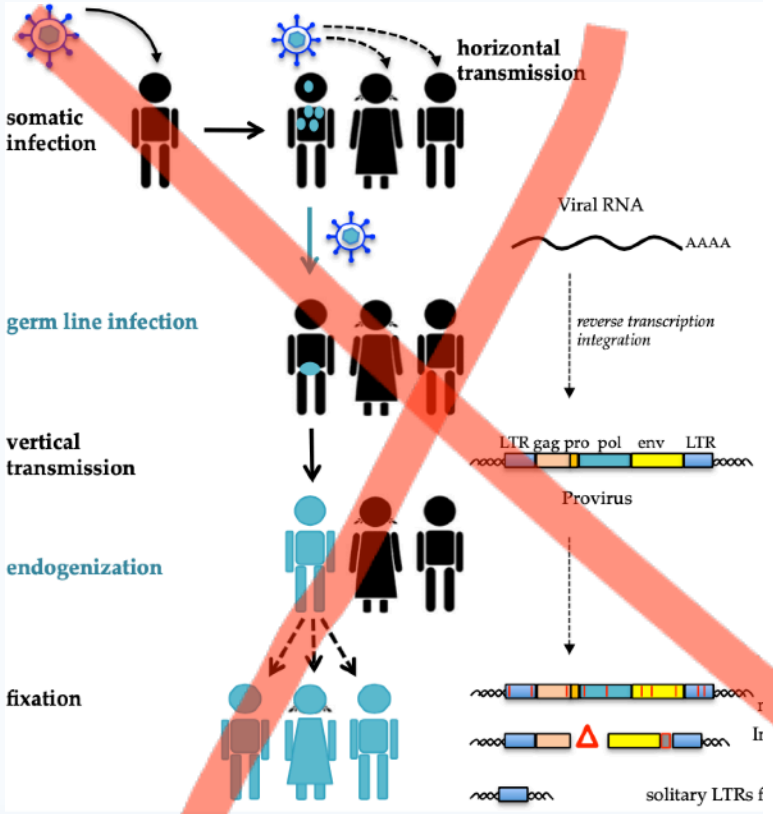
EVERY CHROMOSOME HAS HERVW TO PRTOECT OUR GENOME FROM FOREIGN SYNCYTIN (SNAKE VENOM)

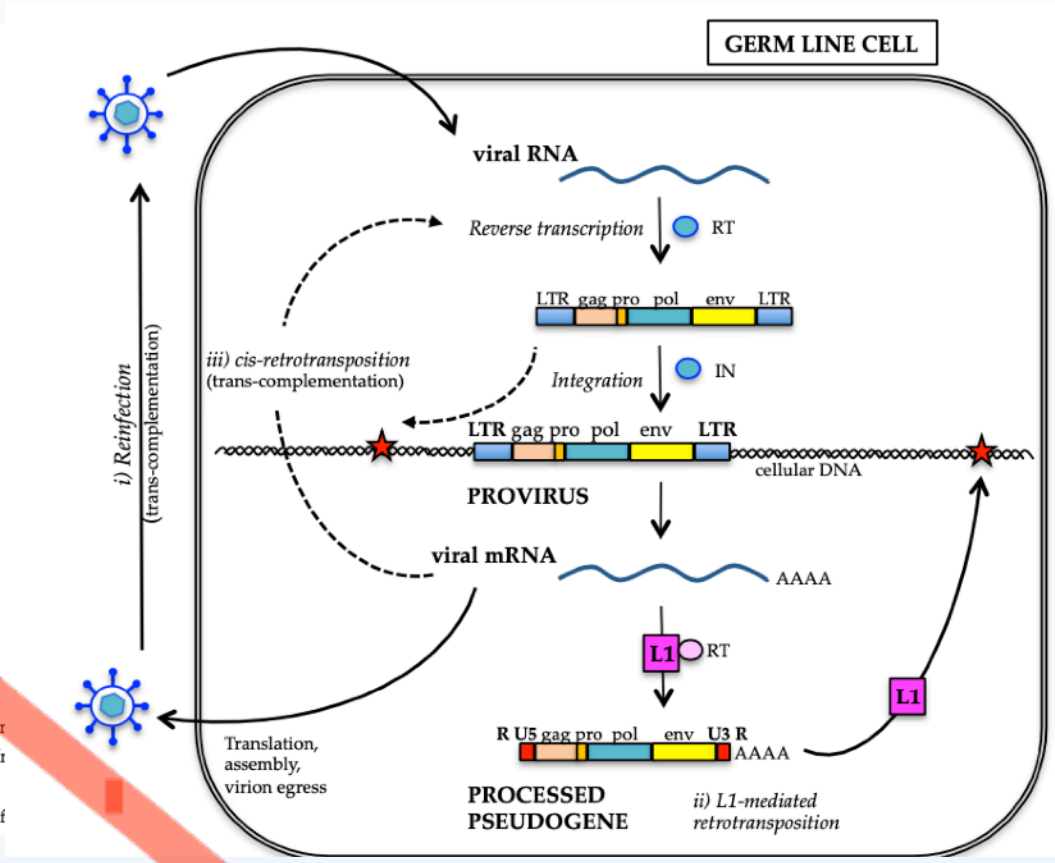
viruses

Viruses **2017**, *9*, 162; doi:10.3390/v9070162

Review

Type W Human Endogenous Retrovirus (HERV-W) Integrations and Their Mobilization by L1 Machinery: Contribution to the Human Transcriptome and Impact on the Host Physiopathology





Chr	HERV-W*	Chr	HERV-W*
1	16 (4, 10)	13	6 (2, 3)
2	23 (6, 16)	14	6 (3, 3)
3	22 (4, 16)	15	3 (0, 3)
4	19 (8, 10)	16	0
5	9 (5, 3)	17	4 (1, 3)
6	18 (4, 12)	18	4 (1, 3)
7	12 (7, 5)	19	6 (2, 4)
8	9 (1, 8)	20	2 (0, 2)
9	7 (1, 5)	21	3 (2, 1)
10	7 (2, 5)	22	1 (0, 1)
11	9 (4, 5)	X	12 (1, 10)
12	13 (5, 7)	Y	2 (2, 0)

* *Total number of HERV-W insertions.* Numbers into round brackets specify the amount of proviruses and pseudogenes, respectively, with respect to the total. The rest of the sequences can not be classified due to the absence of LTRs distinctive signatures (data from Grandi et al. 2016)

Journal of Developmental Biology

THEY PLAN to INOCULATE as Many as Possible Knowing Four Generations of God's People will be Enslaved

MDPI

Dr Neu: Autoimmune antibodies From Mom Pass to Fetus: 4 Generations

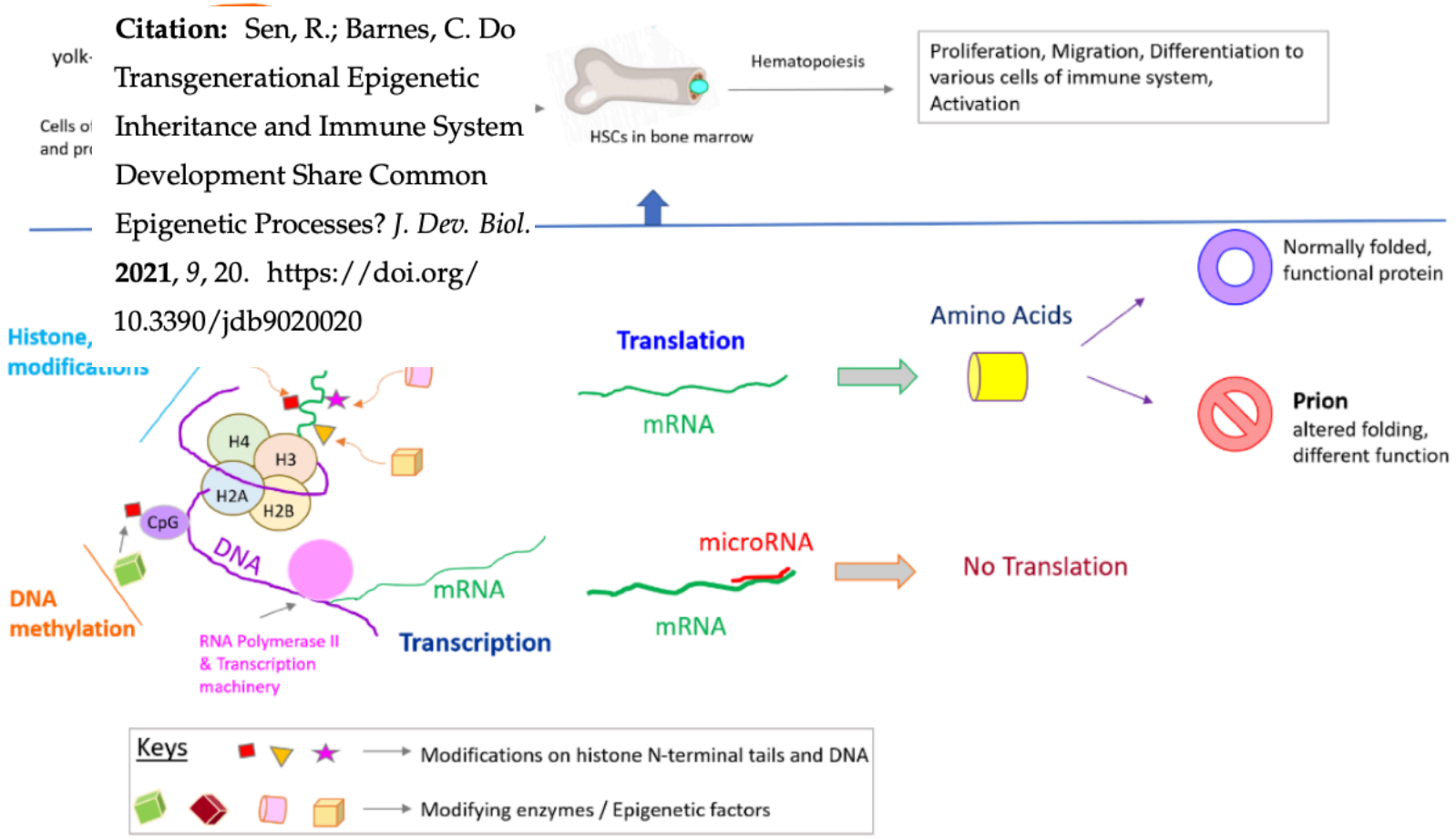
Review

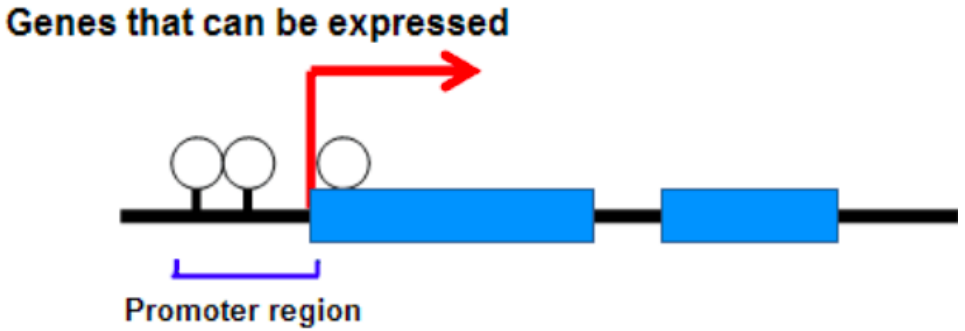
Do Transgenerational Epigenetic Inheritance and Immune System Development Share Common Epigenetic Processes?

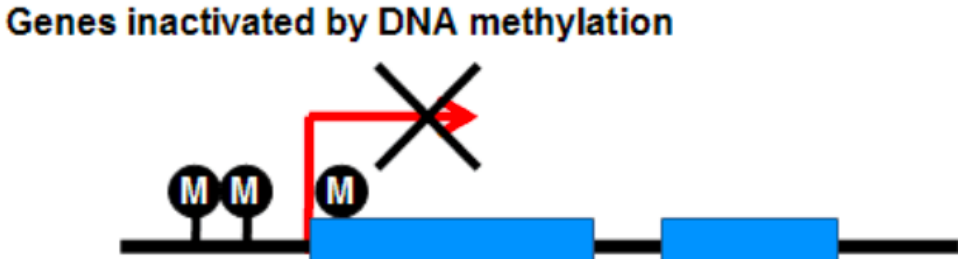
Rwik Sen * and Christopher Barnes

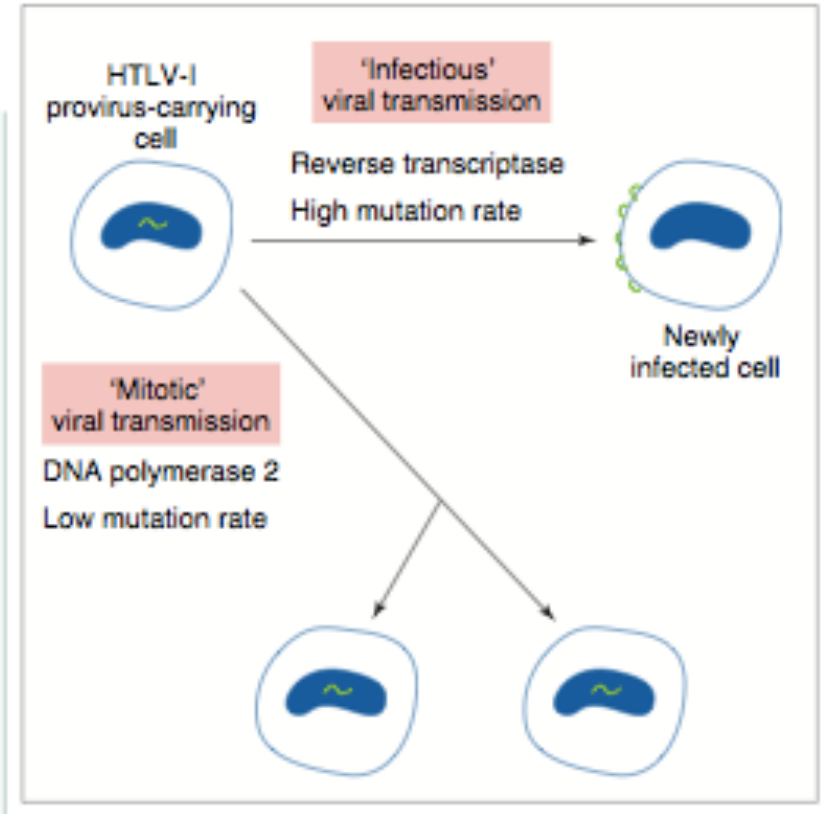
Citation: Sen, R.; Barnes, C. Do Transgenerational Epigenetic Inheritance and Immune System Development Share Common Epigenetic Processes? *J. Dev. Biol.* **2021**, *9*, 20. https://doi.org/10.3390/jdb9020020

Received: 1 April 2021
Accepted: 6 May 2021
Published: 12 May 2021









Molecular and Cellular Biology

Infection with Human Immunodeficiency Virus Type 1 Upregulates DNA Methyltransferase, Resulting in De Novo Methylation of the Gamma Interferon (IFN-γ) Promoter and Subsequent Downregulation of IFN- γ Production

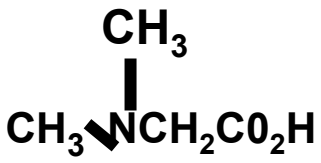
Judy A. Mikovits, Howard A. Young, Paula Vertino, Jean-Pierre J. Issa, Paula M. Pitha, Susan Turcoski-Corrales, Dennis D. Taub, Cari L. Petrow, Stephen B. Baylin and Francis W. Ruscetti

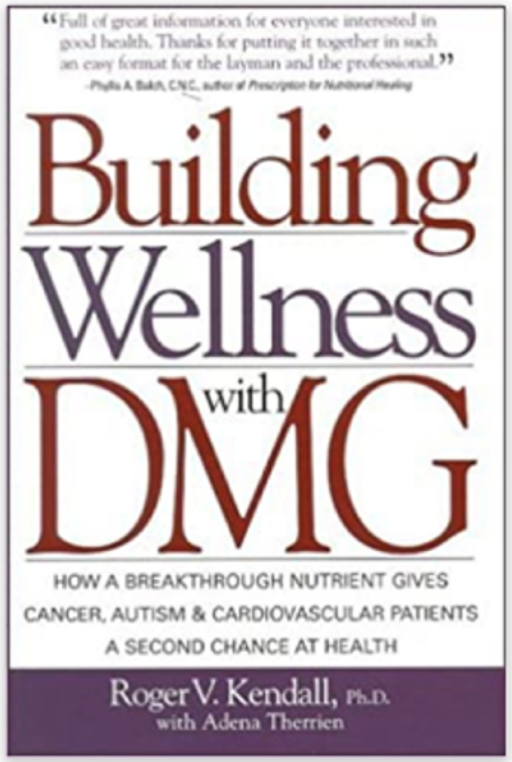
Mol. Cell. Biol. **1998, 18(9):5166.**

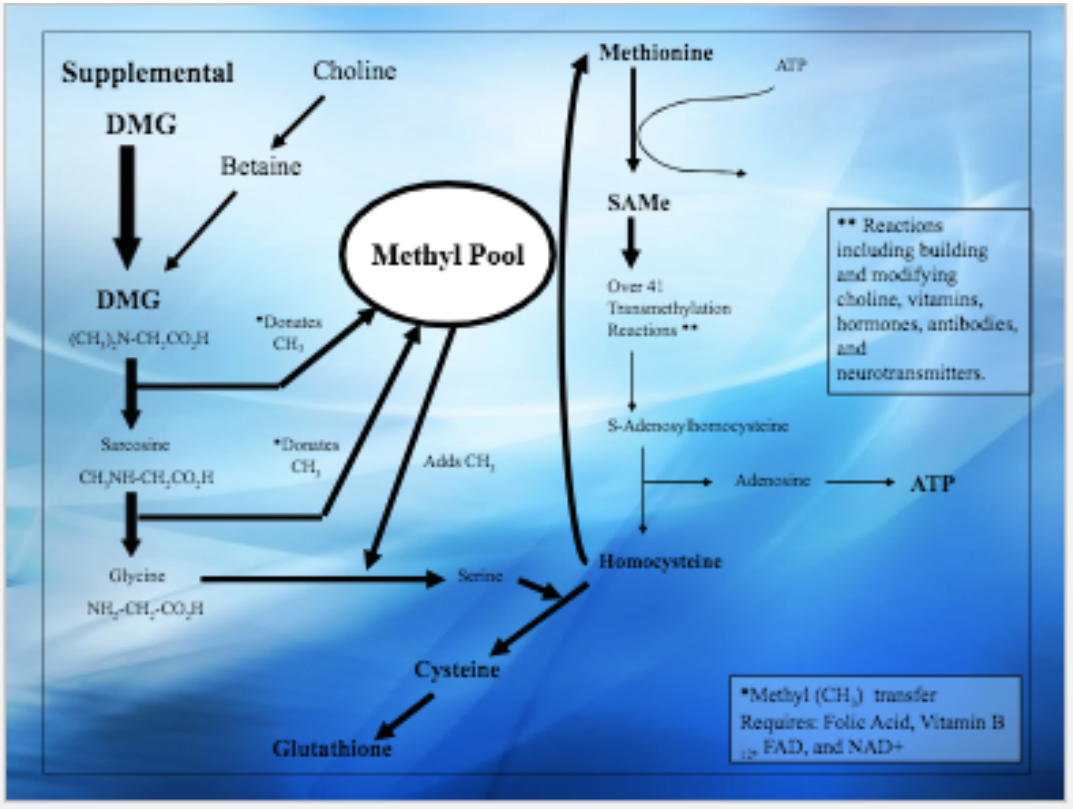
DiMethylGlycine

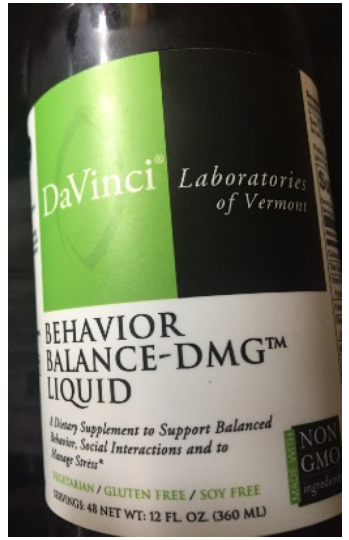
Nutrition's Best Kept secret for strengthening Genomic Pathways and Preventing Disease

- Amino Acid – Intermediary metabolite of the human body





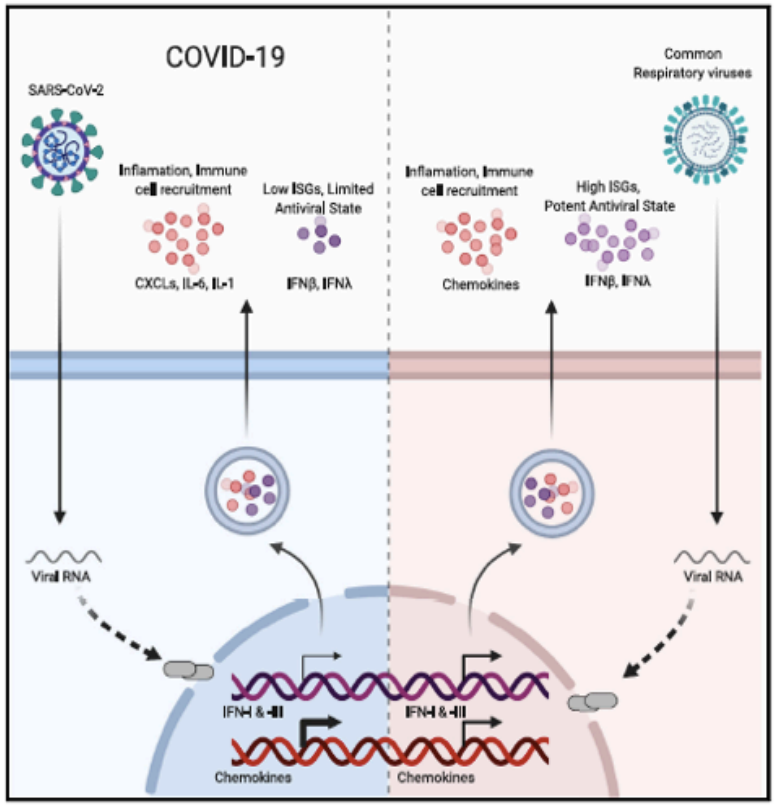




- Important nutrient found in low levels in our food
- As a Key Nutrient DMG PROTECTS OUR GENES

Imbalanced IFN Response to RNA Viruses Drives Development of Autoimmune, Autoinflammatory Disease & Cancer

Graphical Abstract



Authors

Daniel Blanco-Melo, Benjamin E. Nilsson-Payant, Wen-Chun Liu, ..., Jean K. Lim, Randy A. Albrecht, Benjamin R. tenOever

Correspondence

res2025@med.cornell.edu (R.E.S.), jean.lim@mssm.edu (J.K.L.), randy.albrecht@mssm.edu (R.A.A.), benjamin.tenoever@mssm.edu (B.R.t.)

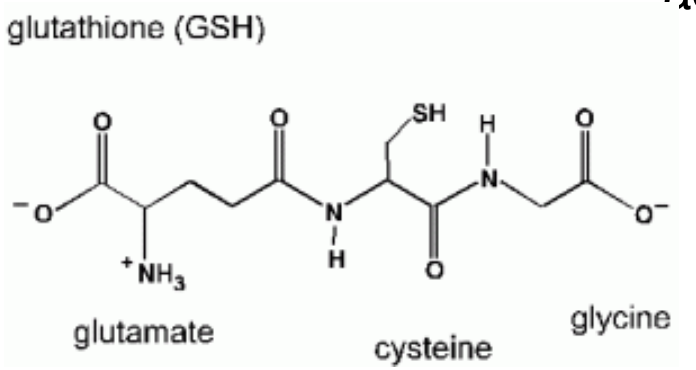
In Brief

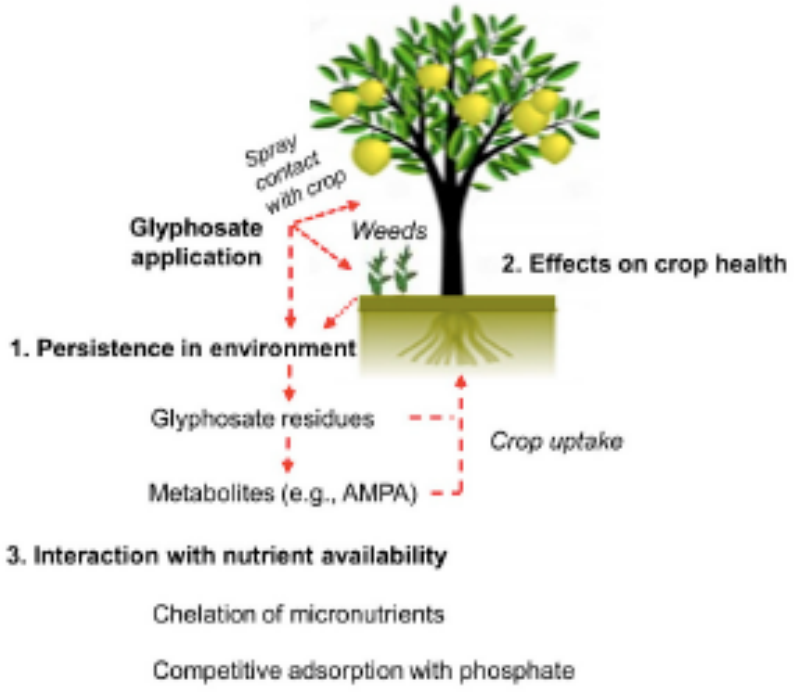
In comparison to other respiratory viruses, SARS-CoV-2 infection drives a lower antiviral transcriptional response that is marked by low IFN-I and IFN-III levels and elevated chemokine expression, which could explain the pro-inflammatory disease state associated with COVID-19.

Glyphosate: Damages Key GOD GIVEN antioxidant Glutathione

Produced by the liver, glutathione is made up of three amino acids: Lcysteine, glycine, and L-glutamate

SCAN ME





American Chemical Society
Public Health Emergency Collection
Public Health Emergency COVID-19 Initiative

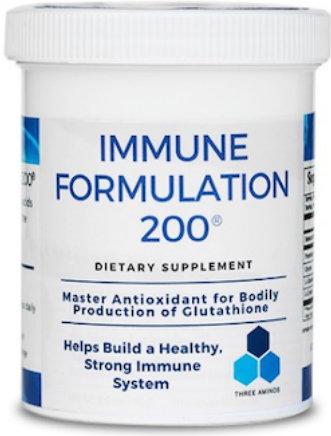
ACS Infect Dis. 2020 May 28 : acsinfecdis.0c00288.
Published online 2020 May 28. doi: 10.1021/acsinfecdis.0c00288
PMCID: PMC7263077
PMID: 32463221

Endogenous Deficiency of Glutathione as the Most Likely Cause of Serious Manifestations and Death in COVID-19 Patients

Alexey Polonikov*

Author information · Article notes · Copyright and License information Disclaimer

Endogenous glutathione deficiency appears to be a crucial factor enhancing SARS-CoV-2-induced oxidative damage of the lung and, as a result, leads to serious manifestations, such as acute respiratory distress syndrome, multiorgan failure, and death in COVID-19 patients. When the antiviral activity of GSH is taken into account, individuals with glutathione deficiency seem to have a higher susceptibility for uncontrolled replication of SARS-CoV-2 virus and thereby suffer from an increasing viral load. The severity of clinical manifestations in COVID-19 patients is apparently determined by the degree of impaired redox homeostasis attributable to the deficiency of reduced glutathione and increased ROS production. This assumption can be supported by our findings. In particular, COVID-19 patients with moderate and severe illness had lower levels of glutathione, higher ROS levels, and greater redox status (ROS/GSH ratio) than COVID-19 patients with a mild illness. Long-term and severe manifestations of COVID-19 infection in one of our patients with marked glutathione deficiency suggest that the degree of glutathione decrease correlates negatively with viral replication rate and that an increasing viral load exacerbates oxidative damage of the lung. This finding suggests that the virus cannot actively replicate at higher levels of cellular glutathione, and therefore, milder clinical symptoms are observed with lower viral loads.



SUPPLEMENT FACTS

Servings Per Container			62
Serving Size			1 Scoop (1.6g)
Amount per serving			
Calories			0
		Standard DV	% Daily Value*
Selenium (from selenomethionine)	4.5 mcg	75 mcg	6%
Proprietary Amino Acid Blend	1450 mg		
Glycine			
L-Glutamine			
L-Cystine			

Glyphosate in our soil -> our plants are SICK -> Does toxic food cause COVID?

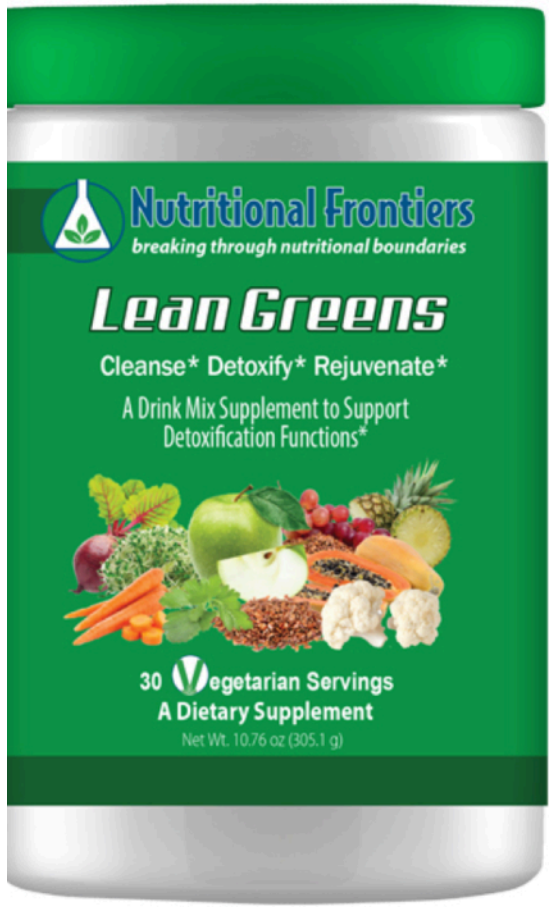
Taking advantage of Synergies: Pathway Crosstalk and DMG

•Detoxification support is provided in **Pro Lean Greens** as N-Acetyl- L-Cysteine, spirulina, chlorella, N,N-Dimethylglycine (DMG), milk thistle, and **Emothion® S-Acetyl-L-Glutathione**. Glutathione is a key part of liver detoxification as it binds toxic chemicals as well as being a free radical scavenger.

•Glutathione is active in Phase II detoxification, helping the body manage carcinogens, toxins, and drugs.

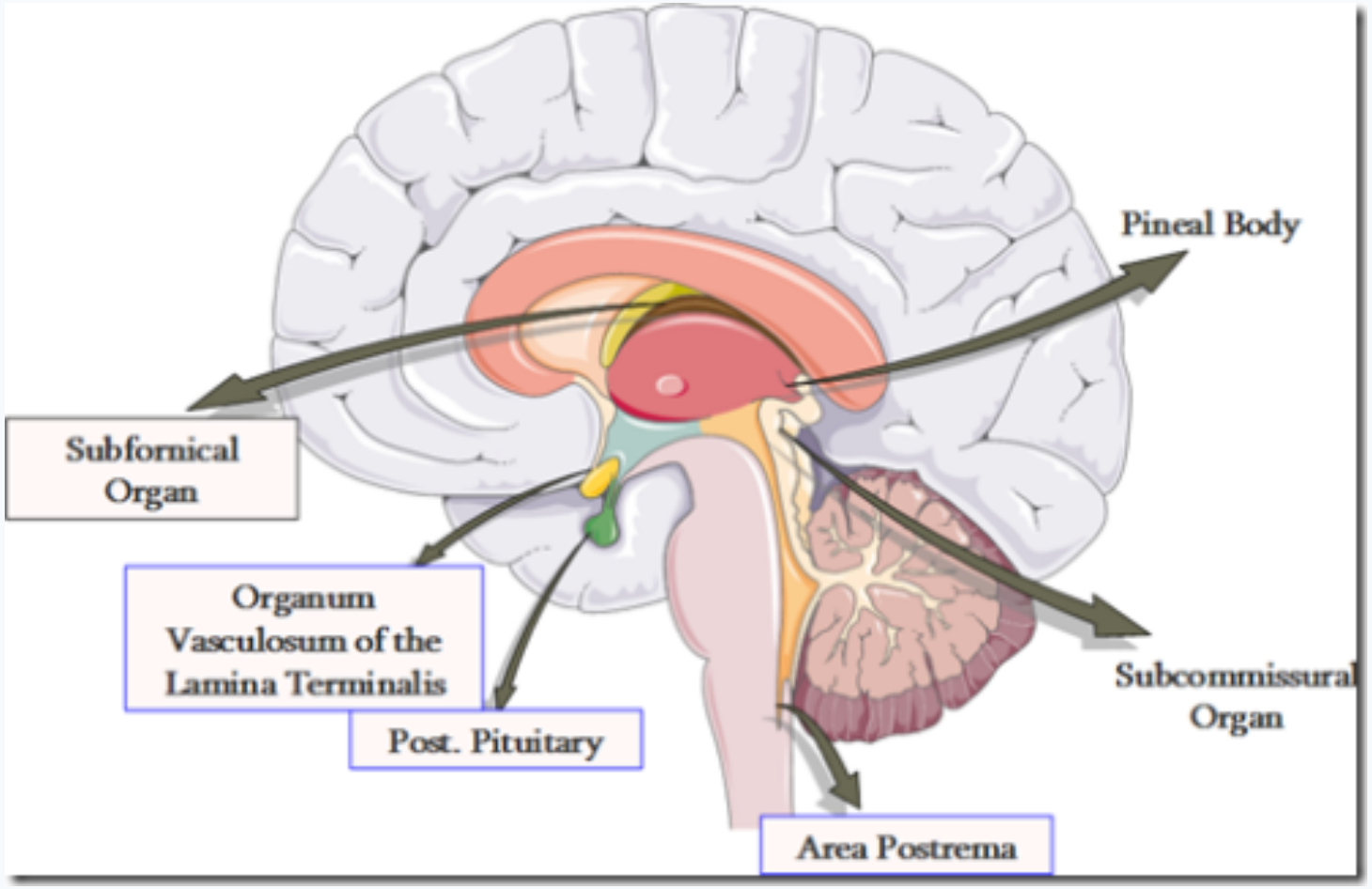
- The **methyl donor DMG** assists in the biosynthesis of vitamins, hormones, neurotransmitters, antibodies & nucleic acids.
- **DMG was patented over three decades ago for treating systemic inflammatory disease**, modulating immune response, and boasts in vitro evidence of antioxidant effects via free radical scavenging activity and enhancement of the endogenous antioxidant defense system.
- Milk thistle (Silybum marianum) is used to protect and restore function of the liver with ample research behind its traditional uses.

SCAN ME



Circumventricular Organs vulnerable to toxins

Four areas of the brain are not protected by the blood-brain barrier. These areas include the **posterior pituitary gland, pineal gland, the median eminence of the hypothalamus and the area postrema**.

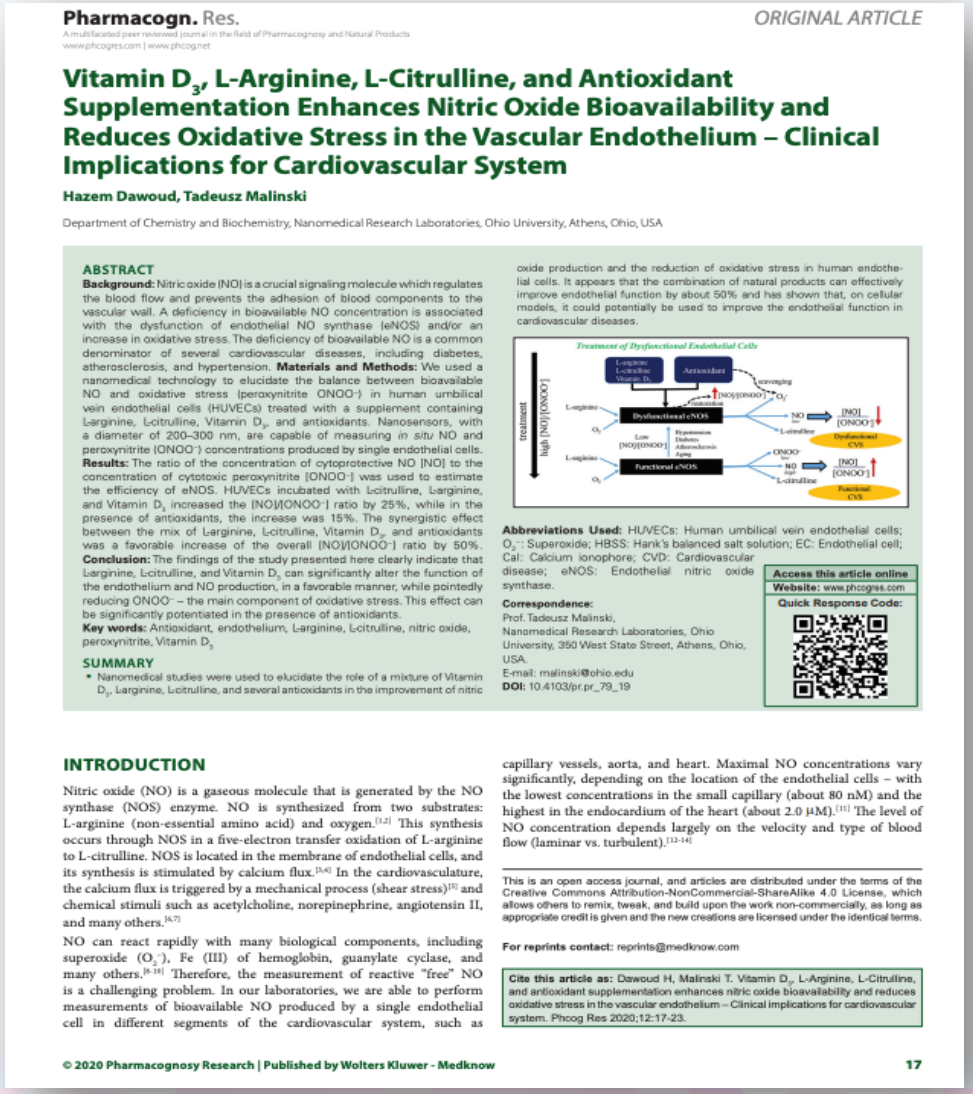


Chronic Disease involves every aspect of Human Biology.
From birth the developing: Brain and Immune system are Inextricably linked

NO/ONOO Ratio Deficiency Common Denominator to Inflammatory Diseases

"**We found** that a deficiency in bioavailable NO and/or an excess of ONOO- is a common denominator of several diseases:

- *Hypertension*
- *Diabetes*
- *Stroke*
- *aging*
- *heart attack*
- *Alzheimer's disease*
- *Parkinson's disease*
- *epilepsy, and*
- *migraine*



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ORIGINAL ARTICLE

Vitamin D_3, L-Arginine, L-Citrulline, and Antioxidant Supplementation Enhances Nitric Oxide Bioavailability and Reduces Oxidative Stress in the Vascular Endothelium – Clinical Implications for Cardiovascular System

Hazem Dawoud, Tadeusz Malinski

Department of Chemistry and Biochemistry, Nanomedical Research Laboratories, Ohio University, Athens, Ohio, USA

ABSTRACT

Background: Nitric oxide (NO) is a crucial signaling molecule which regulates the blood flow and prevents the adhesion of blood components to the vascular wall. A deficiency in bioavailable NO concentration is associated with the dysfunction of endothelial NO synthase (eNOS) and/or an increase in oxidative stress. The deficiency of bioavailable NO is a common denominator of several cardiovascular diseases, including diabetes, atherosclerosis, and hypertension. **Materials and Methods:** We used a nanomedical technology to elucidate the balance between bioavailable NO and oxidative stress (peroxynitrite $ONOO^-$) in human umbilical vein endothelial cells (HUVECs) treated with a supplement containing L-arginine, L-citrulline, Vitamin D_3, and antioxidants. Nanosensors, with a diameter of 200–300 nm, are capable of measuring *in situ* NO and peroxynitrite ($ONOO^-$) concentrations produced by single endothelial cells. **Results:** The ratio of the concentration of cytoprotective NO [NO] to the concentration of cytotoxic peroxynitrite [$ONOO^-$] was used to estimate the efficiency of eNOS. HUVECs incubated with L-citrulline, L-arginine, and Vitamin D_3 increased the [NO]/[$ONOO^-$] ratio by 25%, while in the presence of antioxidants, the increase was 15%. The synergistic effect between the mix of L-arginine, L-citrulline, Vitamin D_3, and antioxidants was a favorable increase of the overall [NO]/[$ONOO^-$] ratio by 50%. **Conclusion:** The findings of the study presented here clearly indicate that L-arginine, L-citrulline, and Vitamin D_3 can significantly alter the function of the endothelium and NO production, in a favorable manner, while pointedly reducing $ONOO^-$ – the main component of oxidative stress. This effect can be significantly potentiated in the presence of antioxidants.

Key words: Antioxidant, endothelium, L-arginine, L-citrulline, nitric oxide, peroxynitrite, Vitamin D_3

SUMMARY

- Nanomedical studies were used to elucidate the role of a mixture of Vitamin D_3, L-arginine, L-citrulline, and several antioxidants in the improvement of nitric oxide production and the reduction of oxidative stress in human endothelial cells. It appears that the combination of natural products can effectively improve endothelial function by about 50% and has shown that, on cellular models, it could potentially be used to improve the endothelial function in cardiovascular diseases.

Abbreviations Used: HUVECs: Human umbilical vein endothelial cells; O_2^-: Superoxide; HBSS: Hank's balanced salt solution; EC: Endothelial cell; Cal: Calcium ionophore; CVD: Cardiovascular disease; eNOS: Endothelial nitric oxide synthase.

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DOI: 10.4103/pr.pr_79_19

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INTRODUCTION

Nitric oxide (NO) is a gaseous molecule that is generated by the NO synthase (NOS) enzyme. NO is synthesized from two substrates: L-arginine (non-essential amino acid) and oxygen.[1,2] This synthesis occurs through NOS in a five-electron transfer oxidation of L-arginine to L-citrulline. NOS is located in the membrane of endothelial cells, and its synthesis is stimulated by calcium flux.[3,4] In the cardiovasculature, the calcium flux is triggered by a mechanical process (shear stress)[5] and chemical stimuli such as acetylcholine, norepinephrine, angiotensin II, and many others.[6,7]

NO can react rapidly with many biological components, including superoxide (O_2^-), Fe (III) of hemoglobin, guanylate cyclase, and many others.[8-10] Therefore, the measurement of reactive "free" NO is a challenging problem. In our laboratories, we are able to perform measurements of bioavailable NO produced by a single endothelial cell in different segments of the cardiovascular system, such as capillary vessels, aorta, and heart. Maximal NO concentrations vary significantly, depending on the location of the endothelial cells – with the lowest concentrations in the small capillary (about 80 nM) and the highest in the endocardium of the heart (about 2.0 μM).[11] The level of NO concentration depends largely on the velocity and type of blood flow (laminar vs. turbulent).[12-14]

Cite this article as: Dawoud H, Malinski T. Vitamin D_3, L-Arginine, L-Citrulline, and antioxidant supplementation enhances nitric oxide bioavailability and reduces oxidative stress in the vascular endothelium – Clinical implications for cardiovascular system. Phcog Res 2020;12:17-23.

Nutritional Support

provide the building blocks to support nitric oxide formation which may enhance overall circulation, including heart health and erectile dysfunction.

SUPPLEMENT FACTS

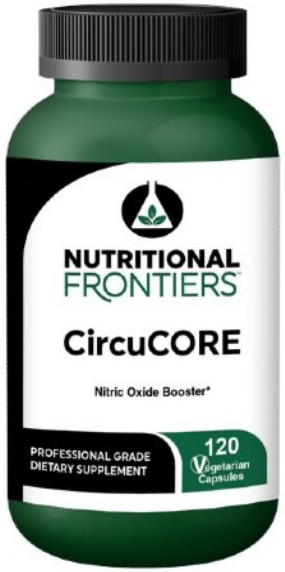
Serving Size: 2 Capsules
Servings Per Container: 60
Amount Per Serving

Vitamin C (as Ascorbic Acid)	100 mg
Vitamin B12 (Methylcobalamin)	100 mcg
Folate	100 mcg
(as Quatrefolic® (equivalent to 200 mcg of [6S]-5-Methyltetrahydrofolic acid, glucosamine salt))	
Beet Root Powder	200 mg
Activin® Grape Seed Extract (vitis vinifera) 100:1	120 mg
Hawthorne	100 mg
L-Citrulline	100 mg
L-Arginine	100 mg

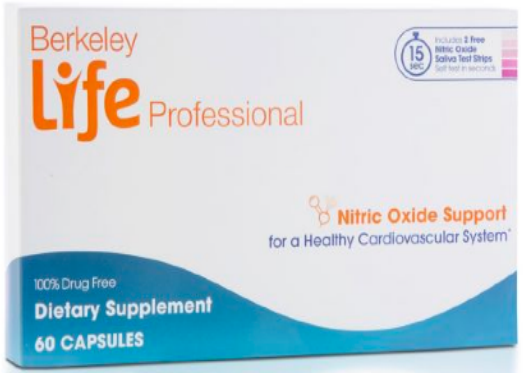
Other Ingredients: Vegetable Cellulose (Capsule), Microcrystalline Cellulose, Silicon Dioxide, Magnesium Stearate

Suggested Use: As a dietary supplement, take two capsules daily, or as directed by your healthcare practitioner.

Warning: If you are pregnant or nursing, consult your health care practitioner before taking this product.



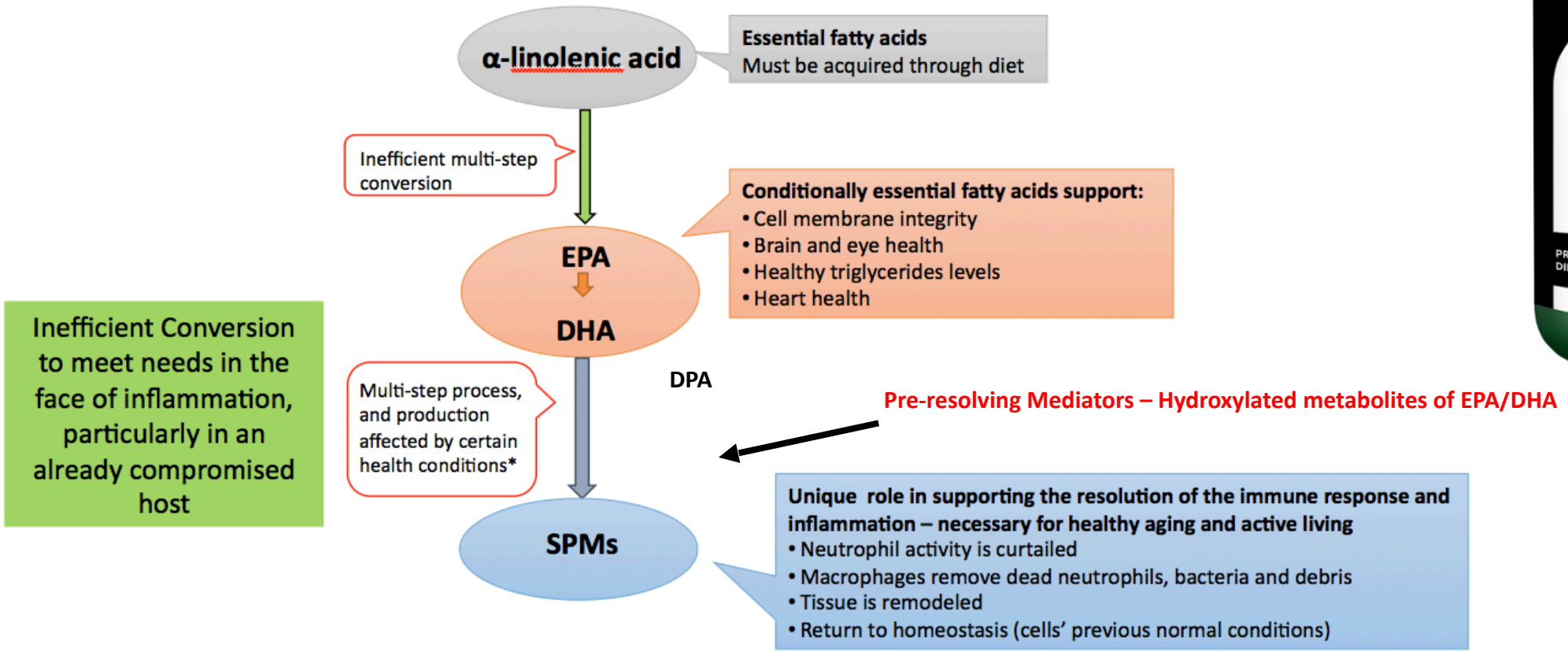
SCAN ME



SCAN ME

Nitric oxide is a soluble gas that is continually being made from arginine in endothelial cells. Endothelial cells comprise a layer of cells inside the lining of our blood vessels.

Specialized Pro-Resolving Mediators (SPM)



Serhan CN. *Nature*. 2014;510:92-101

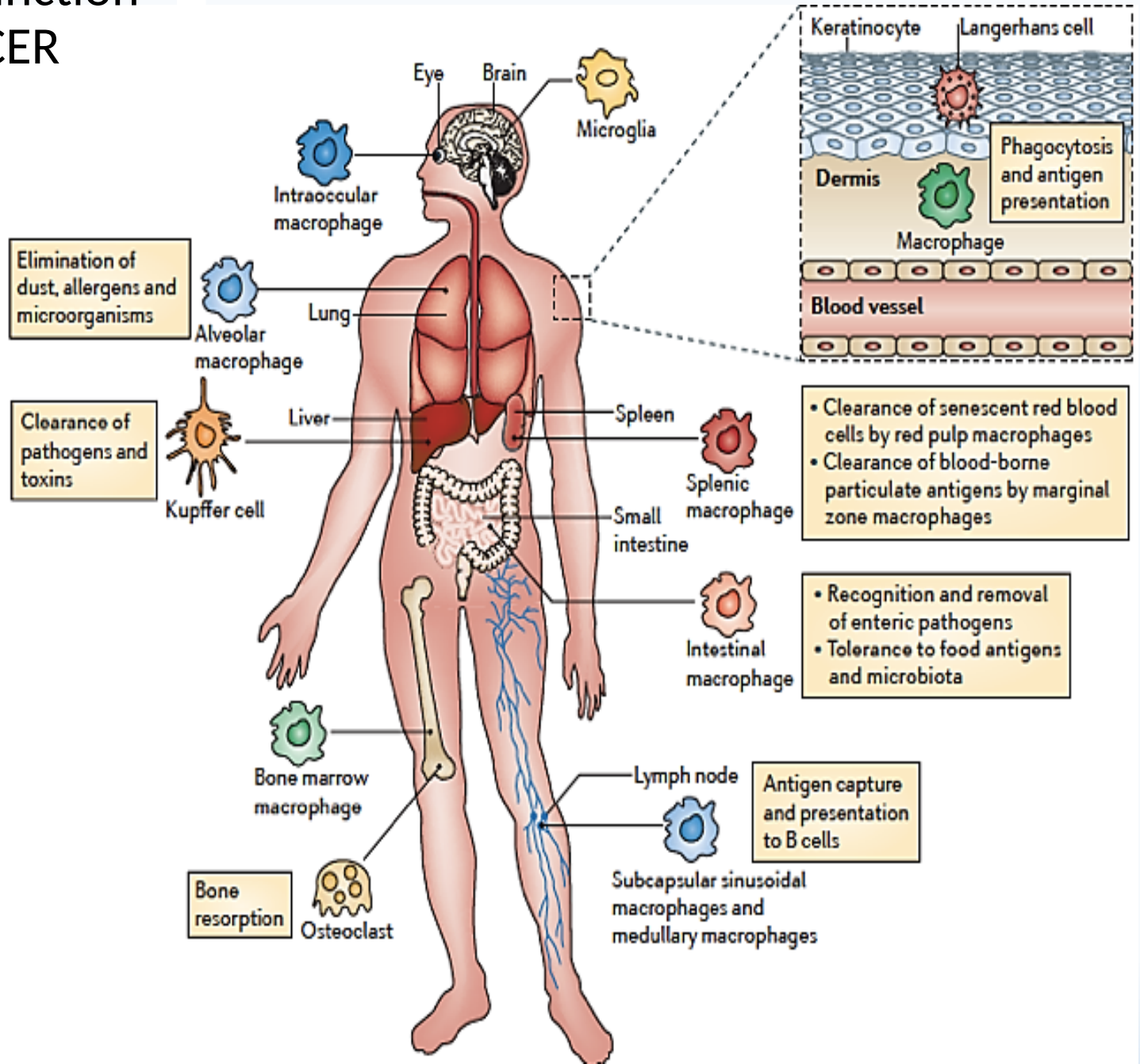
They are called 'resolving mediators' because of their role in facilitating natural resolution of the inflammatory response. Examples of SPMs include resolvins, lipoxins, protectins, and maresins.

Monocyte/Macrophage Dysfunction as a Driver of AEIDS/CANCER

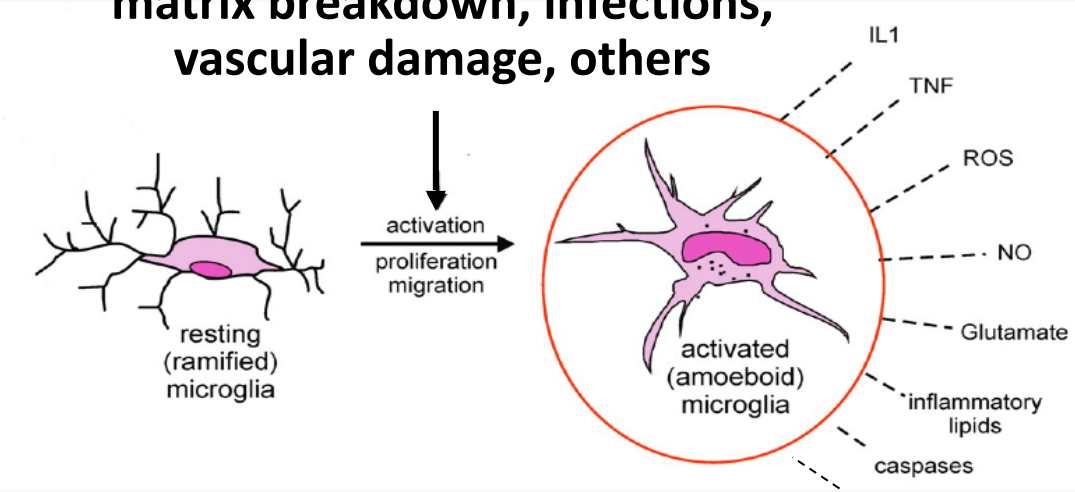
- **Express Purinergic Receptors**:
- **P2XR and P2YR**.
- **Express Cannabinoid Receptors**
- **CB1 & CB2**

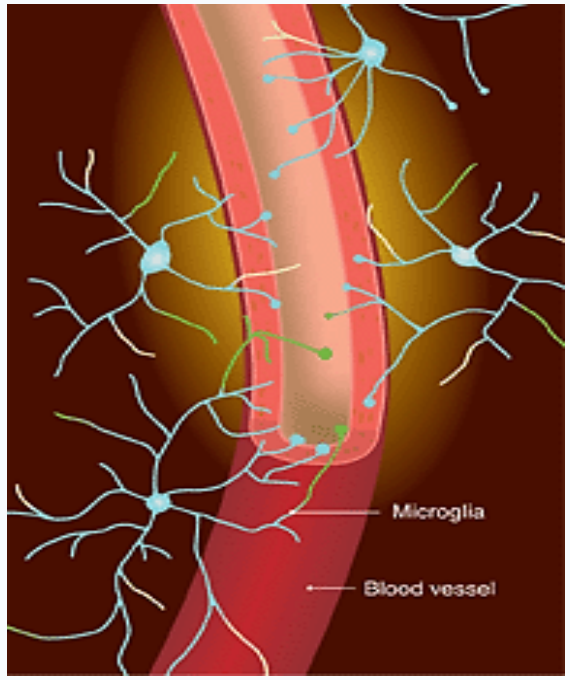
Tissue Macrophages perform Key Homeostatic Functions Modulated by

- **Cannabinoids**
- **GcMAF**
- **Suramin**
- **Ivermectin**
- **Vitamin C**
- **DMG**
- **Decitibine (Vidaza)**
- **Peptide T**



STIMULI
Loss of cell: cell communication, matrix breakdown, infections, vascular damage, others





Fetler, L and S Amigorena, Science 2005, 309:392

HOMEOSTASIS
Phagocytosis of debris, neurotrophins

DAMAGE
Neurotoxins, phagocytosis of normal neurons, apoptosis

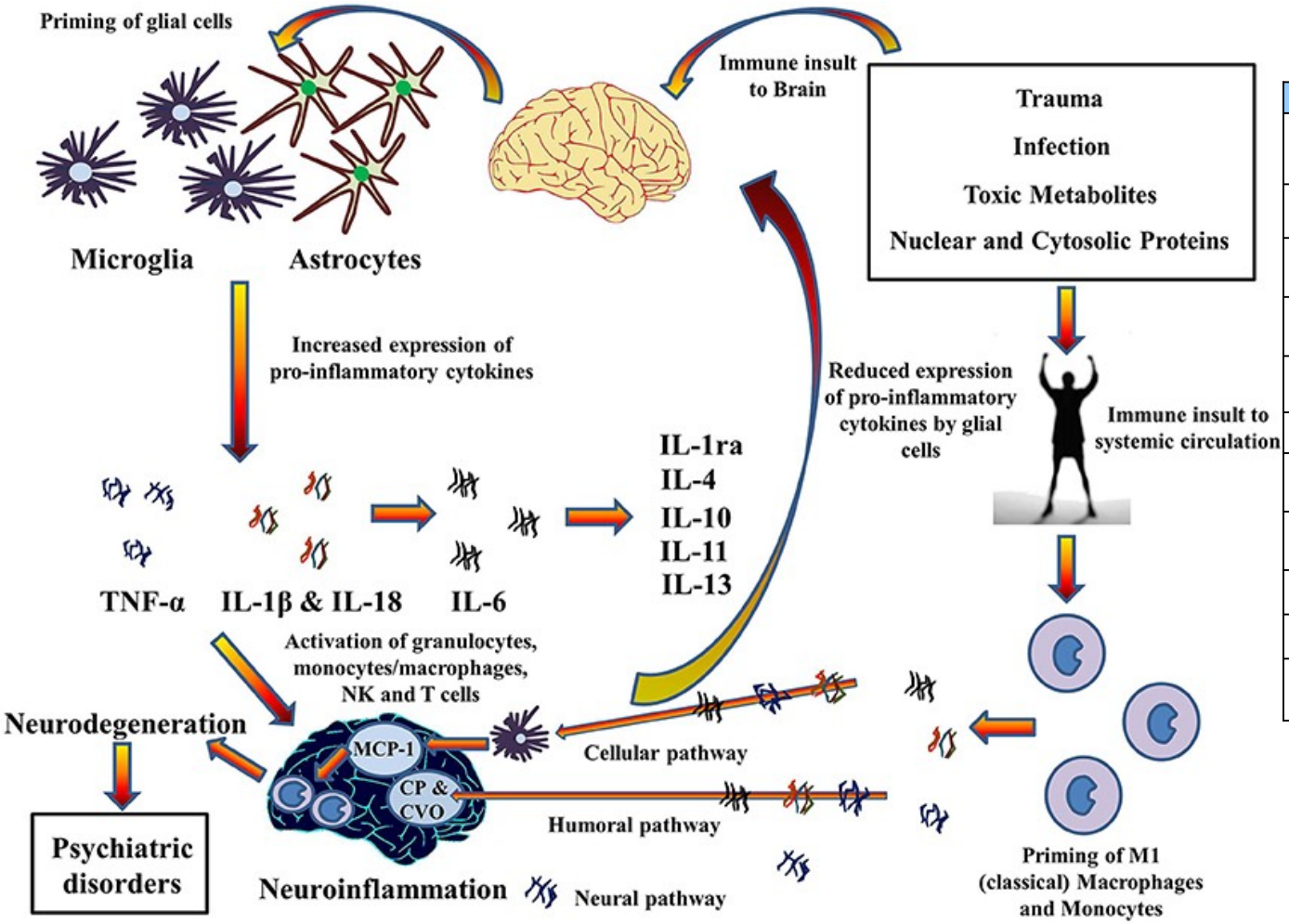
Neurodegenerative disorders

- **Parkinson's disease**
- **Alzheimer's disease**
- **Multiple sclerosis**
- **Autism**
- **ME/CFS**

Xenotropic Murine Leukemia Virus-related Virus-associated Chronic Fatigue Syndrome Reveals a Distinct Inflammatory Signature

in vivo *25*: 307-314 (2011)

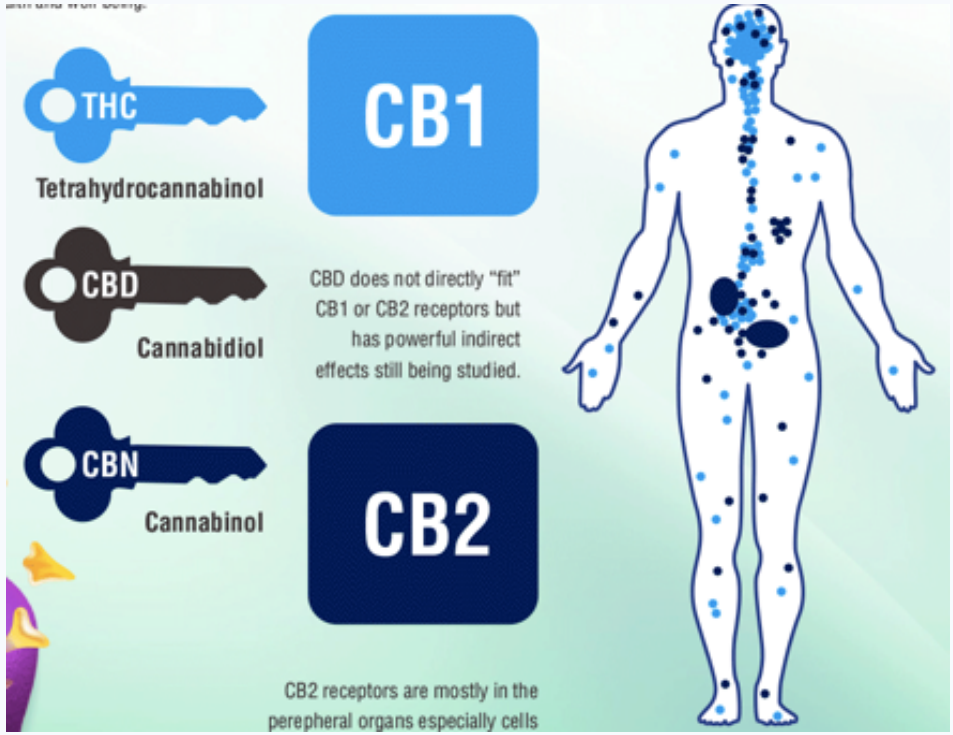
VINCENT C. LOMBARDI[1], KATHRYN S. HAGEN[1], KENNETH W. HUNTER[4], JOHN W. DIAMOND[2†], JULIE SMITH-GAGEN[3], WEI YANG[3] and JUDY A. MIKOVITS[1]



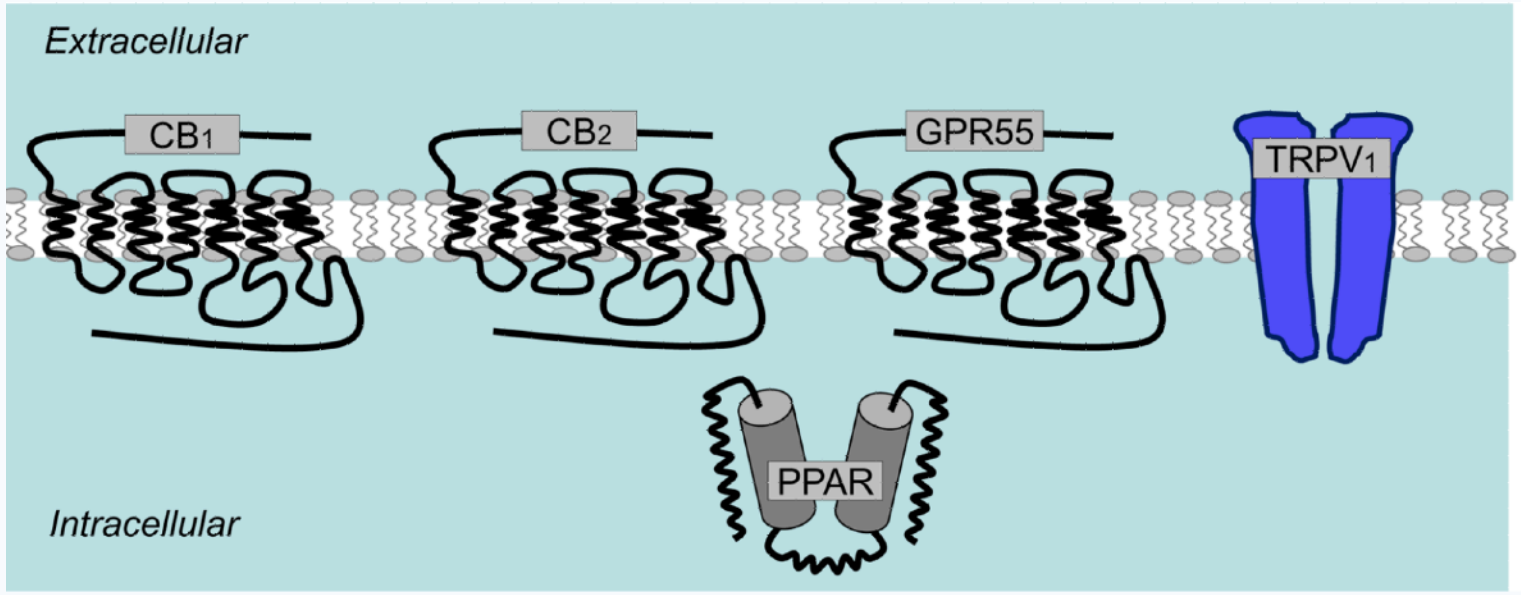
CYTOKINES/ CHEMOKINES	Patient N = 156	Control N=140	P value	FUNCTION IN INFLAMMATION
IL-8	1067	11.1	<0.0001	RNase L and CMV activated
IL-13	28	86	<0.0001	Inhibits inflammatory cytokine production
MIP-1β	1840	157	<0.0001	Elevated in Neurodegenerative disease
TNF-α	109	12.8	<0.0001	Stimulates chronic inflammation
MCP-1	468	421	0.003	Elevated in chronic inflammatory diseases
IL-7	21.1	82	<0.0001	Stimulates proliferation of B and T lymphocytes and NK cells
IFN-α	35	60	<0.0001	Stimulates macrophages and NK cells to elicit an anti-viral response
IL-6	271	29	<0.0001	Stimulates chronic inflammation
MIP-1α	673	91	0.0062	Elevated in Neurodegenerative disease
GM-CSF	108	166	<0.0001	Stimulates proliferation of B and T lymphocytes and NK cells

The Human Endocannabinoid System (eCS)
GOD GIVEN Regulator of stem cells Immune Homeostasis & Neuroimmune Health

A signaling system that helps to modulate all other physiological, behavioral, and energetic processes in the body.



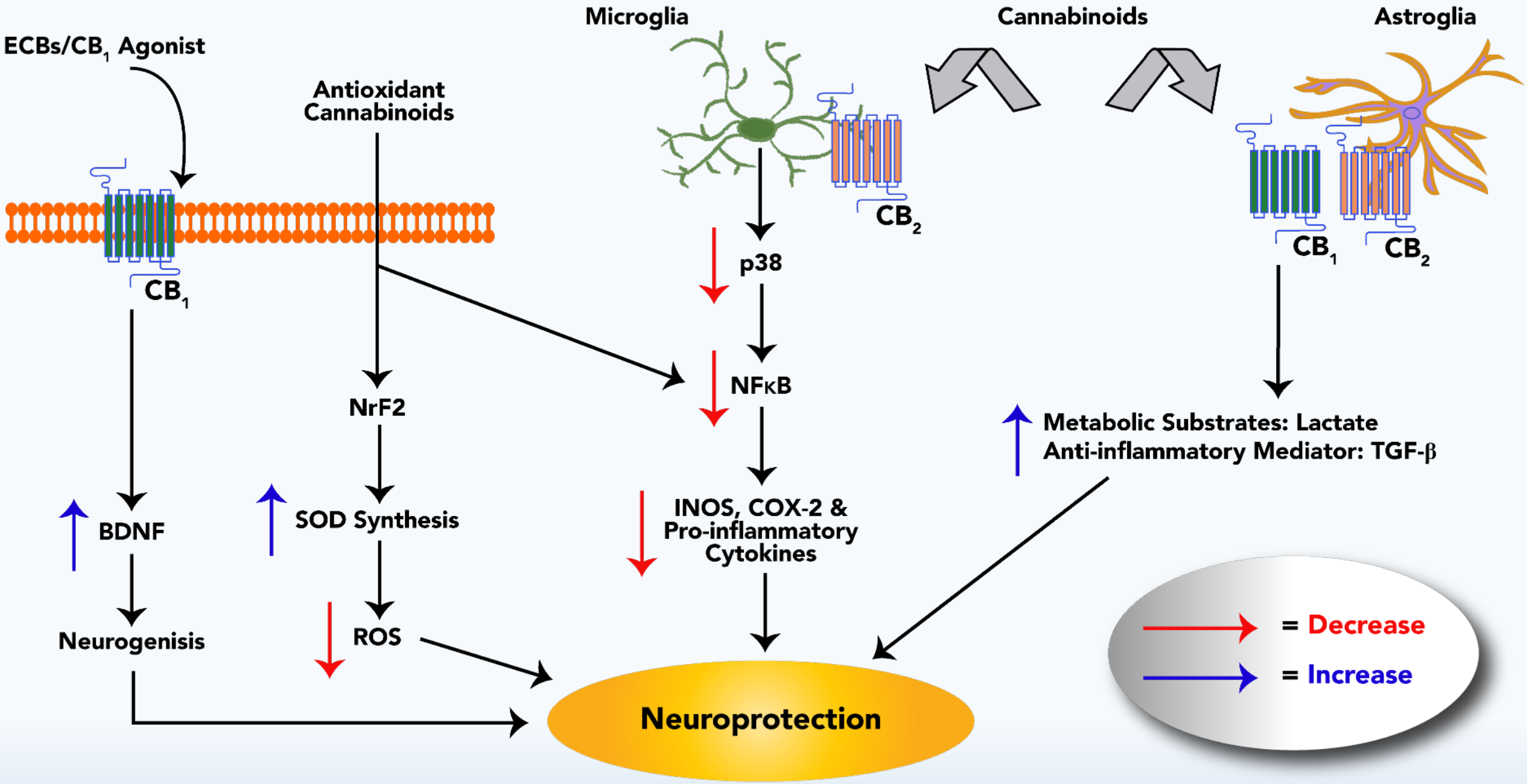
Glia. 2010 July ; 58(9): 1017–1030



Anxiety
Depression
Sleep Disorders
Pain
Itch
Wound healing

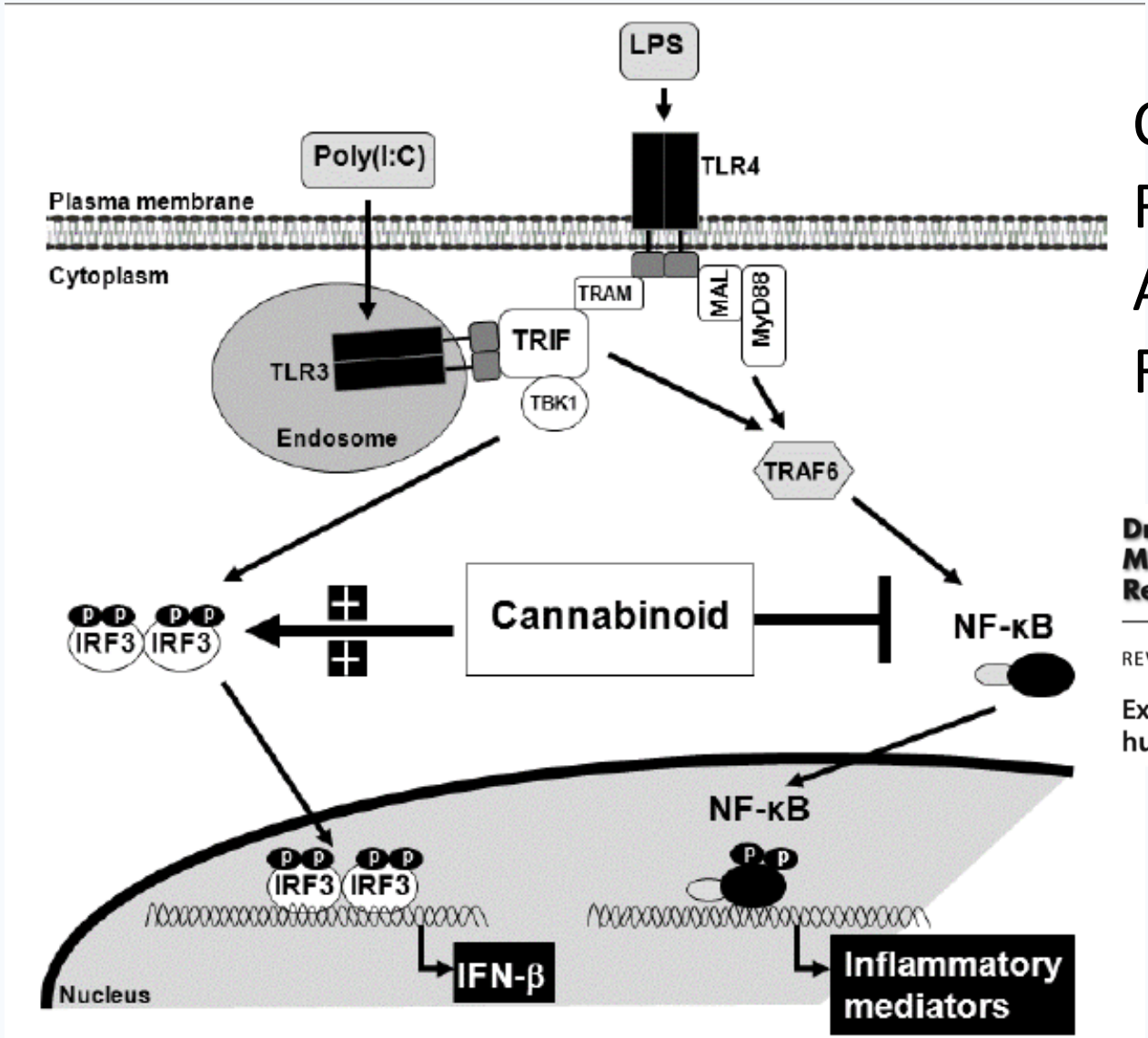
- ***neuroprotection & plasticity***
- ***immunity & inflammation***
- ***apoptosis &carcinogenesis***
- ***pain and emotional memory***
- ***Supports detoxification:***
  - ***repairs Fibrosis***
  - ***fatty Liver disease***

Neuroprotection by Endocannabinoid Modulation in Neurodegenerative Disease



Cannabinoids are Anti-Viral and Reduce inflammation

THE DIMMER SWITCH ON THE FLAME



CANNABIS is NOT a DRUG! IT'S Food!! Nourish CELLS
ALL Plants (HEMP & CANNABIS) Removed from US 1938!

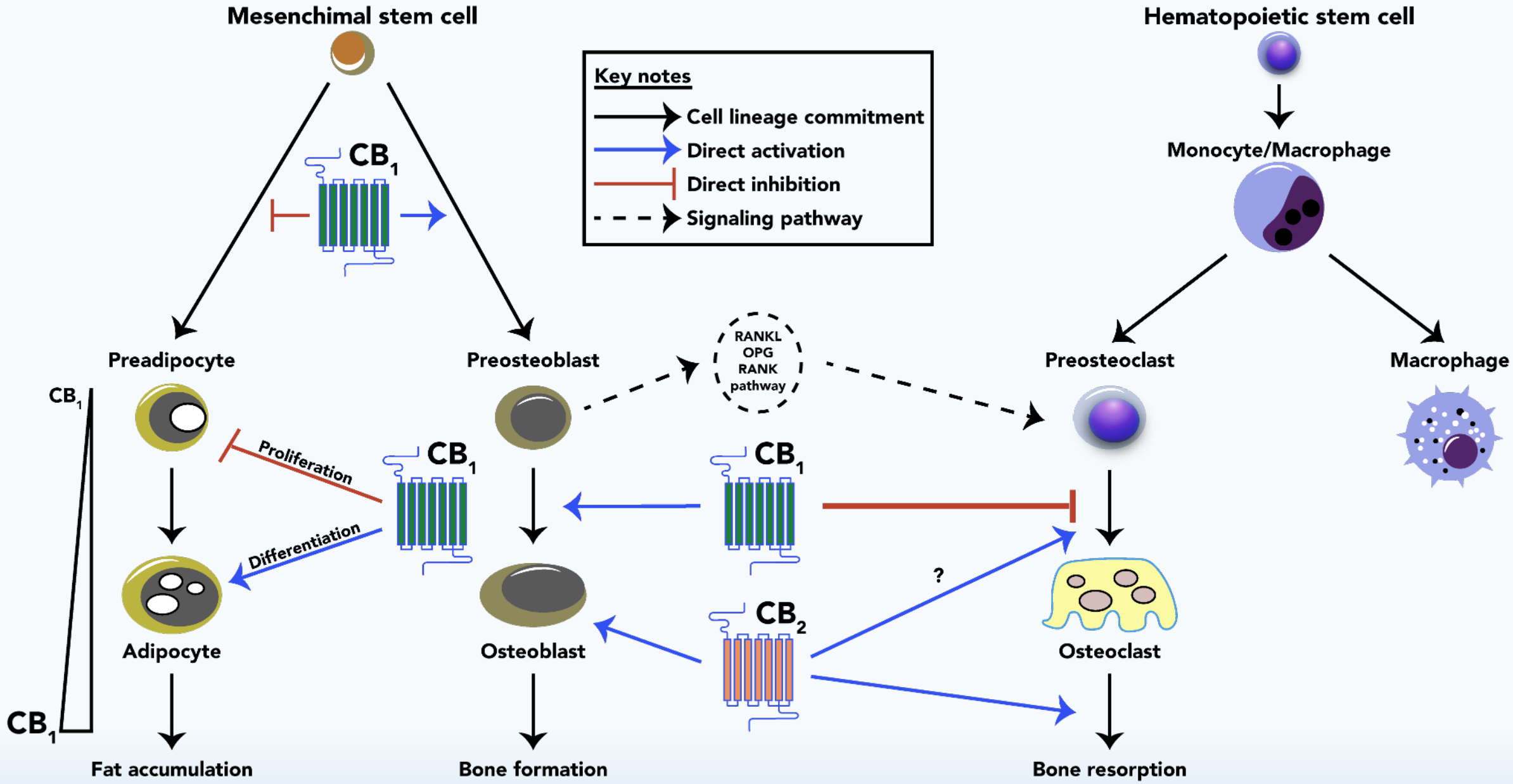
Drug Metabolism Reviews
http://informahealthcare.com/dmr
ISSN: 0360-2532 (print), 1097-9883 (electronic)
Drug Metab Rev, 2014; 46(1): 86–95
© 2014 Informa Healthcare USA, Inc. DOI: 10.3109/03602532.2013.849268
informa healthcare

REVIEW ARTICLE

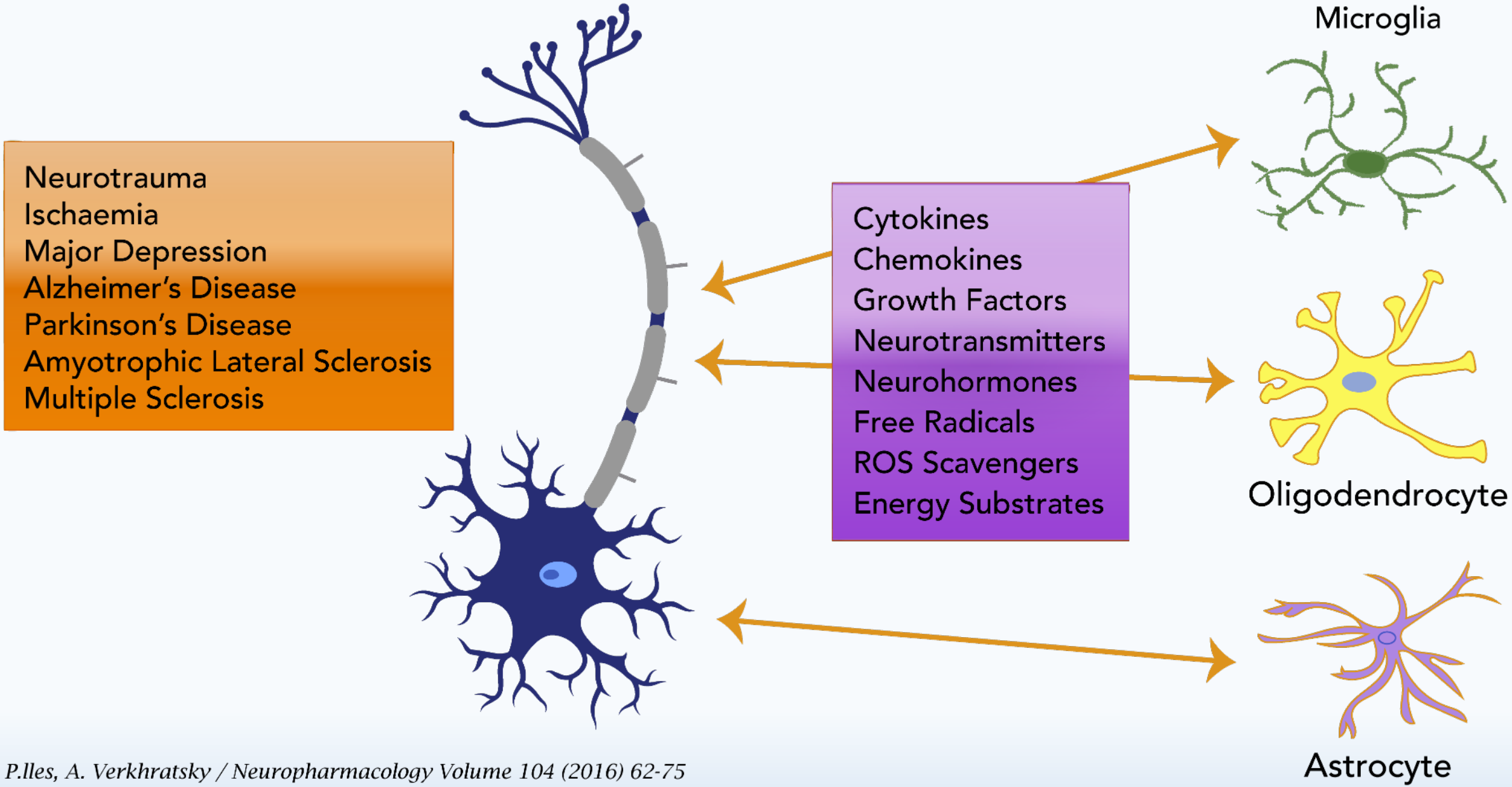
Exogenous cannabinoids as substrates, inhibitors, and inducers of human drug metabolizing enzymes: a systematic review

GOD GIVEN LIPID/FAT SIGNALING SYSTEM in EVERY Cell MEMBRANE

CB2 Is associated with Chronic inflammation of the nervous system, Cardiovascular and Bone Disorders



Phyto-cannabinoids Dampen Tissue Injury to Prevent Progression of Neurodegenerative Disease and Cancer



P.lles, A. Verkhratsky / Neuropharmacology Volume 104 (2016) 62-75

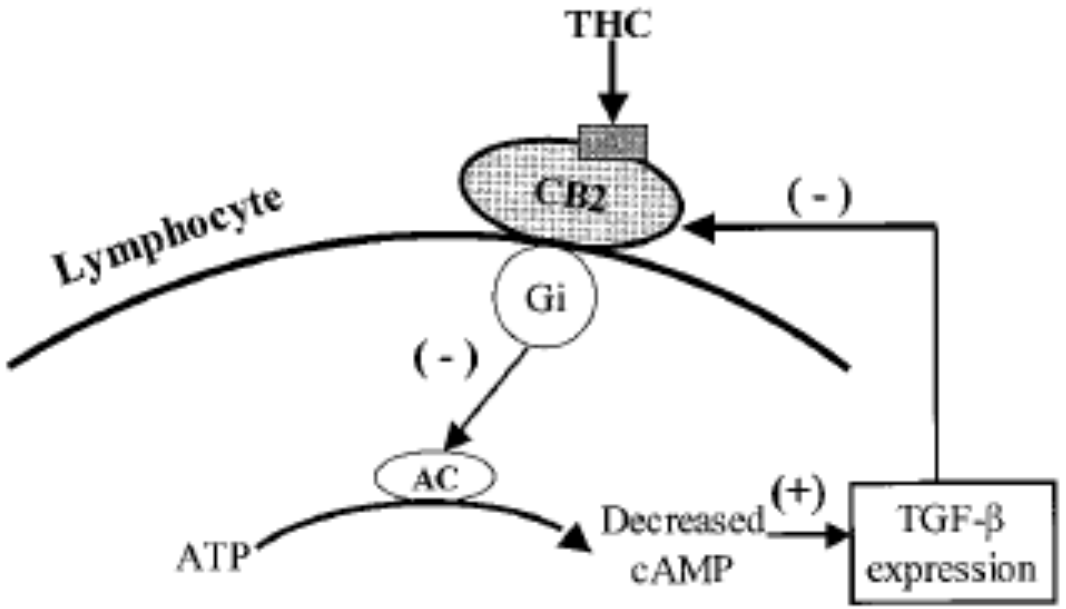
Trends in Neurosciences

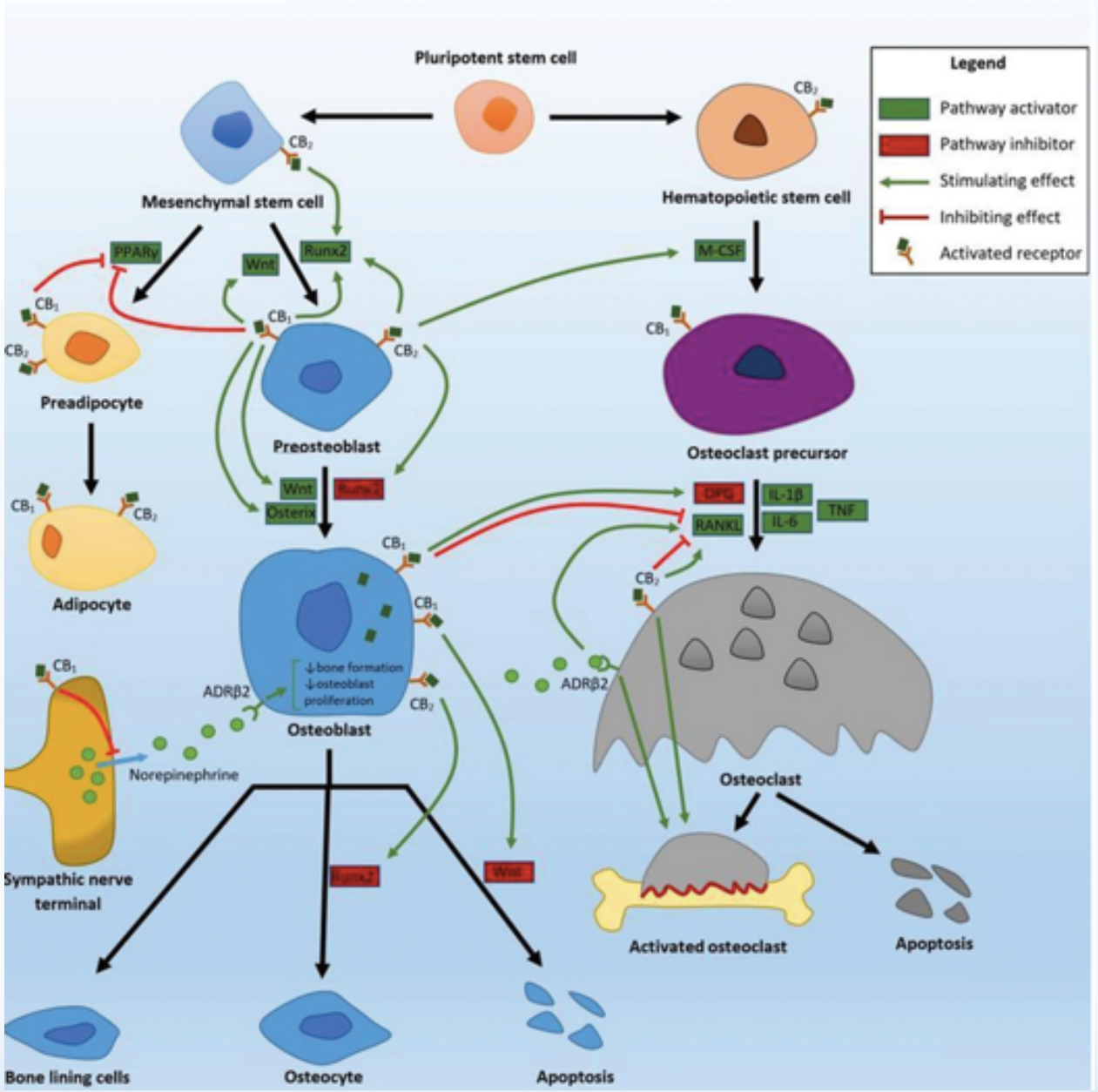
CellPress
REVIEWS

Review

Ion Channel Functions in Early Brain Development

Richard S. Smith[1,*] and Christopher A. Walsh[1,*]





Cannabinoids regulate MINERALS in Immune Cells via endocannabinoid System Receptors

- A downside of activation of MINERALS is the dysregulation endogenous microbes
- OUR SOILS ARE DEPLETED OF MINERALS

TRPV1/2	Ca^{2+}/Na^{+}	PM	Heat (fever?), low pH, mechanical stress		Mono, macro	Degranulation, phagocytosis, cytokine production
TRPC3/6	Ca^{2+}/Na^{+}	PM	PLC activation (DAG), PIP_2		T, B, NK cells, neutro	Chemotaxis, degranulation
TRPM2	Ca^{2+}/Na^{+}	PM, lys	H_2O_2, NAADP, cADPR		T, B, neutro, mast cells, DC	Cytokine production, degranulation
Magnesium						
TRPM6	$Mg^{2+}>Ca^{2+}$	PM		Inhibited by $[Mg^{2+}]_i$	Gut, kidney, hematopoietic (not T cells)	Unknown in immune cells
TRPM7	$Mg^{2+}>Ca^{2+}$	PM	Unknown (BCR, TCR?) PIP_2 (?)	Inhibited by $[Mg^{2+}]_i$	Ubiquitous	T cell development, T and B cell proliferation, cytokine production

Review

CellPress

Divalent cation signaling in immune cells

Benjamin Chaigne-Delalande and Michael J. Lenardo

Molecular Development of the Immune System Section, Lymphocyte Molecular Genetics Unit, Laboratory of Immunology, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD 20892, USA

Divalent cations of two alkaline earth metals Ca^{2+} and Mg^{2+} and the transition metal Zn^{2+} play vital roles in the immune system, and several immune disorders are associated with disturbances of their function. Until re-

Trends in Immunology July 2014, Vol. 35, No. 7

Non-selective cationic channels in chemical and physical stress?

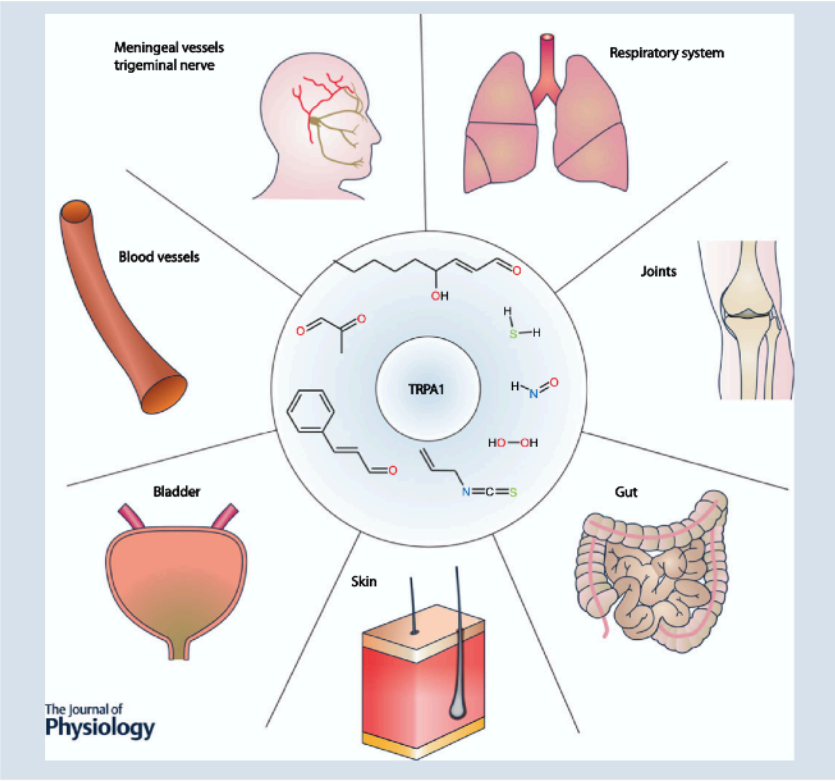
J Physiol 594.15 (2016) pp 4151–4169

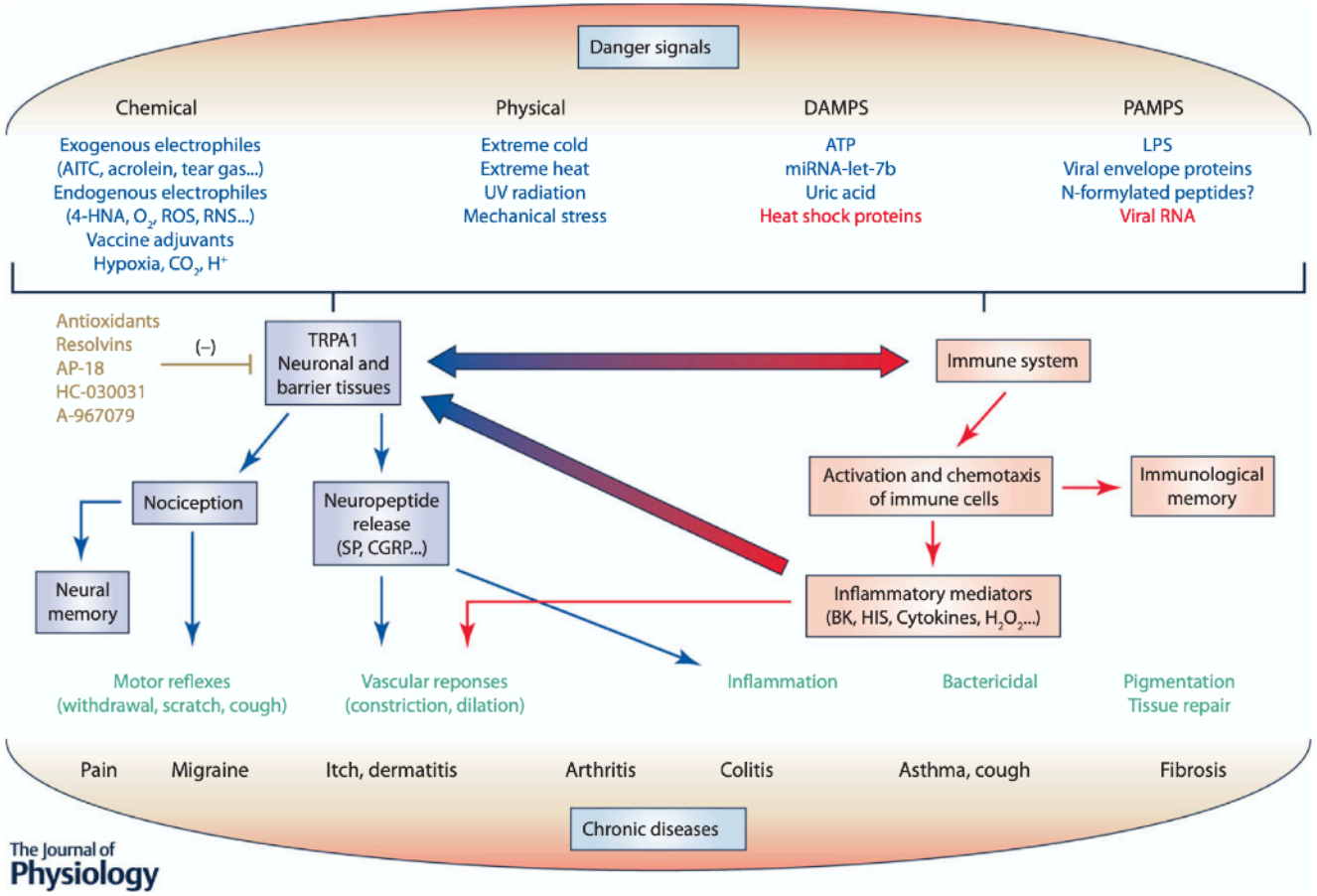
SYMPOSIUM REVIEW

TRPA1 channels: molecular sentinels of cellular stress and tissue damage

Félix Viana

Instituto de Neurociencias de Alicante, Universidad Miguel Hernández-CSIC, Alicante, Spain





BJP British Journal of Pharmacology

DOI:10.1111/j.1476-5381.2011.01238.x
www.brjpharmacol.org

Themed Issue: Cannabinoids in Biology and Medicine, Part I

REVIEW

Taming THC: potential cannabis synergy and phytocannabinoid-terpenoid entourage effects

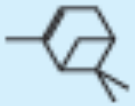
Ethan B Russo

GW Pharmaceuticals, Salisbury, Wiltshire, UK

Correspondence
Ethan Russo, MD, 20402 81st Avenue SW, Vashon, WA 98070, USA. E-mail: ethanrusso@comcast.net

Keywords
cannabinoids; terpenoids; essential oils; THC; CBD; limonene; pinene; linalool; caryophyllene; phytotherapy

Received
19 November 2010
Revised
29 December 2010
Accepted
12 January 2011

Terpenoid	Structure	Commonly encountered in	Pharmacological activity (Reference)	Synergistic cannabinoid
Limonene		 Lemon	Potent AD/immunostimulant via inhalation (Komori *et al.*, 1995)	CBD
			Anxiolytic (Carvalho-Freitas and Costa, 2002; Pultrini Ade *et al.*, 2006) via 5-HT$_{1A}$ (Komiya *et al.*, 2006)	CBD
			Apoptosis of breast cancer cells (Miyashin *et al.*, 1998)	CBD, CBG
			Active against acne bacteria (Kim *et al.*, 2008)	CBD
			Dermatophytes (Sanguinetti *et al.*, 2007; Singh *et al.*, 2010)	CBG
			Gastro-oesophageal reflux (Harris, 2010)	THC
α-Pinene		 Pine	Anti-inflammatory via PGE-1 (Gil *et al.*, 1989)	CBD
			Bronchodilatory in humans (Falk *et al.*, 1990)	THC
			Acetylcholinesterase inhibitor, aiding memory (Perry *et al.*, 2000)	THCT, CBD
β-Myrcene		 Hops	Blocks inflammation via PGE-2 (Lorenzetti *et al.*, 1991)	CBD
			Analgesic, antagonized by naloxone (Rao *et al.*, 1990)	CBD, THC
			Sedating, muscle relaxant, hypnotic (do Vale *et al.*, 2002)	THC
			Blocks hepatic carcinogenesis by aflatoxin (de Oliveira *et al.*, 1997)	CBD, CBG
Linalool		 Lavender	Anti-anxiety (Russo, 2001)	CBD, CBGT
			Sedative on inhalation in mice (Buchbauer *et al.*, 1993)	THC
			Local anesthetic (Re *et al.*, 2000)	THC
			Analgesic via adenosine A_{3A} (Peana *et al.*, 2006)	CBD
			Anticonvulsant/anti-glutamate (Elisabetsky *et al.*, 1995)	CBD, THCV, CBDV
			Potent anti-leishmanial (do Socorro *et al.*, 2003)	?

molecules

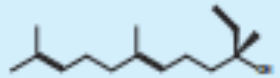
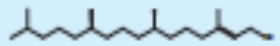
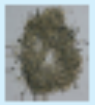
MDPI

Article

Terpenoids and Phytocannabinoids Co-Produced in *Cannabis Sativa* Strains Show Specific Interaction for Cell Cytotoxic Activity

Dvora Namdar [1,*], Hillary Voet [1], Vinayaka Ajjampura [1], Stalin Nadarajan [1], Einav Mayzlish-Gati [2], Moran Mazuz [1], Nurit Shalev [1] and Hinanit Koltai [1]

1 Institute of Plant Sciences, Agricultural Research Organization, Volcani Center, Bet Dagan 7505101, Israel
2 Israeli Gene Bank, Volcani Center, Bet Dagan 7505101, Israel
* Correspondence: dvoran@volcani.agri.gov.il

β-Caryophyllene		 Pepper	Al via PGE-1 comparable phenylbutazone (Basile *et al.*, 1988)	CBD
			Gastric cytoprotective (Tambe *et al.*, 1996)	THC
			Anti-malarial (Campbell *et al.*, 1997)	?
			Selective CB$_2$ agonist (100 nM) (Gertsch *et al.*, 2008)	THC
			Treatment of pruritus? (Kamak *et al.*, 2007)	THC
			Treatment of addiction? (Xi *et al.*, 2010)	CBD
Caryophyllene Oxide		 Lemon balm	Decreases platelet aggregation (Lin *et al.*, 2003)	THC
			Antifungal in onychomycosis comparable to ciclopiroxolamine and salconazole (Yang *et al.*, 1999)	CBC,CBG
			Insecticidal/anti-feedant (Bettarini *et al.*, 1993)	THCA, CBGA
Nerolidol		 Orange	Sedative (Buret *et al.*, 1972)	THC, CBN
			Skin penetrant (Cornwell and Barry, 1994)	–
			Potent antimalarial (Lopes *et al.*, 1999, Rodrigues Goulart *et al.*, 2004)	?
			Anti-leishmanial activity (Amaral *et al.*, 2005)	?
Phytol		 Green tea	Breakdown product of chlorophyll	–
			Prevents Vitamin A teratogenesis (Arnhold *et al.*, 2002)	–
			TGABA via SSADH inhibition (Bang *et al.*, 2002)	CBG

VIRUSES/POSIONS

Lack of Minerals, Essential Amino acids, Phytocannabinoids

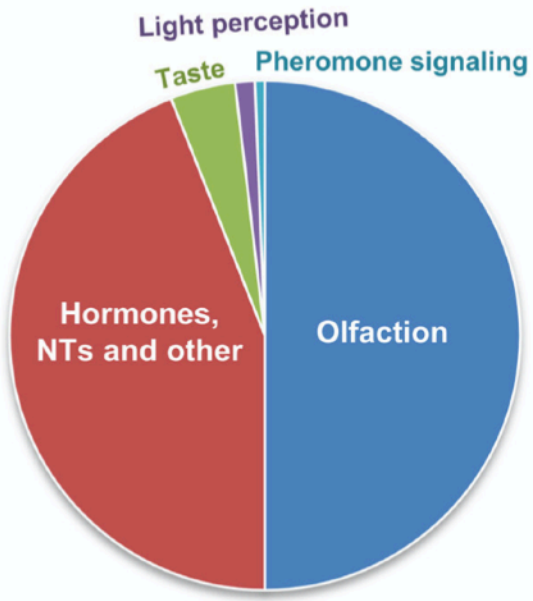
frontiers in Aging Neuroscience

REVIEW
published: 24 April 2019
doi: 10.3389/fnagi.2019.00089

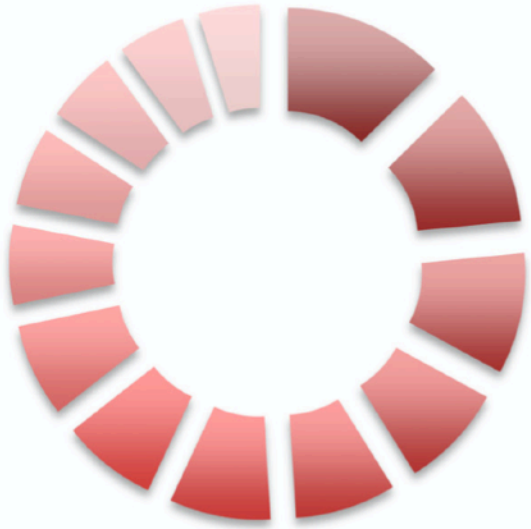
$G_{i/o}$-Protein Coupled Receptors in the Aging Brain

Patrícia G. de Oliveira[†], Marta L. S. Ramos[†], António J. Amaro[2], Roberto A. Dias[†‡] and Sandra I. Vieira[†]*

A GPCRs main functions



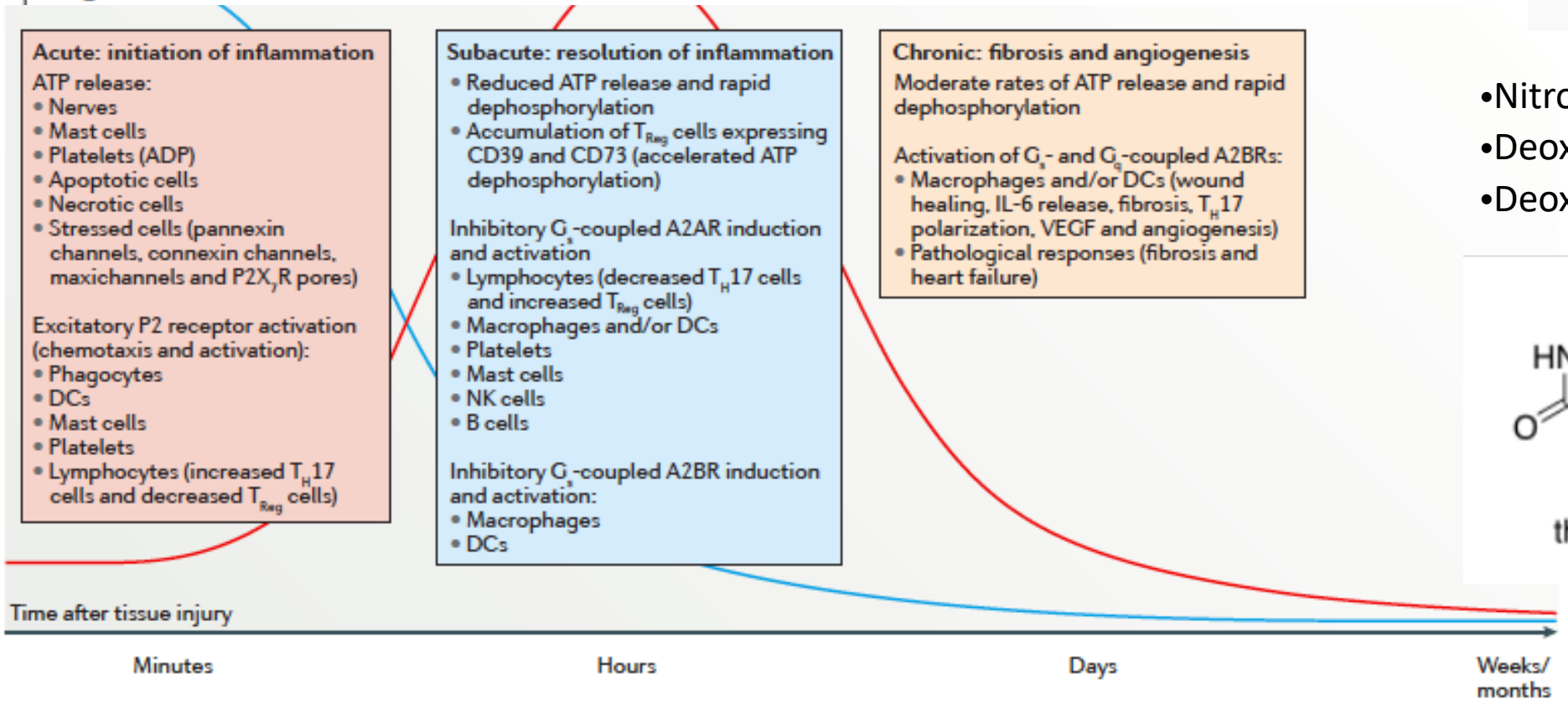
B Tissue distribution of $G_{i/o}$-coupled GPCRs

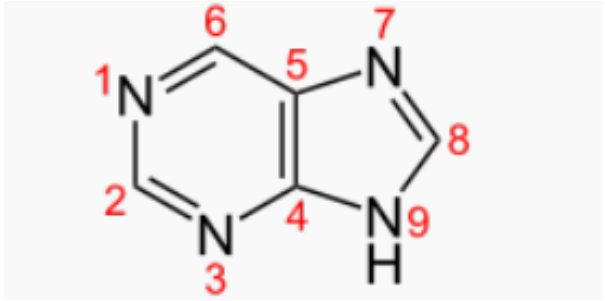


- Bone marrow & immune sy
- Brain
- Gastrointestinal tract
- Lung
- Male tissues
- Female tissues
- Endocrine tissues
- Kidney & Urinary bladder
- Skin
- Liver and gallbladder
- Muscle tissues
- Pancreas
- Adipose and soft tissues

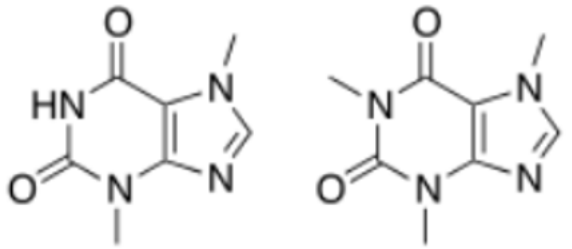
Purinergic regulation of the immune system

Caglar Cekic[1] and Joel Linden[2]





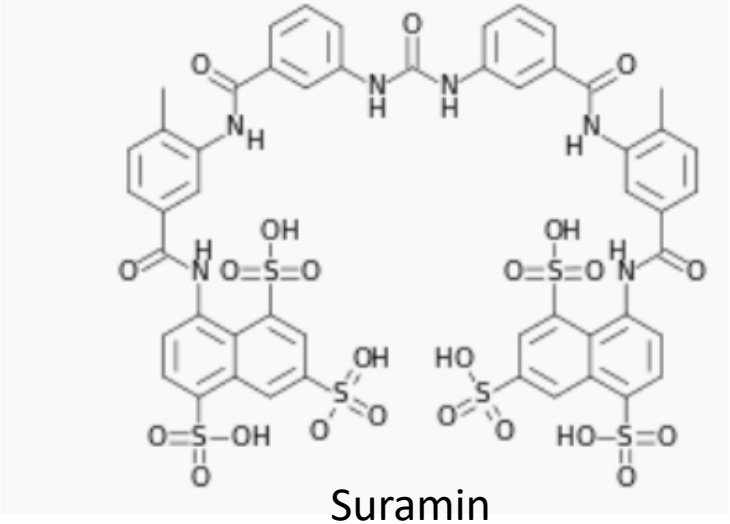
- Nitrogenous bases of DNA
- Deoxyadenosine
- Deoxyguanine



theobromine **6**

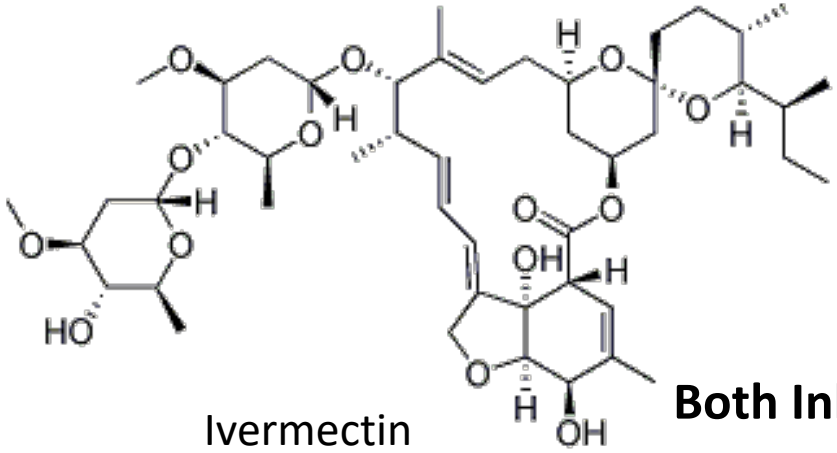
caffeine **7**

Suramin & Ivermectin: Purinergic Modulators important for restoring balance of Innate and adaptive Immunity



Suramin

- Antiparasitic 1920s
- Potent RT inhibitor 1986
- P2Y Purinergic Receptor inhibitor
- Cancer therapy prostate cancer, HTLV-1 cancer Bladder Cancer
- inhibits the binding of growth factors (TGF-beta, EGF, PDGF to their receptors and thus antagonize the ability of these factors to stimulate growth of tumor cells

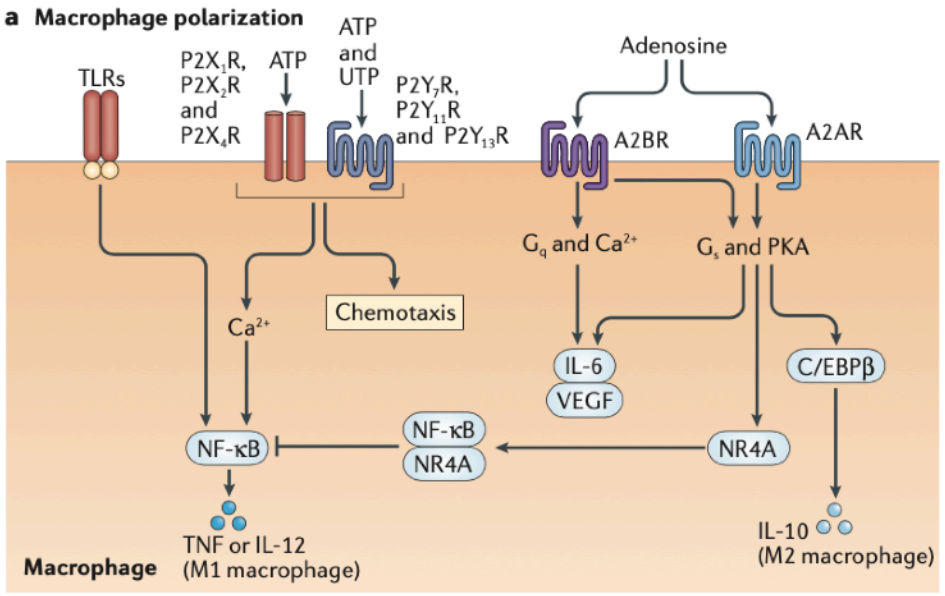


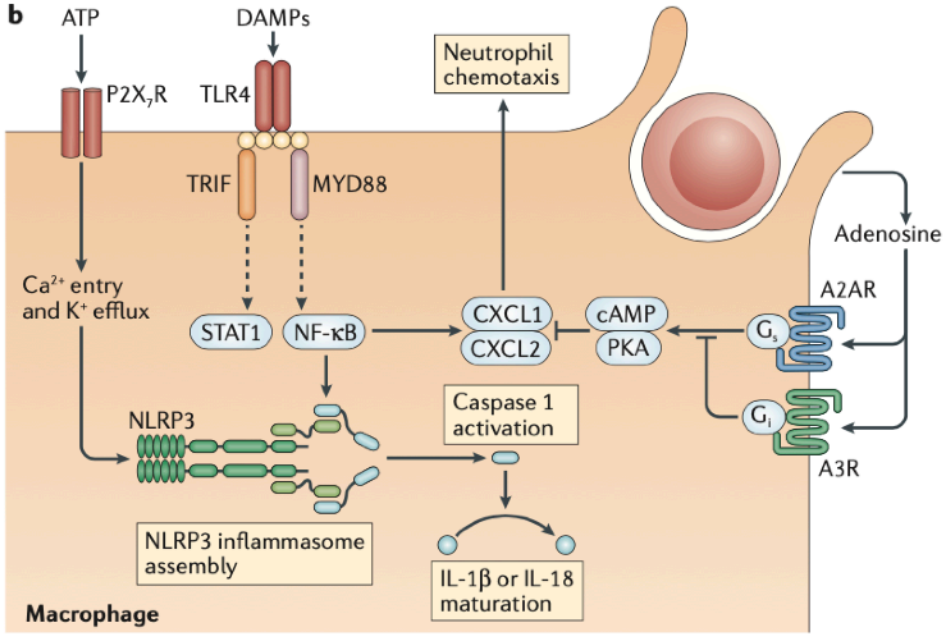
Ivermectin

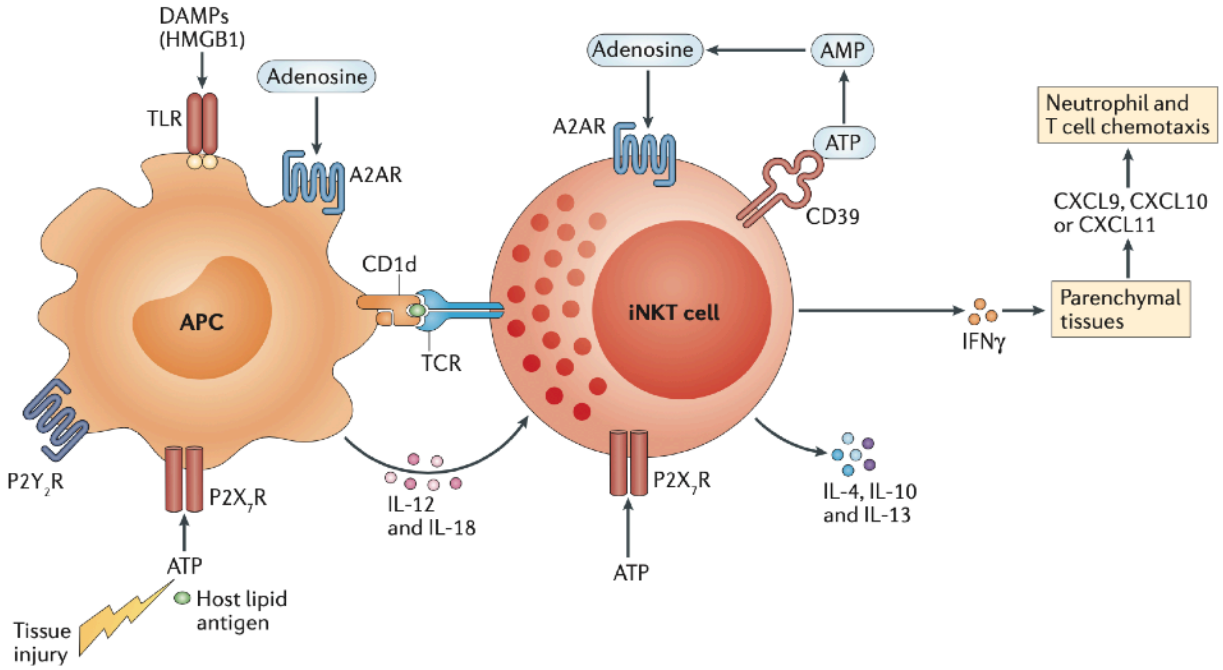
- modulator of the ATP/P2X4/P2X7 axis
- selectively targets immunosuppressive myeloid cells and Tregs
- functions as an RNA helicase
- an activator of chloride channel receptors
- inducer of mitochondrial dysfunction and oxidative stress

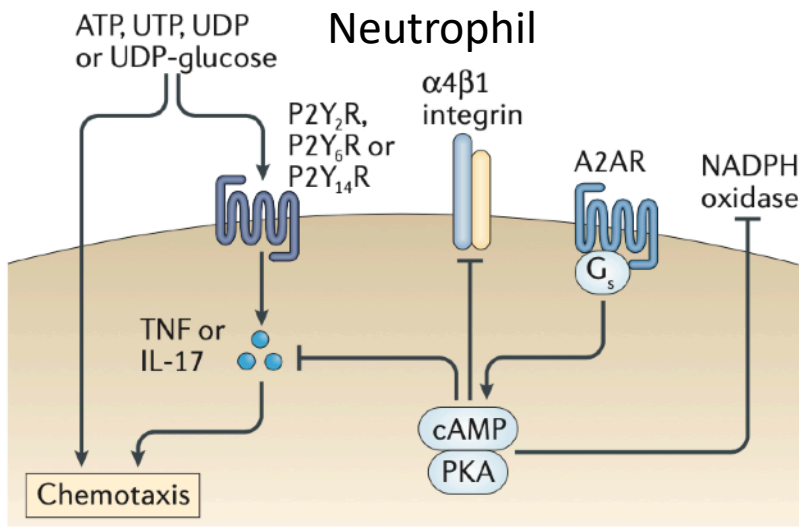
Both Inhibit Plasmodium parasite of the blood plasma.
a parasite that affects the oxygen carrying capacity of the red blood cells

Purinergic Signaling in Monocyte/ Macrophages, Natural Killer Cells, Neutrophils









AMERICAN SOCIETY FOR MICROBIOLOGY | Antimicrobial Agents and Chemotherapy®

Citation Wiedemar N, Hauser DA, Mäser P. 2020. 100 years of suramin. Antimicrob Agents Chemother 64:e01168-19. https://doi.org/10.1128/AAC.01168-19.

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Accepted manuscript posted online 16 December 2019
Published 21 February 2020

100 Years of Suramin

Natalie Wiedemar,[a,b] Dennis A. Hauser,[a,b] Pascal Mäser[a,b]

SURAMIN, THE FRUIT OF EARLY MEDICINAL CHEMISTRY

SURAMIN AS AN ANTIPARASITIC DRUG

SURAMIN AS AN ANTIVIRAL AGENT

SURAMIN AGAINST CANCER

SURAMIN AS AN ANTIDOTE

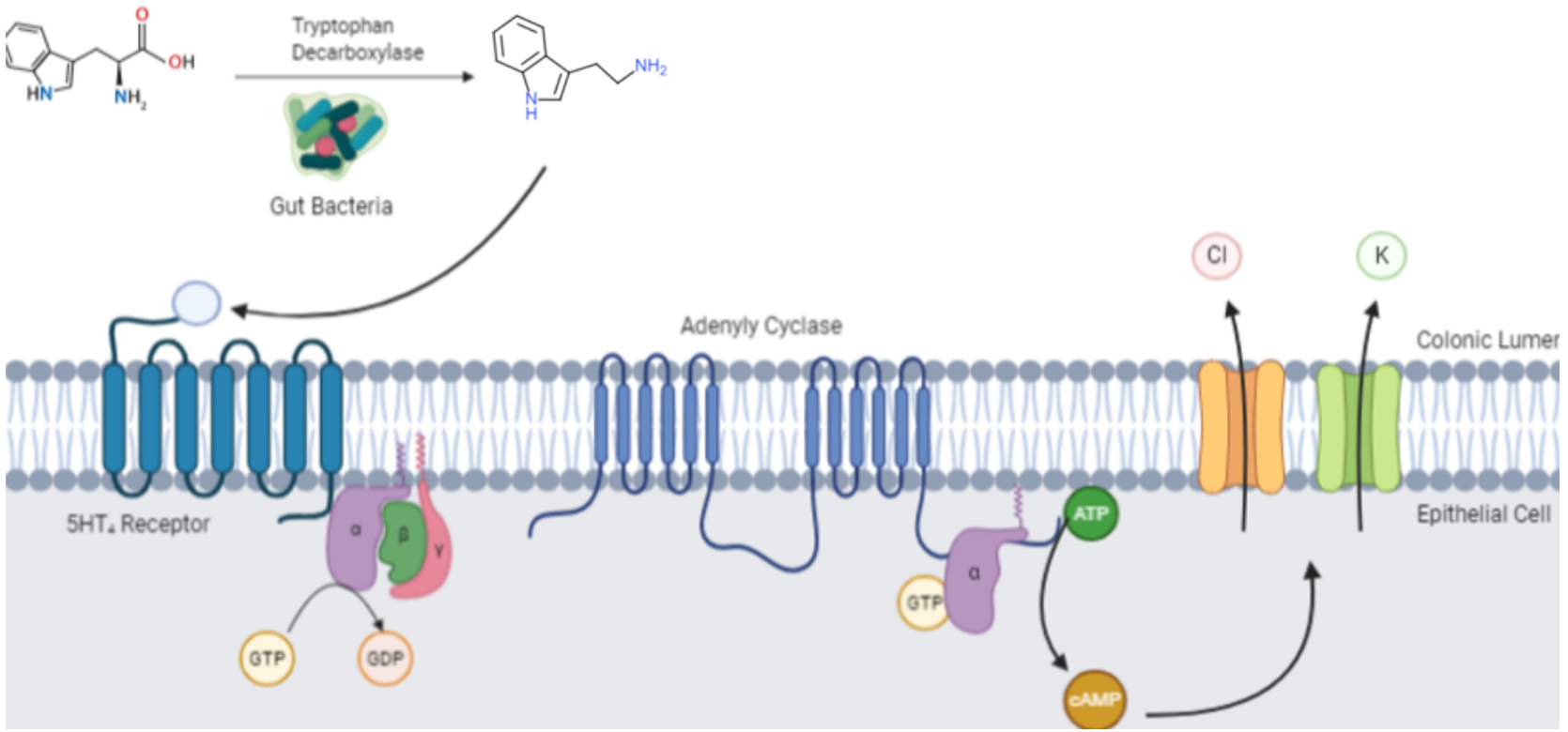
Three of the many biological activities of suramin support its potential use as a protective agent: the inhibition of thrombin, the inhibition of phospholipase A2, and the inhibition of purinergic signaling

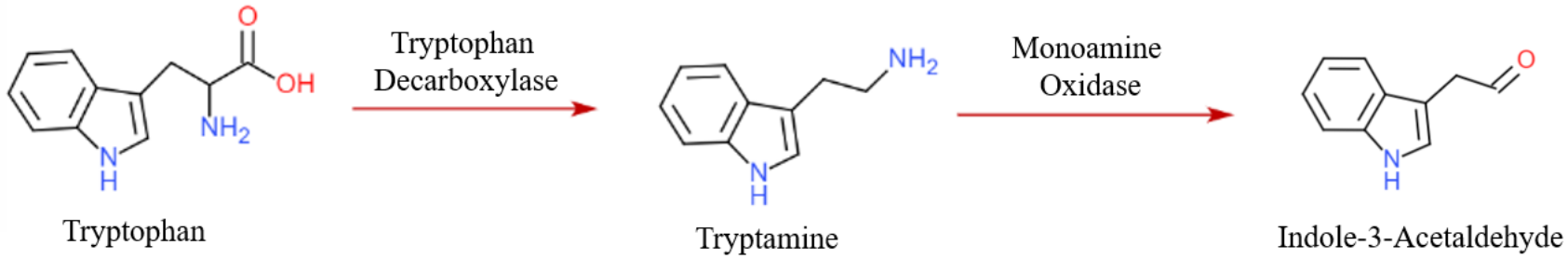
FURTHER POTENTIAL USES OF SURAMIN

TABLE 1 Diseases and pathogens susceptible to suramin

Disease and/or pathogen	Activity in[a]: Cell culture	Animal model	Patient
Parasitic infections			
T. b. rhodesiense HAT	X	X	X
T. brucei gambiense HAT	X	X	X
Surra, *T. evansi*	X	X	NA
River blindness, *O. volvulus*	X	X	X
T. cruzi	X		
Leishmania spp.	X		
P. falciparum	X		
Viral infections			
Hepatitis virus	X	X	X
AIDS, HIV	X		X
Herpes simplex virus	X	X	
Chikungunya virus	X	X	
Enterovirus 71	X	X	
Dengue virus	X		
Zika virus	X		
Ebola virus	X		
Neoplastic diseases			
Non-small cell lung cancer	X	X	
Breast cancer	X	X	
Bladder cancer	X	X	
Brain tumors	X	X	
Prostate cancer	X	X	X
Other			
Snakebite	X	X	
Arthritis	X	X	
Autism	NA	X	X

GOD GIVEN/Endogenous Microbiome Metabolizes Food





Cell Host & Microbe
Short Article

Gut Dysbiosis Promotes M2 Macrophage Polarization and Allergic Airway Inflammation via Fungi-Induced PGE_2

Yun-Gi Kim,[1,2,5] Kankanam Gamage Sanath Udayanga,[1,2] Naoya Totsuka,[1,2] Jason B. Weinberg,[4] Gabriel Núñez,[5] and Akira Shibuya[1,2,3,*]
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[2]Japan Science and Technology Agency, Core Research for Evolutional Science and Technology (CREST)
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University of Tsukuba, Tsukuba, Ibaraki 305-8575, Japan
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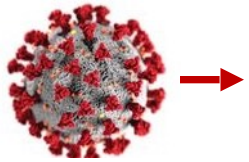
http://dx.doi.org/10.1016/j.chom.2013.12.010

Celebrex

Only certain antibiotics promote fungal overgrowth in the gut, suggesting
Specific commensal bacteria have the ability to prevent colonization of Candida

Kinetics and Intensity of Anti-viral Response with Holistic Intervention

Prophylaxis
Vitamin C
Vitamin D
CBAs
Melatonin
Curcumin



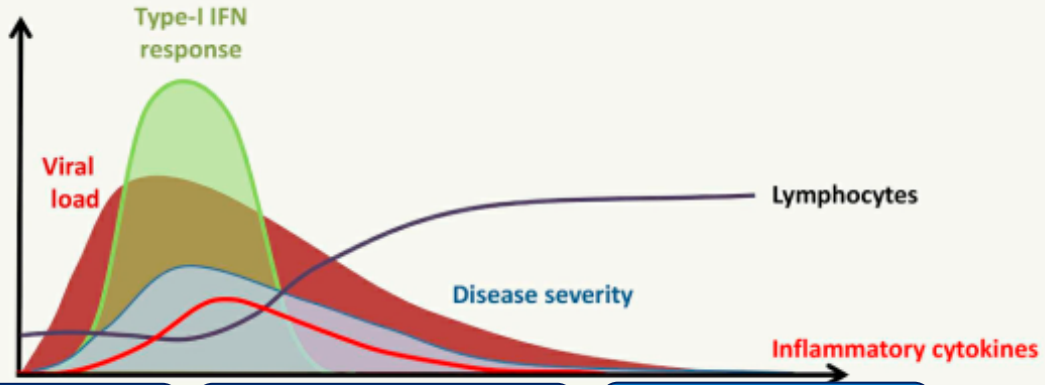
Prophylaxis
Vitamin C
Vitamin D
Curcumin
CBAs
melatonin
CBDs
Zinc

At risk

Genetic susceptibility

Staged Interventions

Mild / moderate disease



Symptoms

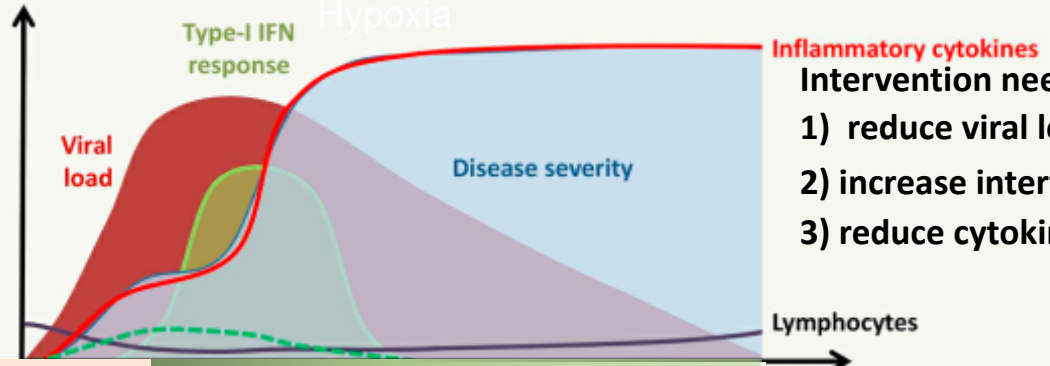
Fever, Cough, Headaches

Shortness of Breath

ARDS/ SIRS Cardiac Failure

Start w/ Multiple Interventions

Severe disease



Intervention needs to:

1) reduce viral load
2) increase interferon-α respons
3) reduce cytokine storm

Holistic Interventions

Xicam/zinc
Paximune
ProImmune
Pycnogenol

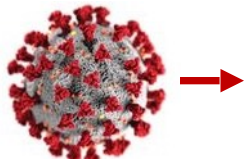
Vitamin C
CBAs (resveratral)
melatonin
Griffithsin
CBDs

Vitamin D
Thunder God Vine Extract

Supportive Care

Kinetics and Intensity of Anti-viral Response with Pharmaceutical Intervention

Prophylaxis
Vitamin C
Vitamin D
CBAs
Melatonin
Curcumin



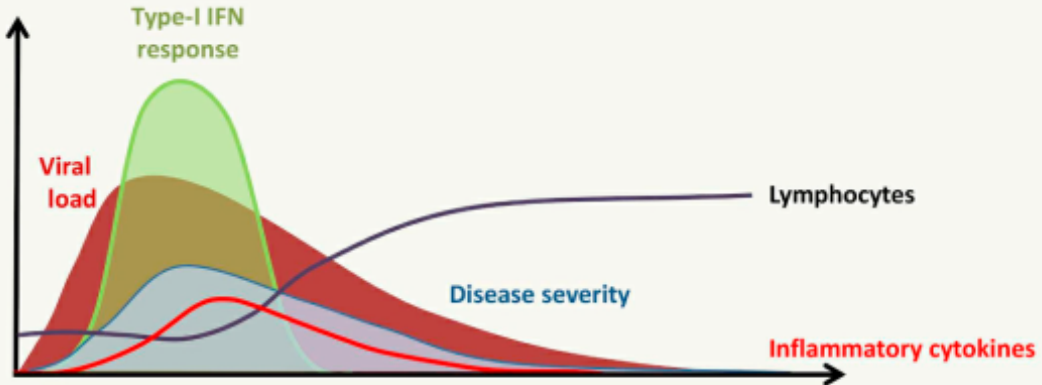
Prophylaxis
Vitamin C
Vitamin D
Curcumin
CBAs
melatonin
CBDs
Zinc

At risk

Genetic susceptibility

Staged Interventions

Mild / moderate disease



Symptoms

Fever, Cough, Headaches

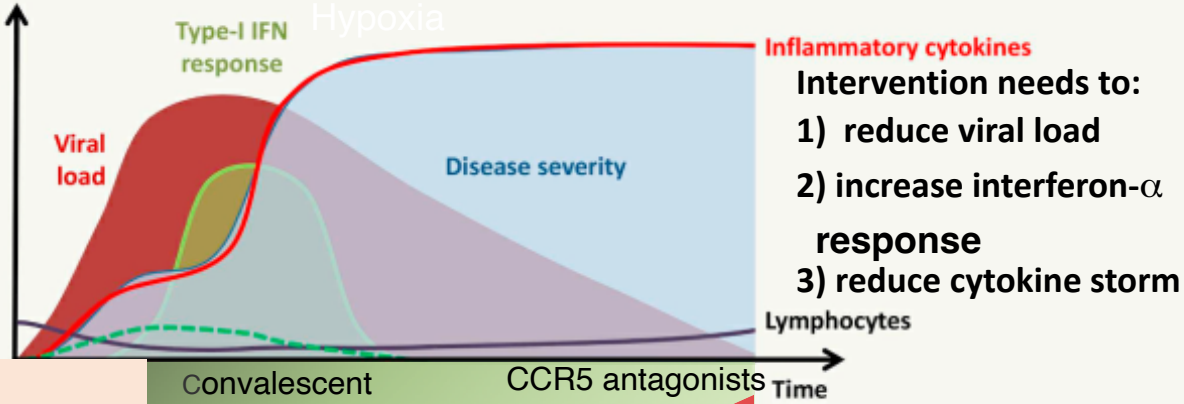
Shortness of Breath

ARDS/ SIRS Cardiac Failure

Hypoxia

Start w/ Multiple Interventions

Severe disease



Intervention needs to:

1) reduce viral load
2) increase interferon-α response
3) reduce cytokine storm

Interventions

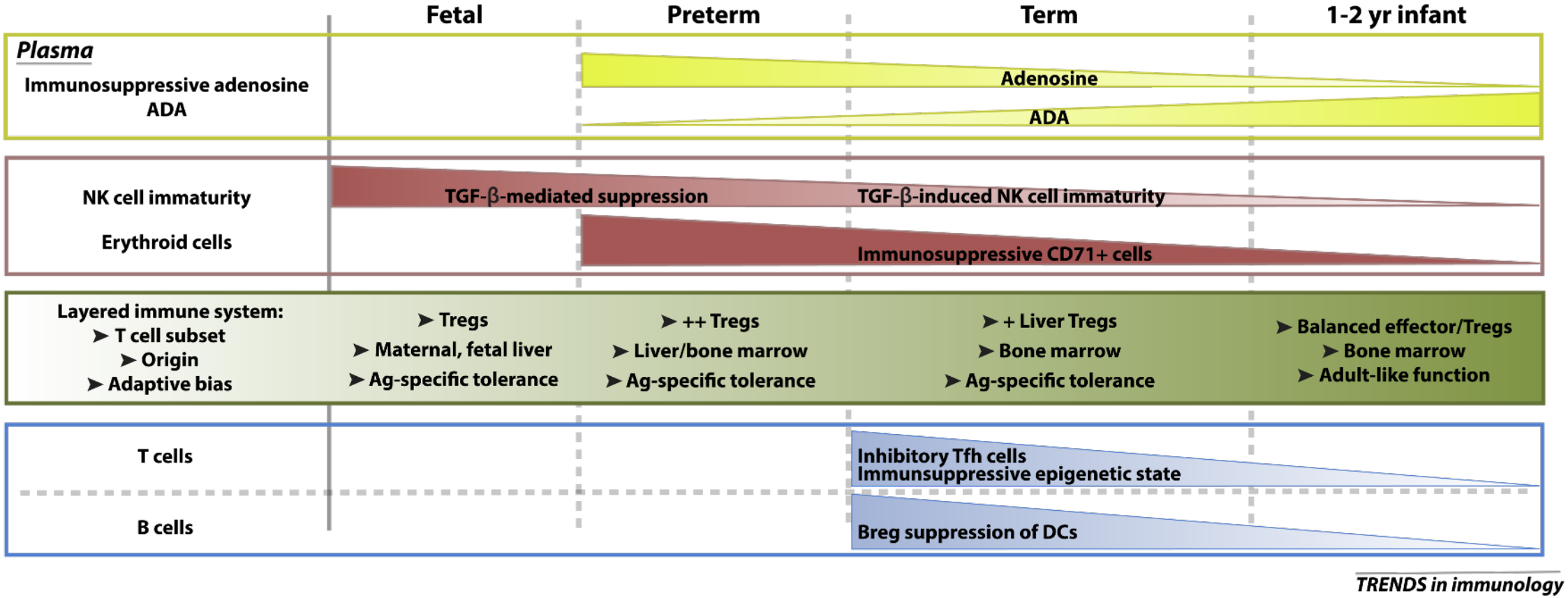
Xicam/zinc
Paximune or IFN-α, neutralizing Abs,
Ivermectin

Convalescent Plasma
Anakinra
JAK inhibitors
BTK inhibitor
Dexamethasone
Proimmune
CBDs

CCR5 antagonists
rGelsolin
Anti-IL6

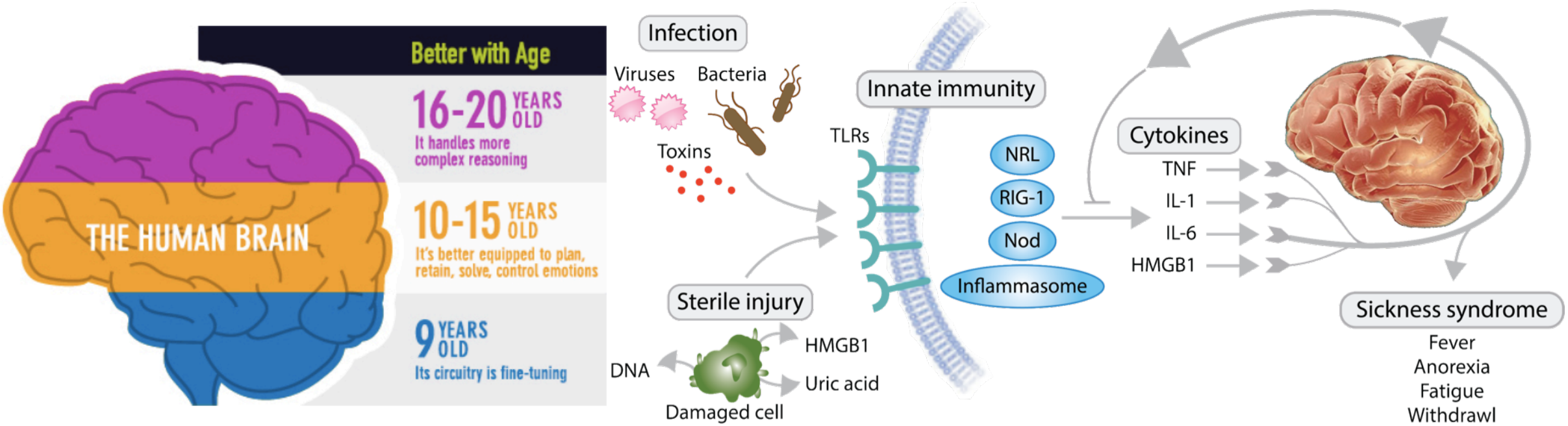
Supportive Care

Immunity is not static: it changes with age; many unique features in early life



The Brain and The Immune System are inextricably linked from Conception

Danger of Inoculation During key Developmental Phases

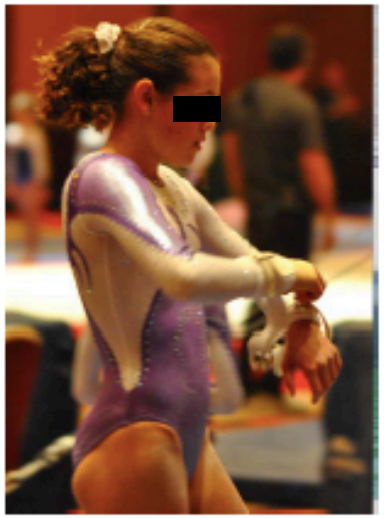


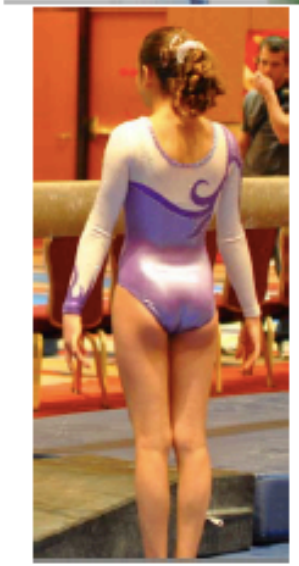
- The Brain cannot tolerate the introduction of antigens without eliciting an inflammatory immune response

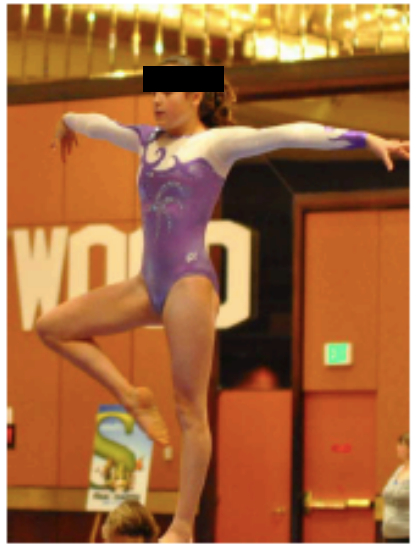
GARDASIL INJURY

Death, Leukemia, Psychosis, Cardiac Arrest, Autoimmune Disease, Alopecia, Sterility in 25% of those vaccinated

Jessica – Before Vaccine







Jessica – After Vaccine

IS IT GARDASIL INJURY OR NON-HIV AEIDS?

Lauren After Gardasil

Is it Gardasil Injury or COVID Hair loss? Is there a difference?

Poisons (ADJUVANTS): Aluminum, LPS (ENDOTOXIN), Xenoestrogens, Arsenic in Vaccines food & water target Innate Immune responses

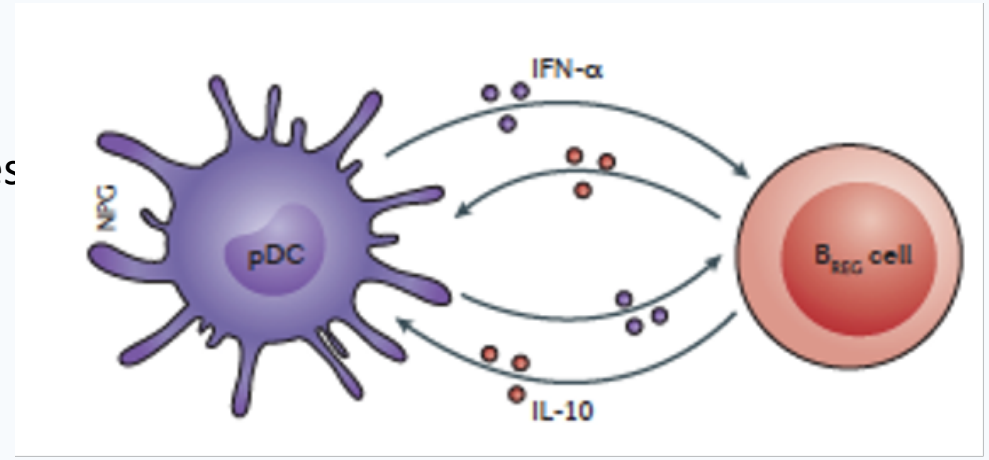
Lupus is an autoimmune inflammatory disease in which the body produces antibodies causing the immune system to affect the skin, joints, blood and kidneys.

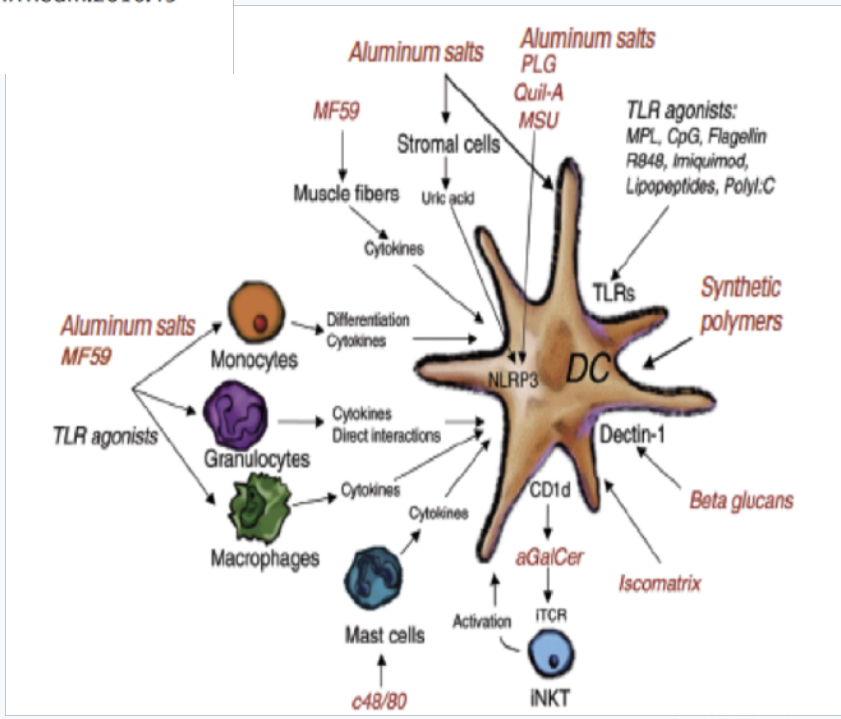
Symptoms include:

- Skin rashes/ Inflammation
- Arthritis/ Joint Pain
- Extreme Fatigue
- Anemia/ Blood Disorders
- Kidney Damage
- Immune Disorder
- Antinuclear Antibodies

Nature Reviews Rheumatology | Published online 24 Mar 2016; doi:10.1038/nrrheum.2016.43

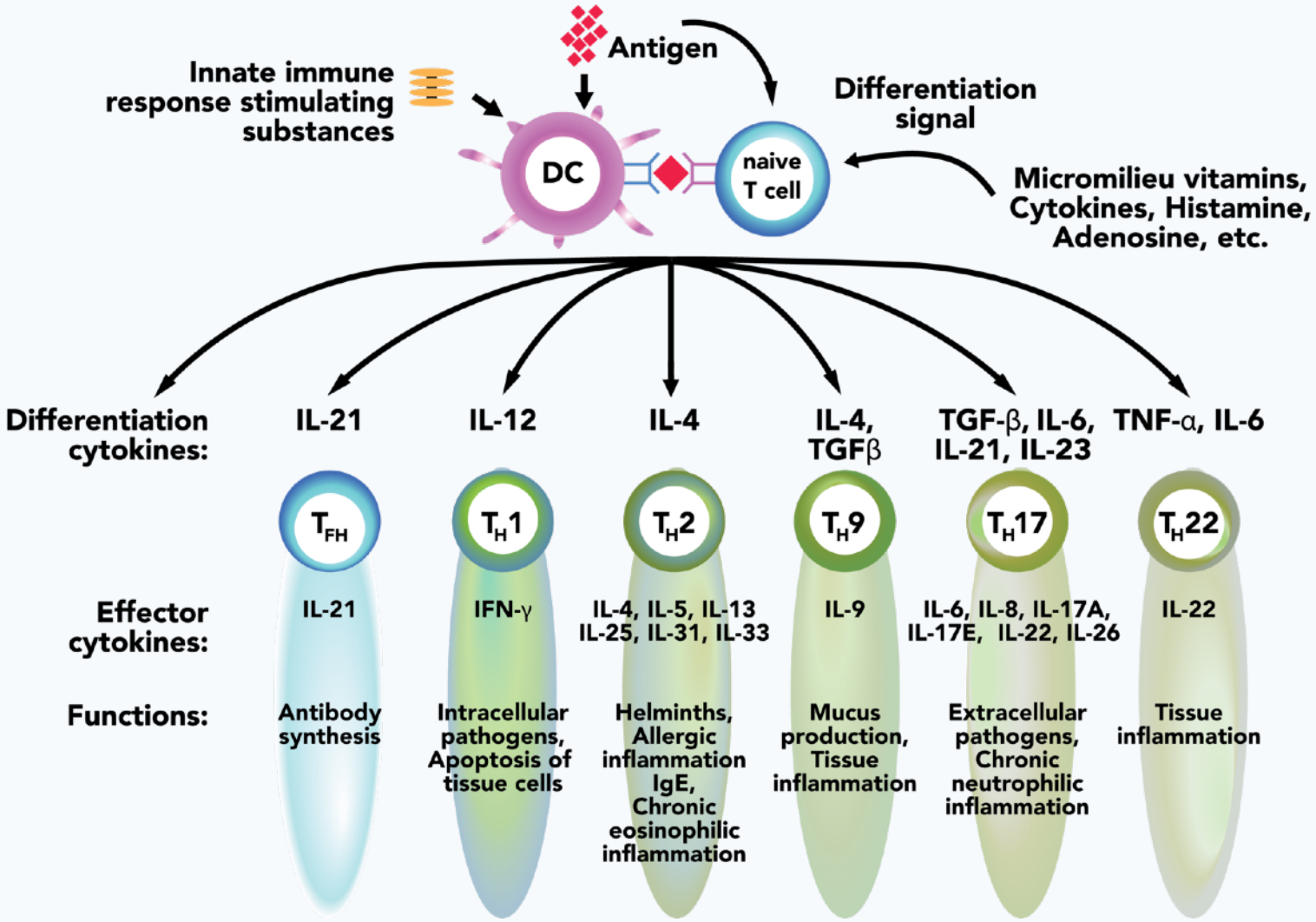
Compromised pDC–B_{REG} cell crosstalk





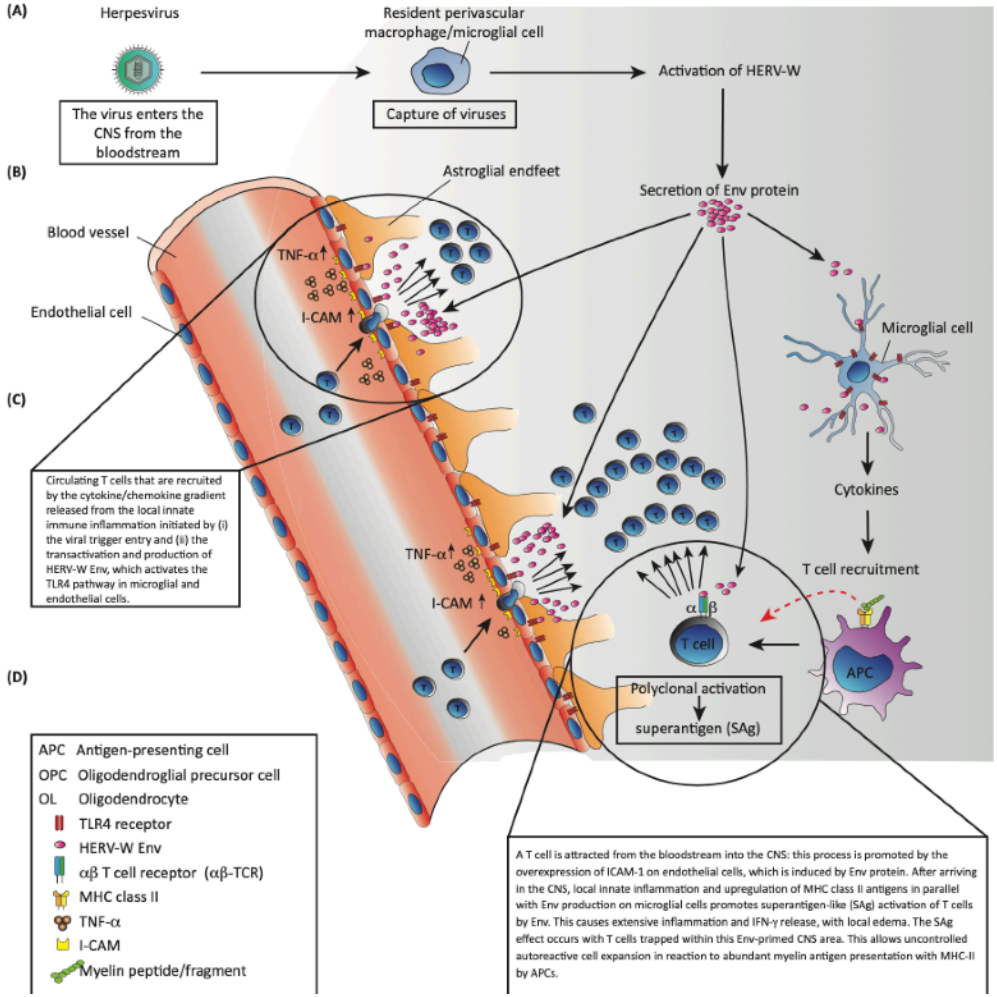
Unintended Consequences of Inappropriate Immune Activation?

Inappropriate Activation of the cellular Immune system is important in the pathogenesis of human Retrovirus Associated Disease



Every Experimental injection Bypasses The Innate Immune System

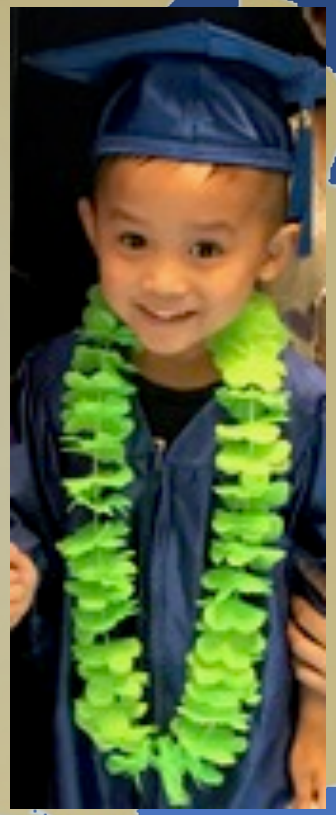
"We also introduce chronic inflammatory demyelinating polyradiculoneuropathy (CIDP)"
Moreover, HERVs have also been associated with other diseases such as schizophrenia and bipolar disorder, type 1 diabetes



Chronic inflammatory demyelinating polyneuropathy (CIDP): a peripheral nervous system disease and the commonest chronic immune-mediated peripheral neuropathy that takes either a relapsing or progressive course. Clinically it manifests by the development of weakness and sensory disturbance that lead to marked disability. Multifocal inflammation and stripping of myelin sheaths by macrophages are thought to result from aberrant immune responses, mediated by T and/or B lymphocytes, against peripheral nerve antigens.

1986theact.com NVICP Justice Denied: HBV vaccine at birth when DNA Methylation resets

We Can Restore Faith in The Promise of Science



XMRVs: of MICE, Monkey & Manufactured Viruses
Human Xenotransplantation - Threats Masquerading as Vaccines.

September 1, 1996

- **Dr. John Coffin*, a leading expert on recombination in viruses, concluded "the infection is a virtually inevitable consequence" of xenotransplantation and "This is a very serious worry because the animals that have been chosen for doing this -- the baboon and the pig -- are both known to carry endogenous viruses, replication competent, but very poorly studied, that are capable of infecting human cells."."**

- **FDA convened lengthy hearings of the National Academy of Sciences' Institute of Medicine and its own Biological Response Modifiers Advisory Committee. Dr. Marion Michaels*, from the University of Pittsburgh, told the committee that despite rigorous screening, "the donor organ, the tissue or the accompanying hematopoietic cells can also be the source of infection. Most often these infections are latent organisms and are often clinically silent in the donor."**

Isn't Injecting babies and the elderly with mouse, monkey and manufactured viruses capable of infecting human cells the same thing??

What can we do?

- LivComplete/Pro Lean Greens – Glutathione production – P450
- DMG – Methylation/Super B complete –ATP - Neurotransmitter
- Lean greens – chelator
- Activin (Circucore)/Quercitin – endothelial repair
- CBD/D – lipophilicity
- Reprograming DNA for Tauopathy repair
    - Natural Kinase inhibitors: Quercetin, Resveratrol, Berberine, CBD, Omegas, SPM
- Omegas – Cellular integrity
- Gut Health – GI complete, IgG, Probiotics
- Gut Integrity – KBMO Testing