# Inflammatory Mechanisms

Functional perspectives on drivers and support.

A BIOGENETIX CLINICAL PRESENTATION

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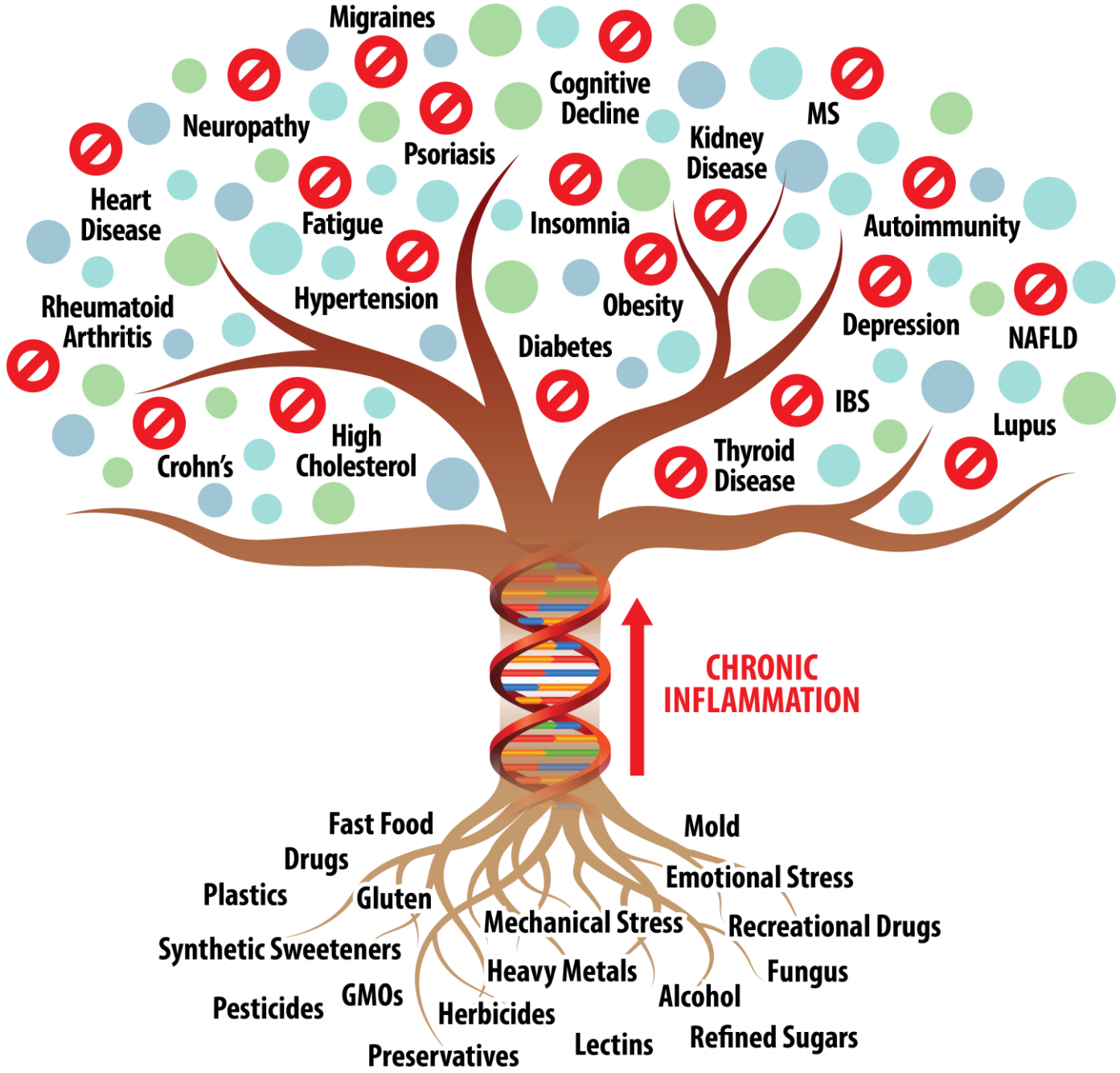
Migraines
Neuropathy
Psoriasis
Cognitive Decline
MS
Kidney Disease
Heart Disease
Fatigue
Insomnia
Autoimmunity
Rheumatoid Arthritis
Hypertension
Obesity
Depression
NAFLD
Diabetes
IBS
Lupus
Crohn's
High Cholesterol
Thyroid Disease
CHRONIC INFLAMMATION
Fast Food
Drugs
Plastics
Gluten
Synthetic Sweeteners
Pesticides
GMOs
Herbicides
Preservatives
Lectins
Refined Sugars
Heavy Metals
Mechanical Stress
Alcohol
Mold
Emotional Stress
Recreational Drugs
Fungus

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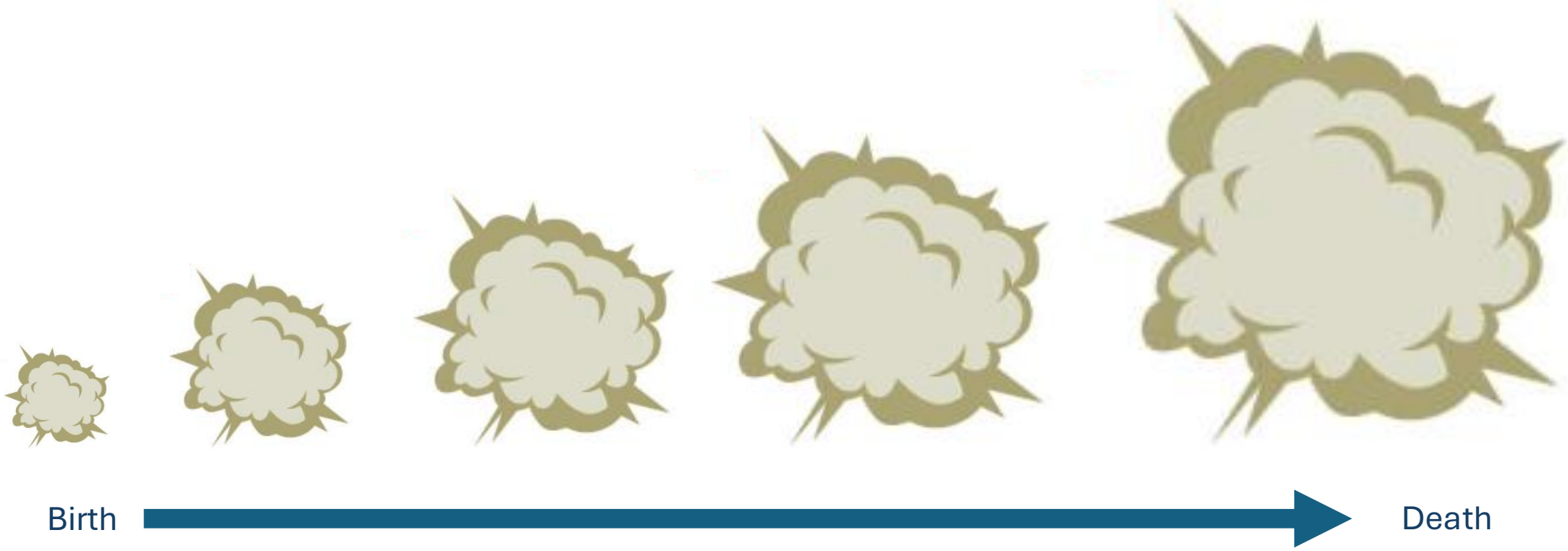
# The Toxic Cloud

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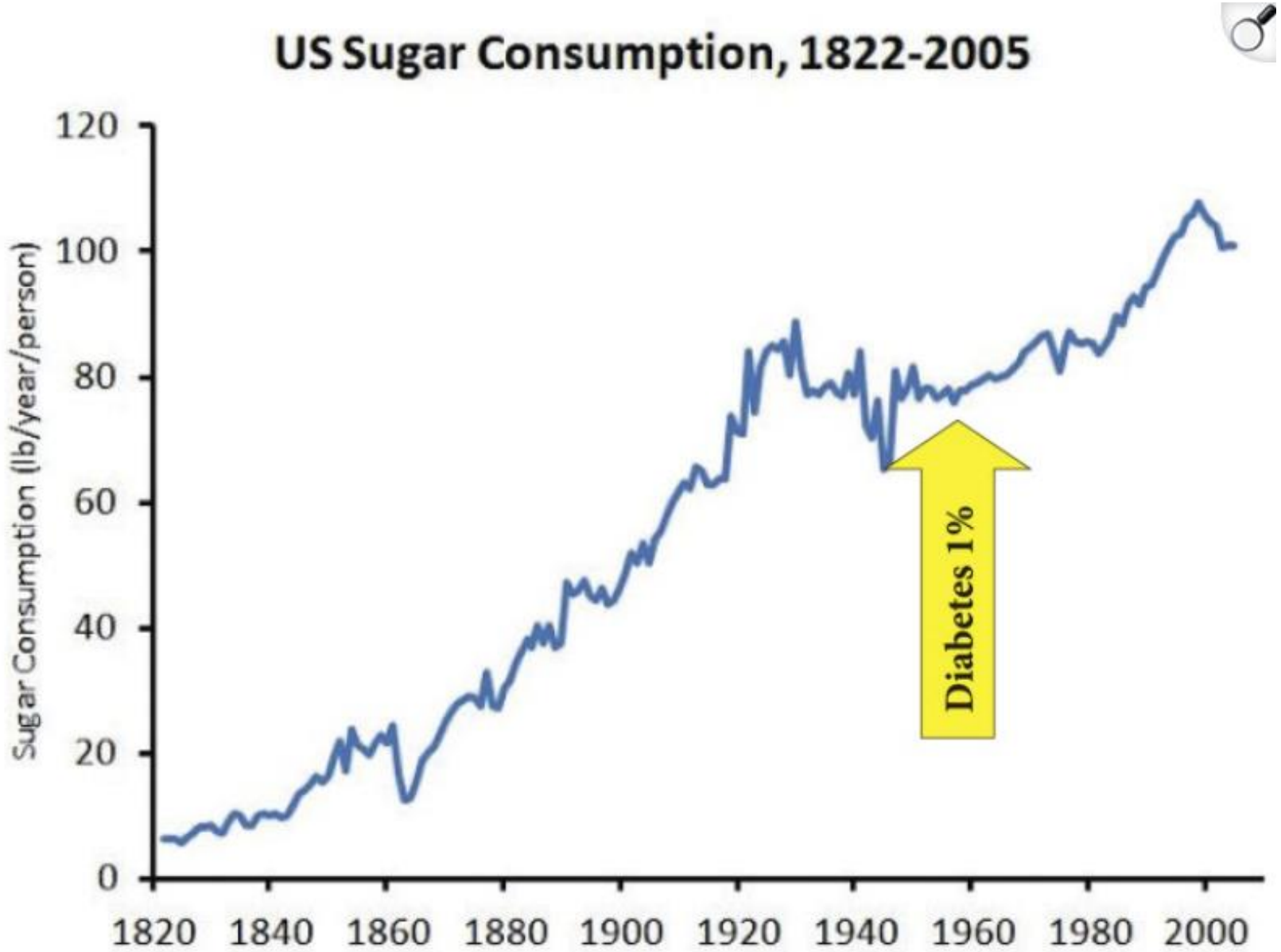


https://pmc.ncbi.nlm.nih.gov/articles/PMC4991654/

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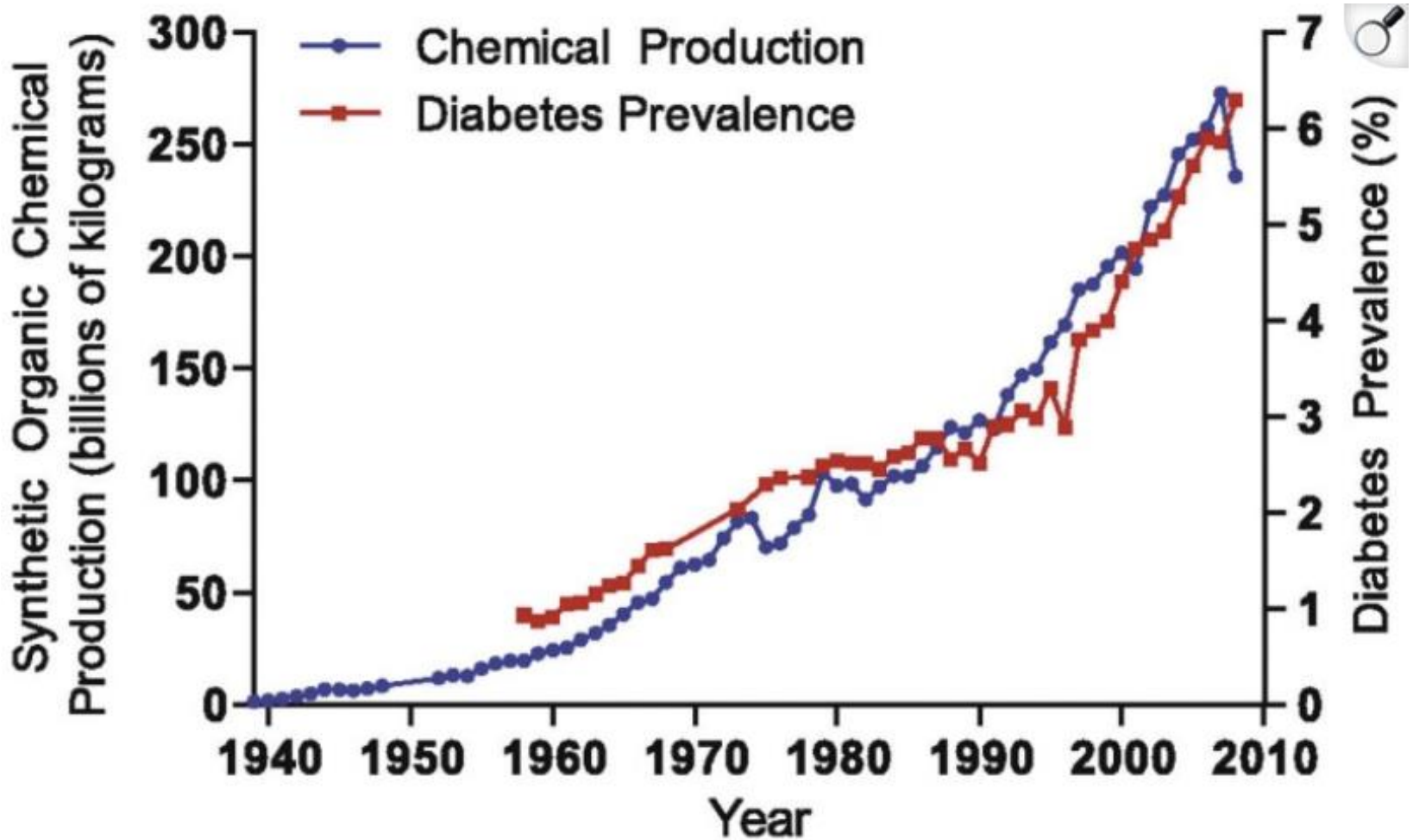


https://pmc.ncbi.nlm.nih.gov/articles/PMC4991654/

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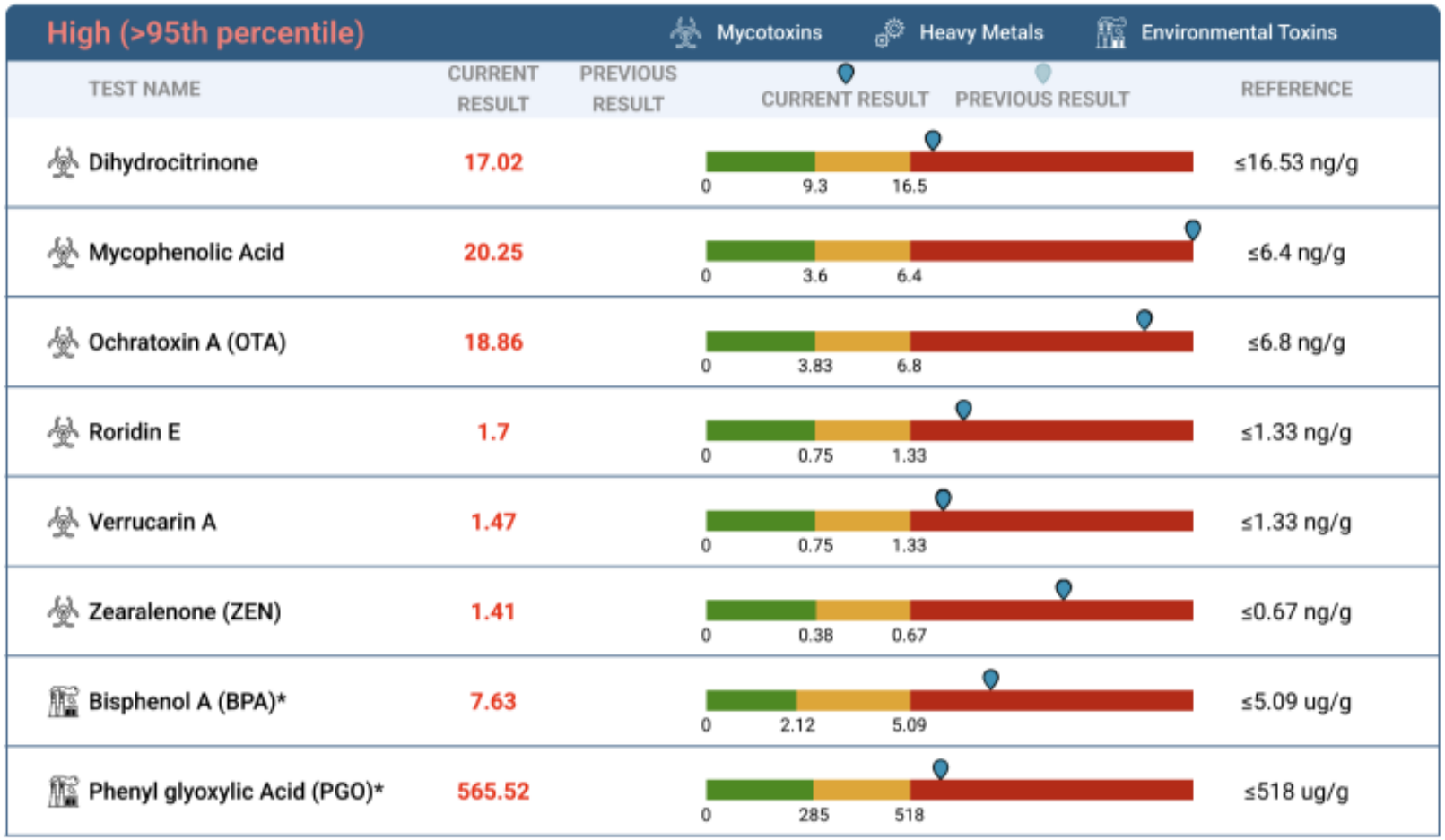
61yo female

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61yo female

**Moderate (75th-95th percentile)** — Mycotoxins | Heavy Metals | Environmental Toxins

| TEST NAME | CURRENT RESULT | PREVIOUS RESULT | CURRENT RESULT / PREVIOUS RESULT | REFERENCE |
|---|---|---|---|---|
| Sterigmatocystin (STC) | 0.31 | | 0 — 0.3 — 0.53 | ≤0.53 ng/g |
| Cesium* | 9.93 | | 0 — 6.37 — 10.3 | ≤10.3 ug/g |
| Mercury* | 1.31 | | 0 — 0.57 — 1.61 | ≤1.61 ug/g |
| Thallium* | 0.26 | | 0 — 0.24 — 0.43 | ≤0.43 ug/g |
| 2-Methylhippuric Acid (2MHA)* | 100.12 | | 0 — 77.9 — 248 | ≤248 ug/g |
| 3-Methylhippuric Acid (3MHA) | 83.49 | | 0 — 64.8 — 612 | ≤612.83 ug/g |
| 4-Methylhippuric Acid (4MHA) | 84.43 | | 0 — 65.5 — 752 | ≤752.72 ug/g |
| Diethyl phosphate (DEP)* | 5.88 | | 0 — 3.2 — 15.7 | ≤15.7 ug/g |
| Dimethyldithiophosphate (DMDTP)* | 1.5 | | 0 — 0.67 — 6.12 | ≤6.12 ug/g |
| Glyphosate | 1.71 | | 0 — 1.65 — 7.6 | ≤7.6 ug/g |
| Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)* | 17.48 | | 0 — 8.99 — 23.4 | ≤23.4 ug/g |
| N-Acetyl (2-Cyanoethyl) Cysteine (NACE)* | 29.66 | | 0 — 5.28 — 256 | ≤256 ug/g |
| N-Acetyl (2,Hydroxypropyl) Cysteine (NAHP)* | 146.04 | | 0 — 101 — 403 | ≤403 ug/g |

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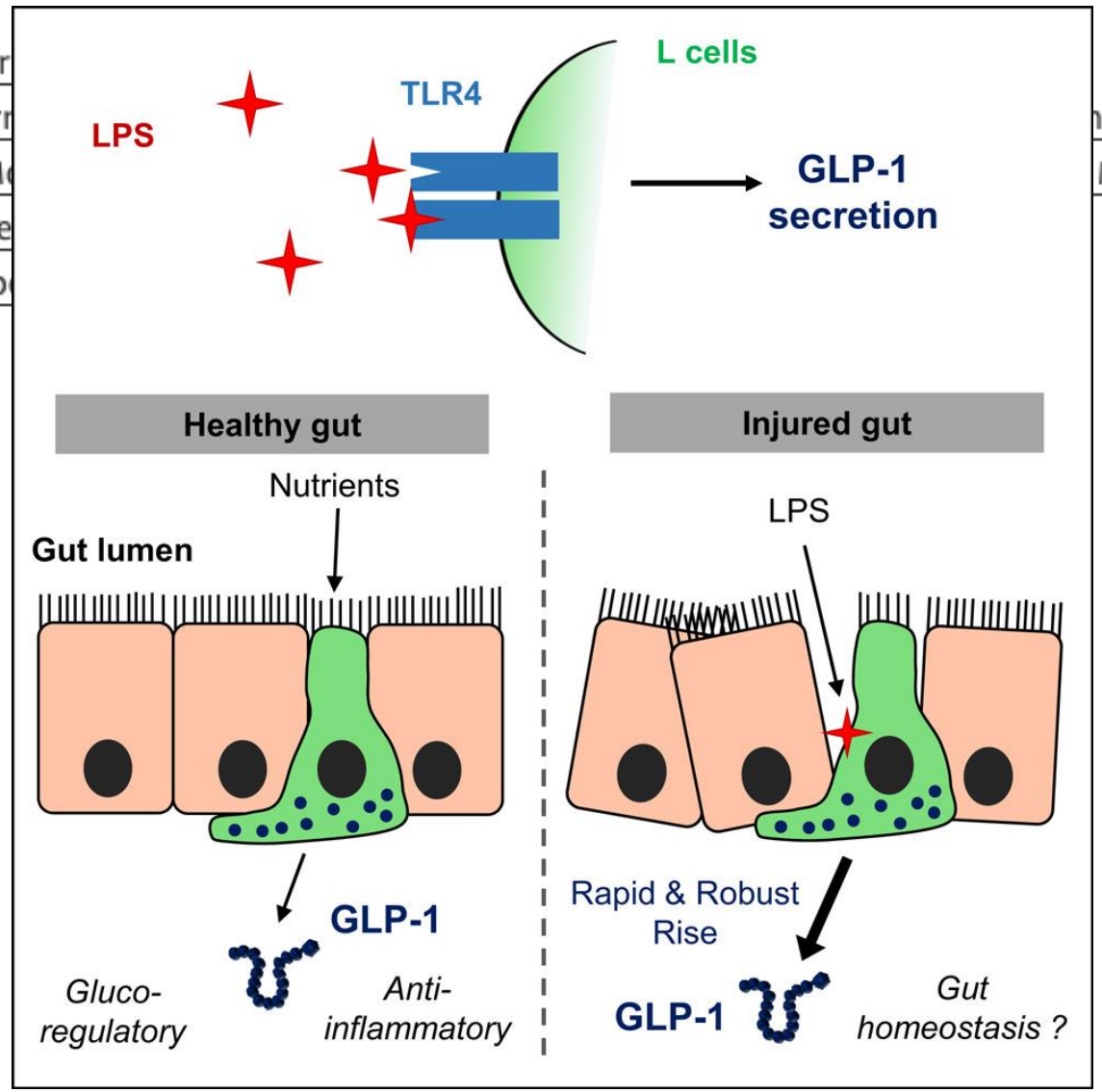
Report

# Enteroendocrine L Cells Sense LPS after Gut Barrier Injury to Enhance GLP-1 Secretion

Lorène J. Lebr
Naig Le Guerr
Dejong [4 6], M
Valérie Decke
Jacques Grob
elis H.C.
Mandard [1 2 3],

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Mediators Inflamm. 2020 Sep 9;2020:1430605. doi: 10.1155/2020/1430605

# Interactions between Gut Microbiota and Immunomodulatory Cells in Rheumatoid Arthritis

Huihui Xu [1], Hongyan Zhao [1], Danping Fan [2,3], Meijie Liu [1], Jinfeng Cao [1], Ya Xia [2,4], Dahong Ju [1], Cheng Xiao [2,3,5,✉], Qingdong Guan [6,7,8,✉]

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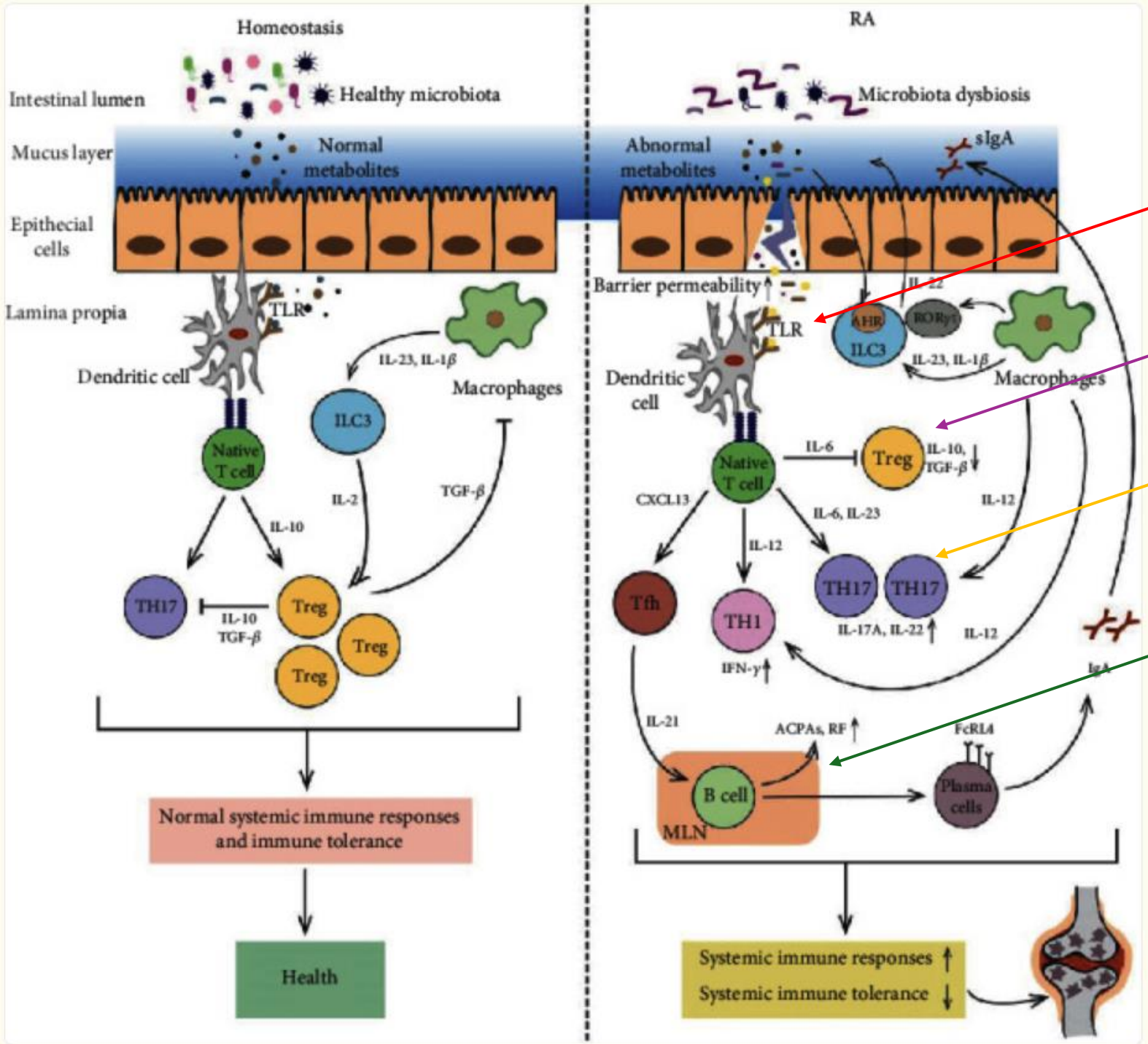
PMCID: PMC7499318 PMID: 32963490

Rheumatoid arthritis (RA) is one of the most common autoimmune diseases caused by abnormal immune activation and immune tolerance. Immunomodulatory cells (ICs) play a critical role in the maintenance and homeostasis of normal immune function and in the pathogenesis of RA. The human gastrointestinal tract is inhabited by trillions of commensal microbiota on the mucosal surface that play a fundamental role in the induction, maintenance, and function of the host immune system. Gut microbiota dysbiosis can impact both the local and systemic immune systems and further contribute to various diseases, such as RA. The neighbouring intestinal ICs located in distinct intestinal mucosa may be the most likely intermediary by which the gut microbiota can affect the occurrence and development of RA. However, the reciprocal interaction between the components of the gut microbiota and their microbial metabolites with distinct ICs and how this interaction may impact the development of RA are not well studied. Therefore, a better understanding of the gut microbiota, ICs, and their interactions might improve our knowledge of the mechanisms by which the gut microbiota contribute to RA and facilitate the further development of novel


Homeostasis
Intestinal lumen
Healthy microbiota
Mucus layer
Normal metabolites
Epithecial cells
Lamina propia
TLR
Dendritic cell
IL-23, IL-1β
Macrophages
ILC3
Native T cell
IL-2
TGF-β
IL-10
TH17
IL-10 TGF-β
Treg
Treg
Treg
Normal systemic immune responses and immune tolerance
Health
RA
Microbiota dysbiosis
Abnormal metabolites
sIgA
Barrier permeability
IL-22
AHR
RORγt
ILC3
TLR
Dendritic cell
IL-23, IL-1β
Macrophages
Native T cell
IL-6
Treg
IL-10, TGF-β
CXCL13
IL-6, IL-23
IL-12
IL-12
Tfh
TH1
IFN-γ
TH17
TH17
IL-17A, IL-22
IL-12
IgA
IL-21
ACPAs, RF
FcRL4
B cell
Plasma cells
MLN
Systemic immune responses
Systemic immune tolerance

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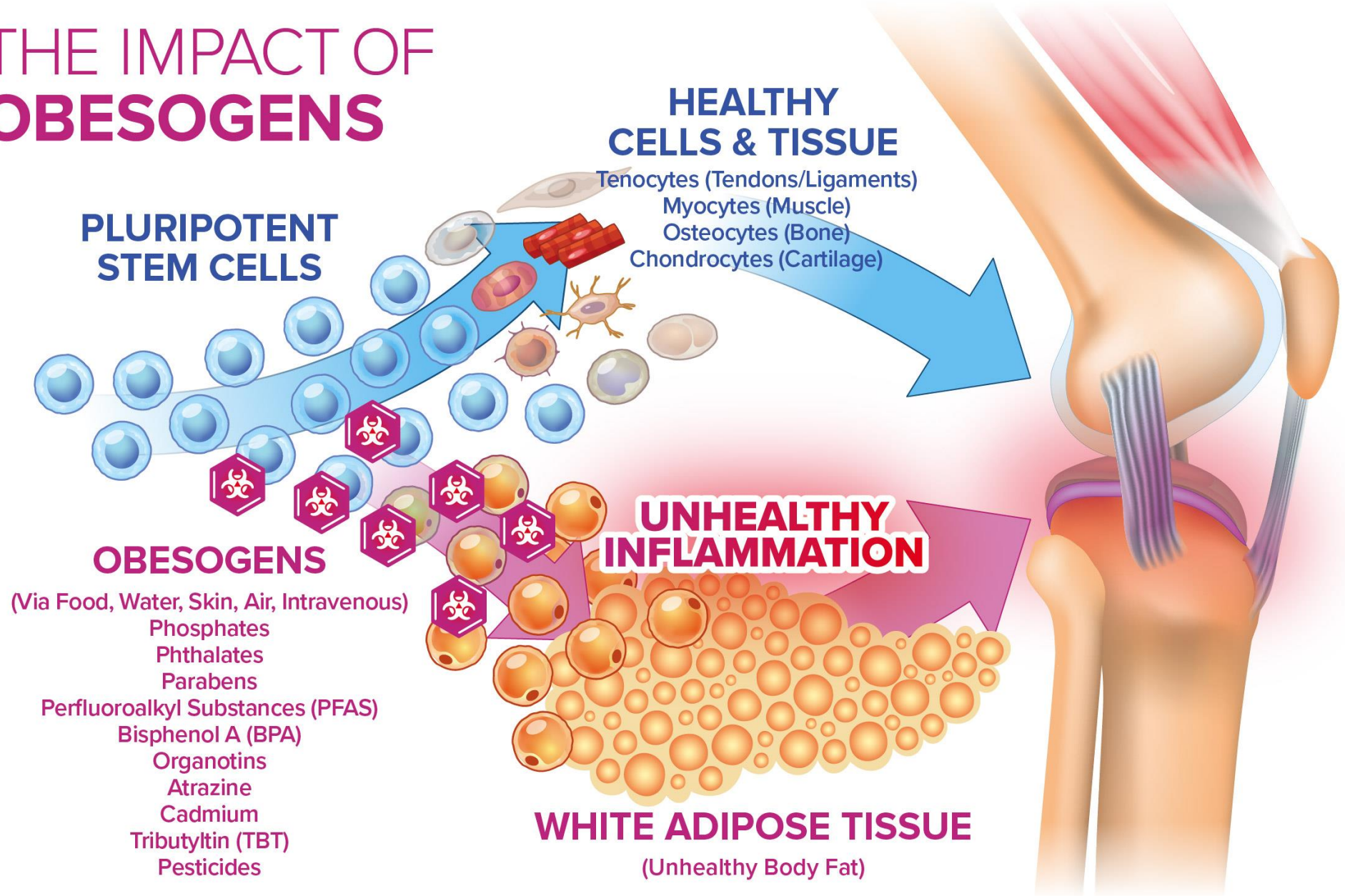
# THE IMPACT OF **OBESOGENS**

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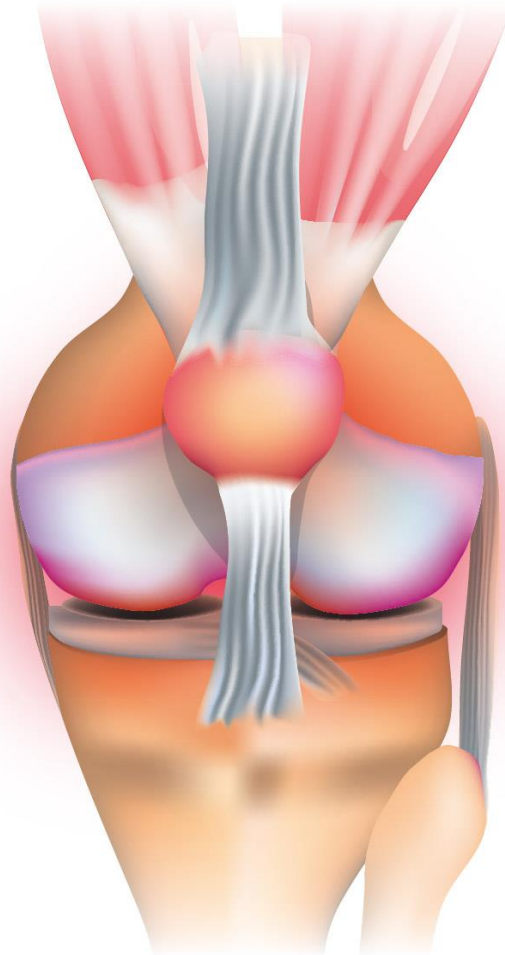
# THE **ADIPOKINE** SPIRAL



**1** Obesogens Drive Stem Cells into Adipocytes

**2** Adiposity Increases

**3** Increased Adipokine Activity

**4** Triggering Increased Unhealthy Inflammation

**5** Ongoing Tissue Damage

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= Glucose Molecule

INSULIN

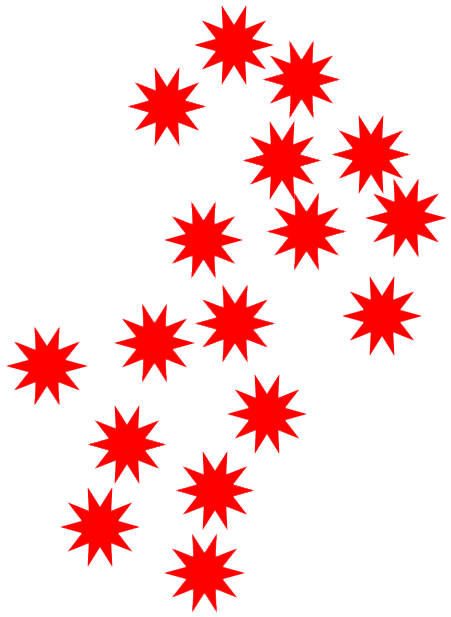
Damaged Mitochondria in
Distressed Old Cell

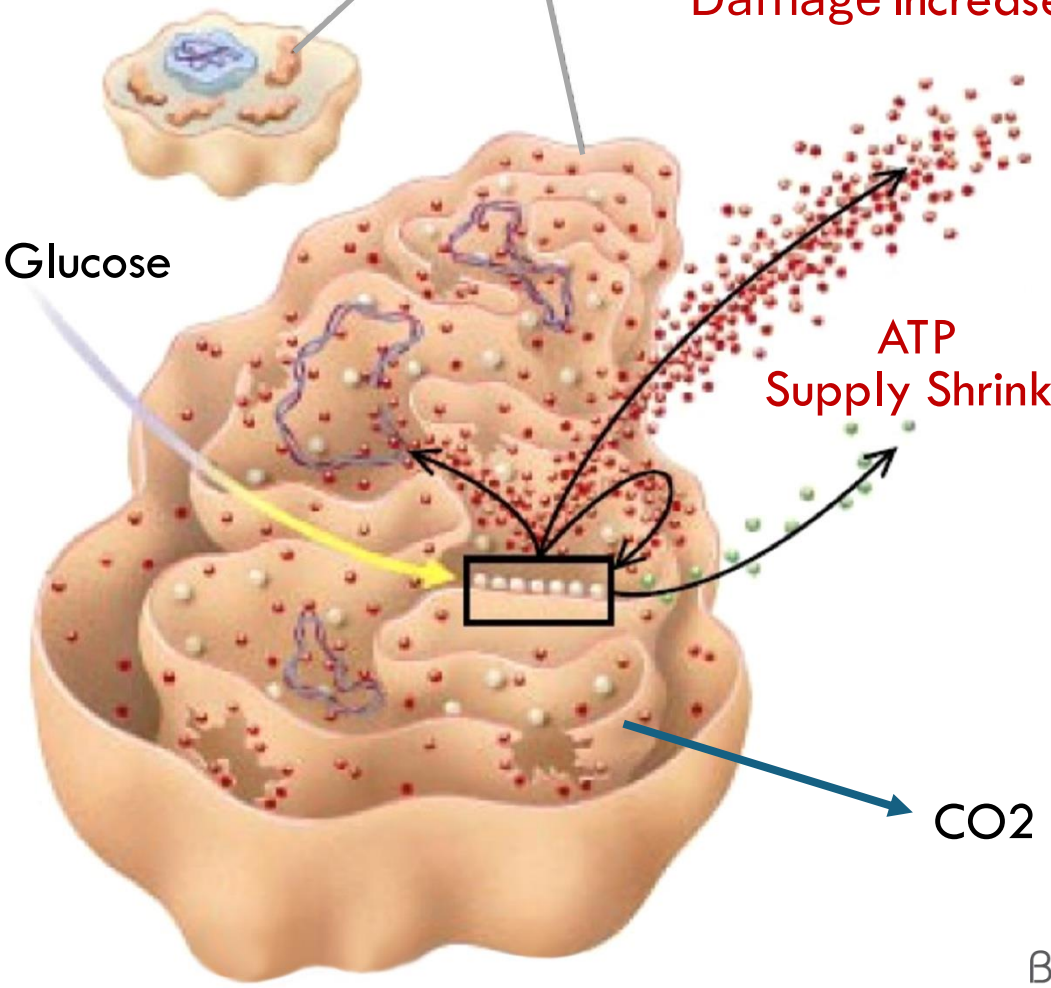
Free-Radical
Damage Increases

O2, Glucose

ATP
Supply Shrinks

CO2





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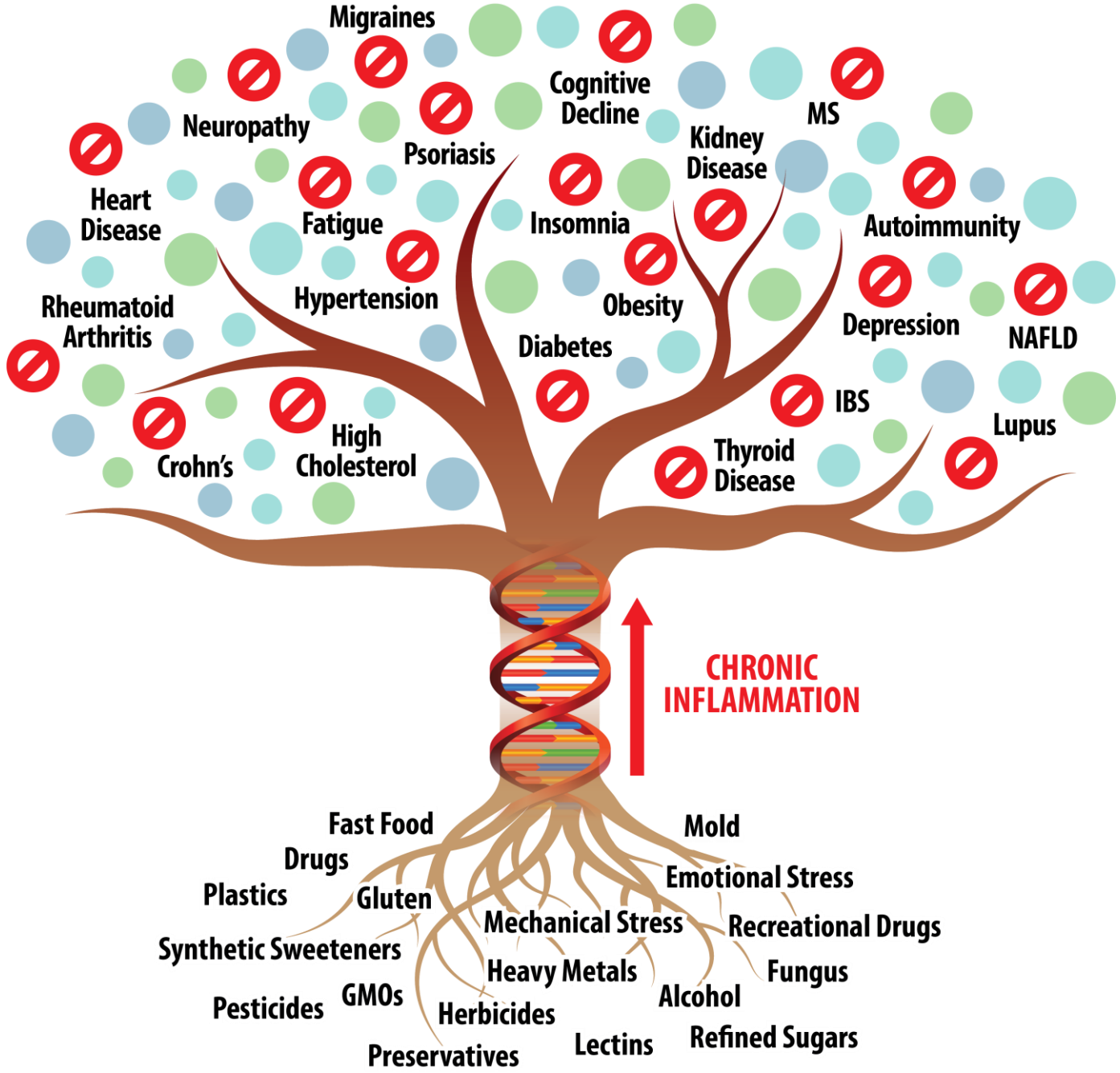
Migraines
Neuropathy
Psoriasis
Cognitive Decline
MS
Kidney Disease
Heart Disease
Fatigue
Insomnia
Autoimmunity
Rheumatoid Arthritis
Hypertension
Obesity
Depression
NAFLD
Diabetes
IBS
Lupus
Crohn's
High Cholesterol
Thyroid Disease
CHRONIC INFLAMMATION
Fast Food
Drugs
Plastics
Gluten
Synthetic Sweeteners
Pesticides
GMOs
Herbicides
Preservatives
Lectins
Refined Sugars
Heavy Metals
Mechanical Stress
Alcohol
Mold
Emotional Stress
Recreational Drugs
Fungus

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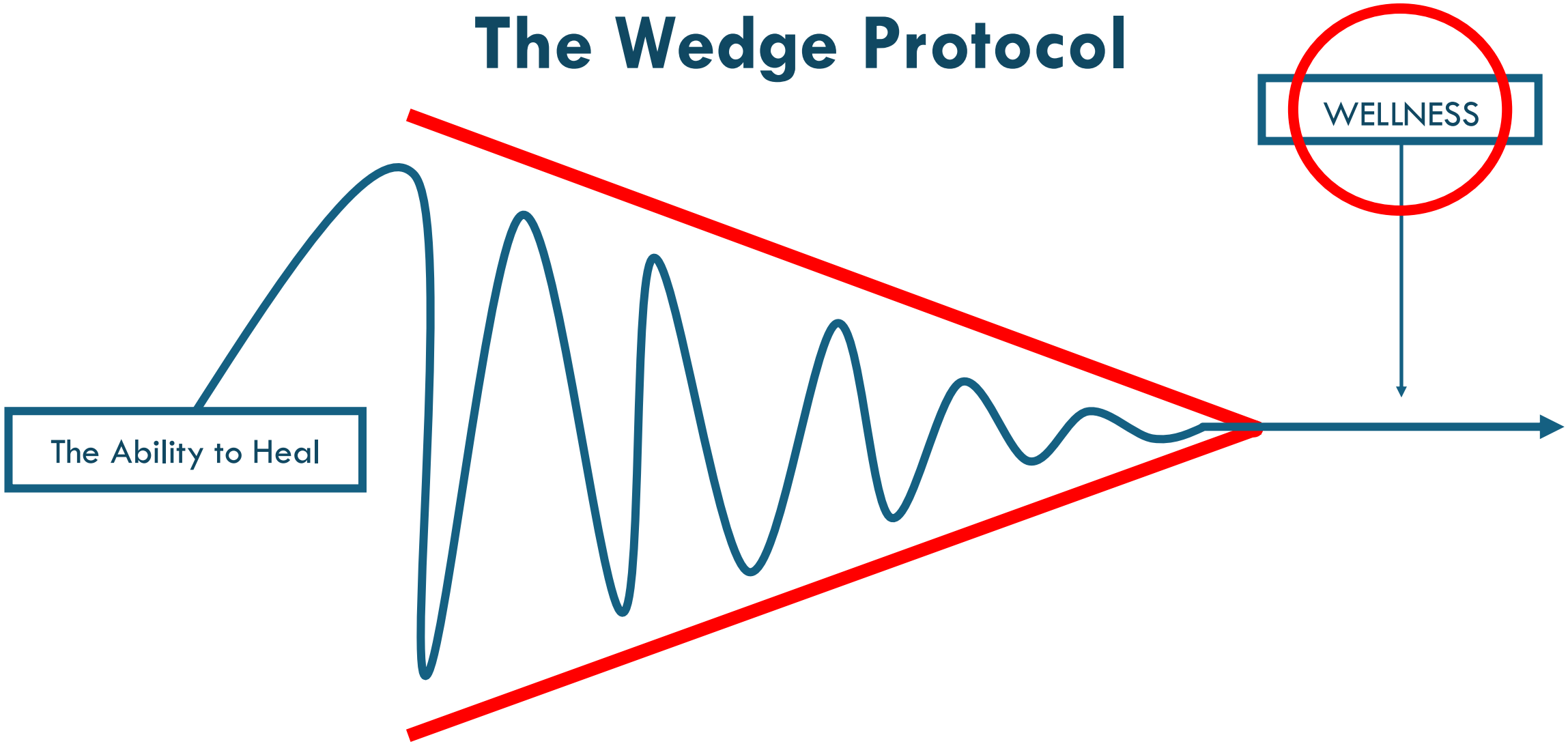
# The Wedge Protocol

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# SUPPLEMENT FACTS

| Serving size: 1 Scoop (about 10 g)<br>Servings per container: 45 | Amount Per Serving | % Daily Value |
|---|---|---|
| Calories | 30 | |
| Total Fat | 1 g | 2%* |
| Saturated Fat | 0 g | 0% |
| Cholesterol | 0 g | 0% |
| Total Carbohydrates | 2 g | 1%* |
| Total Sugars | 0 g | † |
| Includes added sugars | 0 g | 0% |
| Dietary Fiber | 1 g | 4%* |
| Protein | 4 g | 8.5%* |
| Vitamin A (as Beta-Carotene) | 207 mgc REA | 23% |
| Vitamin C (as Calcium Ascorbate) | 176 mg | 2667% |
| Vitamin D3 (Cholecalciferol) | 1 mcg | 5% |
| Vitamin B1 (as Thiamine HCL) | 1.6 mg | 133% |
| Vitamin B2 (as Riboflavin 5'-Phosphate) | 1.6 mg | 123% |
| Vitamin B3 (as Niacinamide) | 3.2 mg | 20% |
| Vitamin B6 (as Pyridoxal 5'-Phosphate) | 3.2 mg | 188% |
| Folate (as L-5-Methyl-THF Calcium) | 68 mcg DFE | 17% |
| Vitamin B12 (as Methylcobalamin) | 64 mcg | 2667% |
| Biotin | 60 mcg | 200% |
| Calcium (as Calcium Citrate) | 162 mg | 12% |
| Phosphorus (as Disodium Phosphate) | 12 mg | 1% |
| Magnesium (as Magnesium Citrate) | 40 mg | 10% |
| Zinc (as Zinc Mnomethionine) | 1.6 mg | 15% |
| Selenium (as Slenium Glycinate) | 8 mcg | 15% |
| Manganese (as Manganese Glycinate Chelate) | 3.2 mg | 139% |
| Chromium (as Chromium Picolinate) | 38 mcg | 109% |
| Molybdenum (as Molybdenum Glycinate Chelate) | 34 mcg | 76% |
| Pea Protein Isolate | 5.4 g | ** |
| Evening Primrose (*Oenothera biennis*) Powder | 365 mg | ** |
| Inulin | 365 mg | ** |
| Glutamine | 200 mg | ** |
| Quercetin Dihydrate | 67 mg | ** |
| Milk Thistle (*Silybum marianum*) [Fruit] Extract (Std to Contain 80% Silymarin) | 32 mg | ** |
| L-Taurine | 32 mg | ** |
| Marshmallow (*Althaea officinalis*) [Root] Extract 4:1 | 24 mg | ** |
| Curcumin (*Curcuma longa*) [Root] Extract (Std to Contain 95% Curcuminoids) | 24 mg | ** |
| Ginger (*Zingiber officinale*) [Root] Extract 10:1 | 8 mg | ** |

* Percent Daily Values are based on a 2000 calorie diet.
** Daily Value Not Established

**Other Ingredients:** Cocoa powder, natural flavors, organic rice hulls, natural flavors, organic stevia leaf extract, monk fruit extract.


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# SUPPLEMENT FACTS

| Serving size: 1 Scoop (about 6.32 g)<br>Servings per container: 28 | Amount Per Serving | % Daily Value |
|---|---|---|
| Zinc (as Zinc Carnosine) | 16.13 mg | 147% |
| L-Glutamine | 2 g | ** |
| Slippery Elm Bark Powder | 1 g | ** |
| Glucosamine HCl | 1 g | ** |
| Aloe Vera Leaf Extract | 300 mg | ** |
| Porcine Gastric Mucin Powder | 200 mg | ** |
| Actazin® *Actinidia deliciosa* Fruit Powder | 200 mg | ** |
| Marshmallow Root Powder | 200 mg | ** |
| GutGard® Licorice Root Extract | 150 mg | ** |
| Quercetin (as Quercetin Dihydrate) | 100 mg | ** |
| Plum Fruit Powder | 100 mg | ** |
| Chamomile Flower Extract | 100 mg | ** |
| Cat's Claw Bark Powder | 100 mg | ** |
| Okra Fruit Powder | 100 mg | ** |

** Daily Value Not Established

**Other Ingredients:** Natural Flavors, Rebaudioside A (from Stevia Leaf Extract), Silicon Dioxide, Luo Han Guo Fruit Extract (Sweetener)

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Actazin® is a registered trademark of Anagenix


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