APLGO Product Zoom Call With Dr. Wilhelmina and Mary Esther Gilbert, MSc HN, BSc NSP

June 9 2025

Metabolic Reset Kit
GRW + GTS + HPR + HRT + MLS + NRM + PWR AP + PWR L + RLX + SLD + STP

1. What does Metabolic Reset mean and why is it important?

- To restore the body's biochemical processes toward proper or optimal functioning.
    - Improving the synergistic effort of efficiently maintaining all cellular processes in all body systems through unimpaired communications.
    - Improving the efficiency and rate at which the body uses calories from food to produce energy, repair and accurately generate new cells.
    - Promote faster healing.
    - Become more efficient in detoxification and elimination.

Optimizing the Body Systems and Functions Involved in Metabolism

- **Nervous System**
    - Allows rapid electrical pulse transmissions of communication between all body systems.
    - Interacts with the communications of the endocrine or glandular/hormonal system to complete metabolic tasks.
    - The central nervous system (sympathetic and parasympathetic) influences glucose and fatty acid monitoring and regulation.
    - The brain's hypothalamus: monitors and regulates:
        - Energy and energy expenditure from nutrients and glucose and fatty acid metabolism.
        - Insulin secretion from the pancreas.
        - Gut-derived satiety signals to prevent obesity and type 2 diabetes.
        - Hepatic (liver) glucose production.
    - Glucose/fatty acid metabolism in adipose tissue and skeletal muscle (Roh, 2016).
- **Endocrine System (Glandular, Hormonal System)**
    - Hormones produced by the glands control growth, development, electrolytes in body fluids, and reproduction.
    - Relies on the production, release, and transport of hormones from the various glands via the bloodstream.
    - Pancreatic hormones: insulin, glucagon, thyroid hormones (Hill-Sturmhöfel, 1998).

- **Digestive System – the Gut Microbiome**
  - Reducing food to its smallest micronutrients.
  - Absorption of nutrients through cells of intestines.
  - Transporting of nutrients to cells of organs and tissues for energy production.
  - After proper digestion, the gut microbiome microorganism environment functions like an organ.
    - Influences nutrient absorption.
    - Influences overall well-being.
    - Responds to the person's emotional stress as well as exogenous stressors: poor diet, toxins, foreign substances, perceived threats.
    - Communicates directly with the neurohormonal (nervous-hormonal) system.
  - Is a complex ecological community of symbiotic interactions that maintain biochemical balance or homeostasis (Valencia, 2025).

2. We often get asked how much of a specific vitamin or mineral is in our drops, i.e. 500mg Vitamin C or Iron, etc.

We know the drops are very different from conventional supplements or vitamins. What is the best explanation for why we can't give a unit measurement for the quantity of vitamins and minerals in the drops?

- As of June 2, 2025, the government Code of Regulations on Nutritional Labeling of Dietary Supplements states:

  "Any (b)(2)-dietary ingredients that are not present, or that are present in amounts that can be declared as zero in § 101.9(c), shall not be declared (e.g., amounts corresponding to less than 2 percent of the RDI for vitamins and minerals)."

  RDI – Reference Daily Intake

- Although the nutrient viability in the drops are preserved and the vitamin and mineral content is also preserved, the APLGO drops do not contain the amounts of vitamins and minerals necessary to be listed on the labels.

- The drops contain nutrient factors that are much smaller; they work at the micro cell level, and is the reason they are so rapidly assimilated into our cells.

  The average human cell is around 10 to 100 µm (micrometers).

  1 micrometer = .001 nanometer

- Plant cell organelles and plant phytochemicals that are in the drops measure in nanometers (length), which are much smaller in weight than the much larger milligram and microgram weight amounts found in vitamin/mineral supplements.

  A phytochemical is so small, its weight is measured in Daltons (atomic mass unit). It is approximately equal to 1.6605 × 10−24 grams, or 0.0000000000000000000000166050 grams.

Nano-Sized Plant Cell Constituents (Organelles)

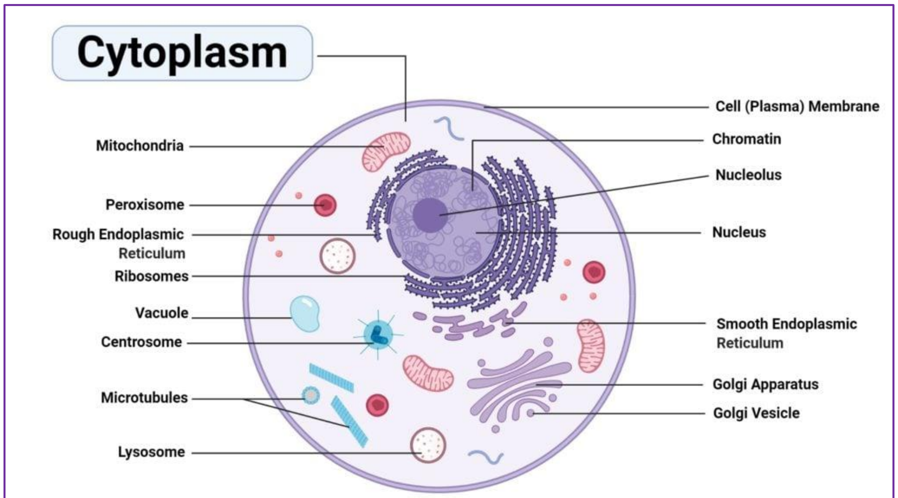


Figure: Animal Cell Structure with Cytoplasm, Image Copyright © Sagar Aryal, www.microbenotes.com

Microbe Notes - https://microbenotes.com/cell-organelles/

- **Ribosomes:** 20-30 nanometers in diameter.
- **Mitochondria:** Typically, 1-2 micrometers long, but can be up to 7 micrometers.
- **Lysosomes:** 50-3,000 nanometers in diameter.
- **Nucleus:** Approximately 5 micrometers in diameter.
- **Cell Membrane:** 7 nanometers thick.
- **Endoplasmic Reticulum:** Each layer is around 0.1 micrometers thick, with 0.2 micrometers between layers.
- **Golgi Complex:** Each layer is 7 nanometers thick.
- **Nucleolus:** Around 2.5 micrometers in diameter.
- **Cell Wall:** 2 micrometers thick.
- **Vacuoles:** 3 micrometers in diameter.
- **Centrioles:** 0.2 micrometers.

- If APLGO were to include all of the large molecules of vitamins and minerals to the drops, it would be a very different supplement:

  - It would be a very large drop.

  - It would affect the taste since B vitamins are bitter-tasting.

  - It would interfere with their absorbability and utilization since absorption of vitamin/mineral supplements is relatively low.

  - The mega doses of vitamin/mineral supplements that far exceed nutritional supplement guidelines are often far beyond the amounts that are naturally formed in the synergy of whole food nutrient complexes.

    Note: supplements containing iron are cautioned, as it is often in nonabsorbable form and can accumulate in the liver at toxic levels that put one's health at great risk. This is especially true for children.

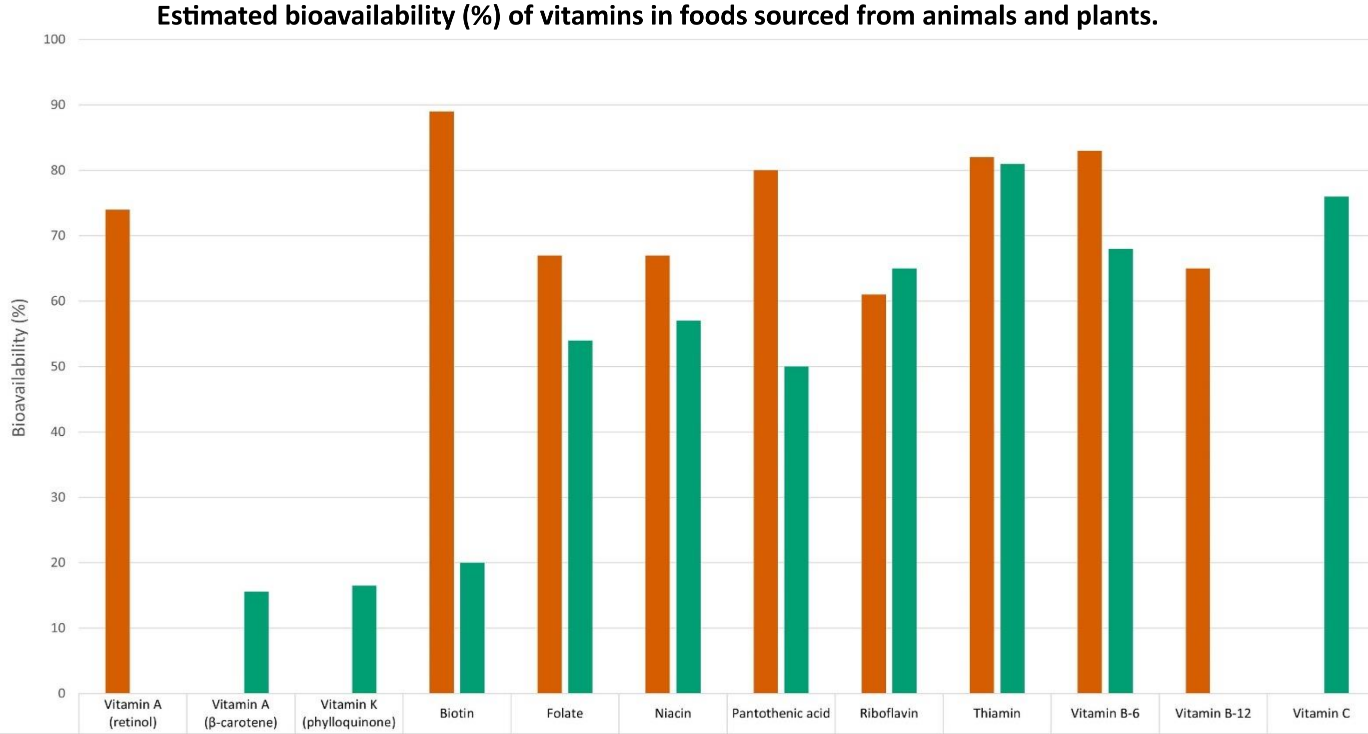
Government Guidelines - RDI (Reference Daily Intake) – Dietary Supplements

Nutrient	Unit of measure	Adults and children ≥ 4 years
Vitamin D	Micrograms (mcg) [2]	20
Calcium	Milligrams (mg)	1,300
Iron	Milligrams (mg)	18
Potassium	Milligrams (mg)	4,700
Vitamin A	Micrograms RAE [3] (mcg)	900
Vitamin C	Milligrams (mg)	90
Vitamin E	Milligrams (mg) [4]	15
Vitamin K	Micrograms (mcg)	120
Thiamin	Milligrams (mg)	1.2
Riboflavin	Milligrams (mg)	1.3
Niacin	Milligrams NE [5] (mg)	16
Vitamin B_6	Milligrams (mg)	1.7
Folate [6]	Micrograms DFE [7] (mcg)	400
Vitamin B_{12}	Micrograms (mcg)	2.4
Biotin	Micrograms (mcg)	30
Pantothenic acid	Milligrams (mg)	5
Phosphorus	Milligrams (mg)	1,250
Iodine	Micrograms (mcg)	150
Magnesium	Milligrams (mg)	420

Nutrient	Unit of measure	Adults and children ≥ 4 years
Zinc	Milligrams (mg)	11
Selenium	Micrograms (mcg)	55
Copper	Milligrams (mg)	0.9
Manganese	Milligrams (mg)	2.3
Chromium	Micrograms (mcg)	35
Molybdenum	Micrograms (mcg)	45
Chloride	Milligrams (mg)	2,300
Choline	Milligrams (mg)	550
Protein	Grams (g)	N/A

https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-101/subpart-A/section-101.9#p-101.9(c)

Estimated bioavailability (%) of vitamins in foods sourced from animals and plants.



	Vitamin A (retinol)	Vitamin A (β-carotene)	Vitamin K (phylloquinone)	Biotin	Folate	Niacin	Pantothenic acid	Riboflavin	Thiamin	Vitamin B-6	Vitamin B-12	Vitamin C
Animal-based foods	74			89	67	67	80	61	82	83	65	
Plant-based foods		15.6	16.5	20	54	57	50	65	81	68		76

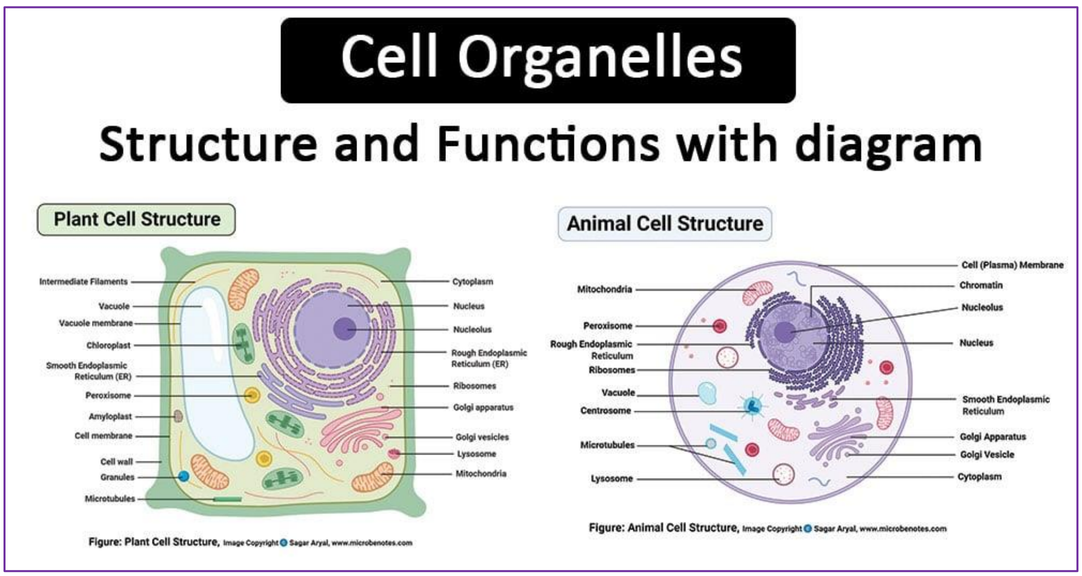
(Jun Zhu, 2024)

- Mineral supplements have a lower absorption rate. For example, the body absorbs about 36% of a 300 mg calcium dose and 28% of a 1,000 mg dose.

3. **Because many of the herbs, fruits and vegetables in the drops are used for medicinal reasons, is it okay to take multiple drops daily? Do they need to be spaced out or can they be taken together. Can I take too many in a day? Would there be harmful side effects if I take multiple drops at a time?**

- The drops are a whole food supplement; our cells recognize nutrients from whole food nutrient complexes as "self", which means molecular recognition and identification, and therefore utmost bioavailability, absorbability and utilization. Taking multiple drops are like taking multiple foods at a meal, but without overeating.

    - The drops contain the genetic codes and other cell components (organelles) of plants that are completely biocompatible with our human cells because their functions are *almost* identical:
        - Plant chloroplasts allow plants to produce their own food. Human cells do not have chloroplasts.
        - Plant cell outer membranes are fibrous; human cell outer membranes are plasmic, fluid, flexible.



Microbe Notes - https://microbenotes.com/cell-organelles/

    - Our dynamic, ever-changing trillions of cells in our bodies perform multiple trillions of cellular processes every moment we are alive.

    - Because of the sheer number of biochemical processes that the body performs at all times, it will very likely utilize the much needed nutrients in the drops immediately since *they are already at the size that can readily enter the cells.*

    - Depending on one's current state of health, initial mild and temporary possible concerns are:

        - Detoxification side effects: temporary, mild skin outbreaks; loose bowel movements or diarrhea; achiness, and possibly, fever as the immune system regulates body temperature to rid the body of pathogenic organisms including bacteria, viruses, fungi, parasites.

        - Increased urine output as the phytochemical complexes in the botanicals help cleanse the blood and kidneys (as well as other organs such as the liver)—especially if one drinks plenty of purified spring water to assist in this flushing process.

        - Desire to sleep, as the body, in its innate wisdom, does its best healing work when sleeping.

- The essential and vital nutrients in the drops are in the most biocompatible form; such safe and naturally formed nutrient factors are used by the body to promote its aliveness.

- Because the drops are so effective, they do not necessarily need to be taken in at high “doses”.

    - One must make the distinction between life-promoting essential nutrients the body is waiting for to complete trillions of tasks, versus a drug mindset of expecting immediate effects without always being wary of side effects and possible harmful overdoses.

    - Drugs are not nutrients; they do not heal. Only a highly nourished body has the capacity to recover its innumerable cellular processes back to normal or optimal functioning over time.

4. **Would you consider it important to take the HPR and MLS and how does the body detoxify? What are the pathways of elimination the body uses to get rid of toxicity? And when doing a Metabolic Reset why is detox a priority?**

    - Phytochemical compounds in the botanicals in the drops have been found to be excellent chelators in molecularly binding to synthetic chemicals (free radicals), and thereby neutralizing their toxic effects and removing or eliminating the foreign substances responsible for impairing normal functions.

    - The main eliminative, detoxification channels:

        - Skin
        - Lungs (respiratory pathways)
        - Liver
        - Kidneys
        - Lymphatic (lymph fluids, lymph nodes)
        - Bowels

    - Generational accumulations of toxic exposure to synthetic chemicals in environmental pollution (heavy metals), synthetic ingredients in consumer products, agrichemicals, chemical trails in the sky which fallout damage ecosystems and pollute water sources—all have taken their toll on human health, as they are known to be:

        - Carcinogenic (cancer-causing).
            - Compromise the immune system functions of identifying and destroying abnormal cells.
            - Disrupt genetic codes of instructions of the DNA, with a cascade of biochemical malfunctions.

        - Hormone disruptors:
            - Impair glandular functions in directing the starting and stopping of cellular processes, and interfering with nerve/brain communications.
            - Affect moods, perceptions, emotions.
            - Affect blood glucose, fat metabolism.
            - Associated with birth defects.

    - Nervous system/brain damaging.
        - Damage and destruction of nerve cells.
        - Affecting cognition, memory, learning.

    - Damaging to the cardiovascular system.
        - Damage, weaken the blood vessels.
        - Leads to heart disease.
        - Form hardened plaques in the arteries.

    - Harmful to reproduction, digestion and gut environment (Gilbert, 2021) (Hodges, 2015).

HPR and MLS as Aids for Detoxification – Clearing Pathways for Metabolic Reset

HPR

Artichoke, Globe, Leaf (Folia Cynara cardunculus)
- Improves insulin secretion.
- Modulates energy and glucose metabolism.
- Improves fat and overall metabolism.
- Helps support liver cell (hepatocyte) metabolism:
    - Improves cholesterol metabolism.
    - Improves digestion of fats and carbohydrates.

Peach (*Prunus persica*)
- Improves metabolism and digestion.
- Contains *pectin*; helps reduces LDL blood cholesterol levels.
- High in organic acids: quinic, citric, malic acids:
    - Help the body's acid-alkaline balance.
    - Involved in stimulating the optimal functioning of the stomach and pancreas.
    - Overall, improve cell metabolic processes.

Dandelion Root (*Taraxacum officinale*)
- Contains lutein, violaxanthin, atheraxanthin, zeaxanthin, neoxanthin and chlorophyll, all of which have liver cleansing, detoxifying, anti-inflammatory properties for:
    - Liver
    - Gallbladder
    - Digestive tract

Milk thistle Seed (*Silybum marianum*)
- Detoxifies Liver and Kidneys
    - Contains flavonoids and flavonoid derivatives, the flavonolignans, involved in the detoxification process.
    - Contains silymarin, has the ability to stabilize cell membranes, preventing toxic chemicals from entering the cell.

MLS

Artichoke, Globe, Leaf (Folia Cynara cardunculus)
- Improves insulin secretion.
- Modulates energy and glucose metabolism.
- Improves fat and overall metabolism.
- Helps support liver cell (hepatocyte) metabolism:

    - Improves cholesterol metabolism.
    - Improves digestion of fats and carbohydrates.

Dandelion Root (*Taraxacum officinale*) (see above)

Papaya (*Carica papaya L.*)

- Anti-inflammatory.
- Helps detoxify, repair, and protect the liver (hepatoprotective).
- Excellent digestive aid against dyspeptic problems which affects moods (irritability or depression).

(Gilbert, 2024)

5. Which Botanicals support cardiovascular health?

Supporting the blood vessels, heart muscle, clearing the blood, anti-inflammatory actions.

- **GRW**: Currant, olive, rowanberry.
- **GTS**: apple, magnolia vine fruit, pineapple.
- **HPR**: avocado, dandelion root, raisin, turmeric root.
- **HRT**: Hawthorn flower, raspberry, wild strawberry.
- **MLS**: Chamomile, German; cinnamon bark, currant, dandelion root, grapefruit, papaya, turmeric.

6. Which Botanicals support energy levels and is this like drinking an energy drink?

No. Energy drinks severely fall short of providing a source of nutrients for producing energy in our cells.

The botanicals in the Metabolic Reset group of drops support:

- The perpetual energy production cycle in cells.
- The promoting of strength and endurance during exercise.
- Reducing recuperation time and better muscle cellular recovery after exercise.
- Increasing mental alertness, attention, mental stamina.
- The glandular/hormonal system functions of generating hormones.

The plant compounds in these drop formulations below
support cell energy production processes.

- **GRW**: ashwagandha root, balsam pear fruit (bitter melon), reishi mushroom.
- **GTS**: ashwagandha root; ginseng root, Siberian; gooseberry, magnolia vine fruit, pineapple.
- **HPR**: globe artichoke leaf, peach, raisin, turmeric
- **HRT**: grape seed.
- **MLS**: globe artichoke leaf, turmeric.
- **NRM**: balsam pear fruit (bitter melon); ginseng, Siberian root.
- **PWR** apricot: apricot, ashwagandha root, damiana leaf.
- **PWR** lemon: ashwagandha root,
- **RLX**: ashwagandha root, banana; ginseng, Siberian root.
- **SLD**: turmeric root.
- **STP**: ashwagandha root, pod pepper (cayenne), turmeric root.

Our Cells Use Nutrients, Not Synthetic Chemicals, to Produce Energy

- Food is digested and reduced to the fundamental units of glucose, amino acids, and fatty acids for energy production in the cells.

- Inside the cells, nutrients are used to release the unit of energy, ATP (adenosine triphosphate).

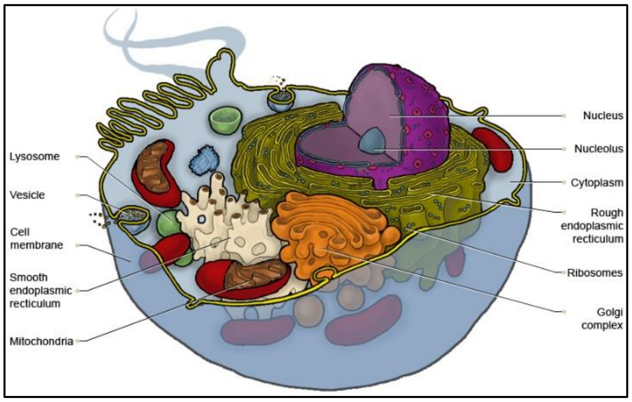
- *ATP is produced continuously by the cell mitochondria through the process of phosphorylation,* which involves *transfer of electrons and protons along transport chains of molecules*.

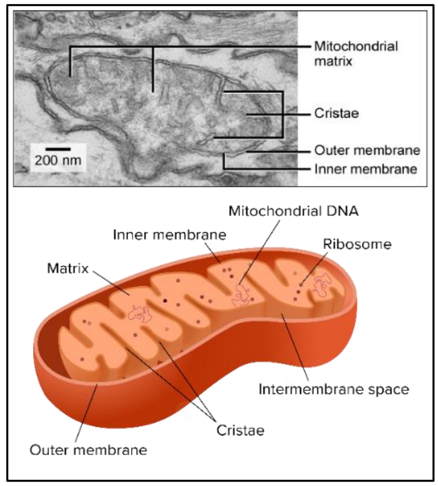
- During the *Krebs cycle*, energy is extracted from molecules that have been broken down from food. The Krebs cycle is a metabolic pathway that generates energy in the form of NAD+NADH, which is then used in phosphorylation to produce ATP.

- *Nicotinamide-adenine dinucleotide (NAD+/NADH)* is a universal coenzyme that plays a central role in cellular metabolism.

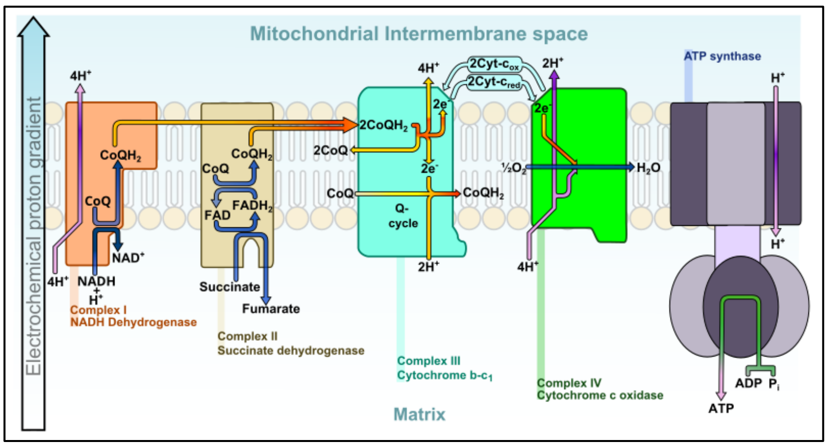
- The NAD+/NADH acts as a donor and acceptor of electrons in redox reactions within all eukaryotic cells, influencing various enzymes and processes.

Human Cell Organelle Components and Cell Mitochondria

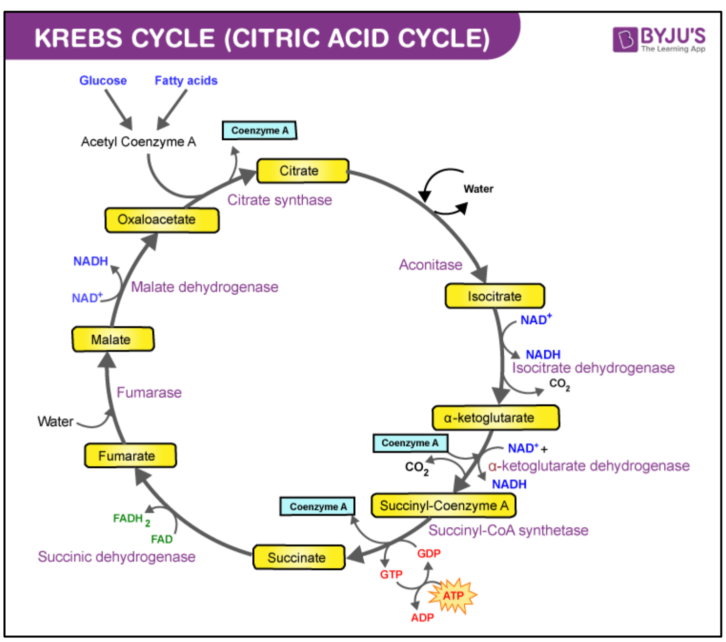




Khan Academy, 2008



T-Fork, 2011 – Wikimedia



Do Energy Drinks Provide Clean Energy for Perpetuating Cellular Energy Production? No.

- **Sugar: 37 grams.**

- **Sugar free version:** artificial sweeteners aspartame, acesulfame K, and sucralose, found to be genotoxic (damages DNA, leads to mutations and cancer), and linked to an increased risk of cardiovascular disease.

- **1000 mg *synthetic* taurine.**
  - Natural taurine is an amino acid made in the body.
    - Found in the lower intestine, heart, brain, skeletal muscle, a component of bile.
    - Naturally present in meat, seafood, eggs.

- **Caffeine: 80 milligrams.**

- **Glucuronolactone:** a form of sugar that naturally occurs in connective tissues.
  - Excessive consumption found to increase heart rate, blood pressure, causing headaches, nausea, dizziness.
  - It is completely different from caffeine (Higgins, 2010).

- **Synthetic artificial flavors and dyes.**
  - Red No. 40: linked to hyperactivity and attention deficit hyperactivity disorder (ADHD) in children.
  - Yellow 5, Yellow 6: associated with hyperactivity and behavioral issues in children.
  - Blue 1 and Blue 2: linked to allergic reactions, potential adverse effects on brain development.
  - Red 3: Banned by the FDA after studies showed high dosage links to thyroid tumors in laboratory rats.
  - Green 3: Linked to health concerns similar to other synthetic dyes. Banned or limited in various regions (FDA, 2025).

- **Studies indicate artificial dyes contain contaminants known to cause cancer** (Potera, 2010).

7. Which Botanicals Support your endocrine system?

- **GRW**
  - Reishi mushroom
    - Contains adenosine.
    - Improves blood circulation.
    - Lowers cholesterol.
    - Burns fats.
    - Regulates endocrine system and metabolism.
    - Helps in energy production and boosts stamina.
  - Apple
    - Contains pectins, soluble fibers.
    - Lowers blood cholesterol .
    - Aids cholesterol removal in the liver.
    - Promotes normal growth hormone production in the pituitary master gland.

- **PWR Apricot**
    - Apricot – contains carotenes that help maintain the proper endocrine gland functions.

- **PWR Lemon and PWR Apricot**
    - Damiana leaf
        - Shown to help restore normal levels of female hormones and endocrine system functioning.
        - Found to increase libido.
        - Supports the human reproductive system and fertility.
        - Contains resins, tannins, and at least 35 other phytochemicals as antioxidants and anti-inflammatories.
- **SLD**
    - Balsam pear – contains polyphenols, antioxidants that aid all biological processes, including the endocrine system.
- **STP**
    - Cherry – contains melatonin, a hormone produced primarily by the brain's pineal gland, shown to counter negative effects of the adrenal gland functions during stress; improves sleep cycles.

(Gilbert, 2024)

8. Which Botanicals Support your Lymphatic System?

- **GRW**
    - Husk tomato
        - Shown to protect adipose tissues from inflammatory cytokine proteins by attenuating immune macrophages.
        - Improves plasma fatty acid concentrations and the hormone adiponectin, which regulates fatty acid metabolism and blood glucose levels.
        - Anti-diabetes, anti-obesity.
    - Purple coneflower (*Echinacea*)
        - Cleans the lymphatic system, blood, kidneys and liver.
        - Contains high concentrations of polysaccharides, glycoproteins, essential oils and flavonoids.
    - Reishi mushroom
        - Contains organic germanium, found to improve immune function of T-suppressor cells, natural killer cells, a type of lymphocyte or white blood cell found in blood and lymph tissue (Luo, 2023).
    - Grape seed
        - Helps strengthen blood vessel and capillary walls.
        - Improves circulation of the blood and lymph vessels.
        - Improves liver function, fat metabolism, utilization.
- **MLS**
    - Licorice root
        - Contains potent antiviral saponin or glycyrrhizin (GL), 18β-glycyrrhetinic acid (GA).
        - Contains antibacterial liquiritigenin (LTG), licochalcone A (LCA), licochalcone E (LCE) and glabridin (GLD).
        - GL and GA activate T lymphocyte immune cells to prevent destruction of the host cell during viral invasion.
    - Mandarin
        - Contains the essential oil gamma-terpinene (ꙋ-terpinene), a strong antioxidant.
        - Other essential oils in mandarin improve blood and lymph circulation.
        - Phytochemical compounds are depuratives—help remove toxins via lymph, kidneys, and colon.
    - Purple coneflower (*Echinacea*)

        - Cleans the lymphatic system, blood, kidneys and liver.
        - Contains high concentrations of polysaccharides, glycoproteins, essential oils and flavonoids.
- **NRM**
    - Fenugreek
        - Contains antioxidant compounds genistein, quercetin, apigenin.
        - Helps purify the blood and cleanses the lymphatic system.
- **PWR Apricot**
    - Apricot
        - Contains melanoidins, phytonutrient compounds shown to protect the intricate landing and detection sites of cell membranes on endothelial cells.
        - Protects endothelial cells that line the inside of blood and lymphatic vessels from oxidative damage to their inner organelles such as the energy-producing mitochondria.
    - Ginkgo leaf
        - Anti-inflammatory and antiallergenic properties.
        - Shown to block the formation of blood clots, clean lymph, improve blood circulation,
- **SLD**
    - Balsam pear fruit
        - Contains polyphenols, antioxidants that protect all systems, including the lymphatic system.
    - Licorice root
        - Contains potent antiviral saponin or glycyrrhizin (GL), 18β-glycyrrhetinic acid (GA).
        - Contains antibacterial liquiritigenin (LTG), licochalcone A (LCA), licochalcone E (LCE) and glabridin (GLD).
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- **STP**
    - Licorice root
        - Contains potent antiviral saponin or glycyrrhizin (GL), 18β-glycyrrhetinic acid (GA).
        - Contains antibacterial liquiritigenin (LTG), licochalcone A (LCA), licochalcone E (LCE) and glabridin (GLD).
        - GL and GA activate T lymphocyte immune cells to prevent destruction of the host cell during viral invasion.

(Gilbert2024)

9. **Which Botanicals Support the Male and Female Hormones and why is balancing the hormones important for the Metabolic system?**

The body generates over 10,000 hormones per day to carry out and regulate its multiple trillions of biochemical, cellular processes. The nutrient factors in botanicals are key to assisting in the complex actions needed to properly execute those processes. Botanicals contain a great variety of hormone precursors the body can use to generate and help direct the actions of those thousands of hormones.

- **GRW**
    - Ashwagandha root
        - Contains phytosterols, precursors to the production of many hormones.
    - Balsam pear fruit
        - Contains alkaloids, tannins, glycosides, and natural plant steroids, precursors to thousands of regulating and monitoring hormones the body must produce.
    - Cranberry
        - Contains plant sterols, precursors of hormone production.
- **GTS**

- Ashwagandha root
    - Contains phytosterols, precursors to the production of many hormones.
- Green tea leaf
    - Contains important lipids or fatty acids.
    - Contains plant sterols (precursors to thousands of critical regulating, monitoring hormones).

- **HPR**
  - Avocado
    - Contains hormone precursor phytonutrients lutein, zeaxanthin, cryptoxanthin, and plant sterols.
    - Helps eliminate toxins from the liver that can disrupt hormone production.
    - Contains fatty acids that promote healthy blood lipid profiles.
    - Fatty acids enhance absorbability and utilization of fat soluble vitamins D and E, and phylloquinone (vitamin K1).
    - Promotes proper levels of cholesterol, a precursor to hormone production.
- **HRT**
  - Hawthorn flower
    - Contains flavonoids epicatechin and chlorogenic acids that help moderate heart contractions and stabilize blood pressure.
    - Has a positive influence on hormone catecholamine levels affecting blood pressure, and the rate of muscular contractions of the blood vessels and the heart.
- **MLS**
  - Cranberry
    - Contains natural plant sterols, precursors of hormone production.
  - Mandarin
    - Plant sterols, precursors to thousands of regulating hormones the body must produce.
- **NRM**
  - Balsam pear fruit
    - Contains alkaloids, tannins, glycosides, and natural plant sterols precursors to the manufacture of thousands of regulating and monitoring hormones.
- **PWR Apricot**
  - Ashwagandha
    - Noted in many studies for increasing sperm count due to its phytosterol content that are precursors to many hormones.
  - Damiana leaf
    - Helps to restore normal levels of female hormones and endocrine system functioning.
    - Has been shown to increase libido.
    - Has been found to have a beneficial effect on the human reproductive system, and with infertility problems.
- **PWR Lemon**
  - Ashwagandha root
    - Noted in many studies for increasing sperm count due to its hormone precursor phytosterols.
- **RLX**
  - Ashwagandha root
    - Noted in many studies for increasing sperm count due to its hormone precursor phytosterols.
  - Banana
    - Contains vitamin D, important for the production of thousands of regulating, monitoring hormones.
  - Lettuce
    - Contains pyridoxin (vitamin B6), needed in the production of neurotransmitters that carry signals between nerve cells.

        - B6 is required for normal brain functioning.
        - B6 is required for producing the hormones serotonin and norepinephrine that influence mood, and the hormone melatonin, which helps regulate the body's sleep-wake cycles.
- **SLD**
    - Green tea leaf
        - Contains important lipids (fatty acids), plant sterols (precursors to thousands of critical regulating, monitoring hormones), chlorophyll, and carotenoids.
- **STP**
    - Ashwagandha root
        - Noted in many studies for increasing sperm count due to its hormone precursor phytosterols.
    - Pod pepper (cayenne)
        - Contains the phytochemical capsaicin.
        - Stimulates the release of the hormones known as endorphins that produce feelings of euphoria, including reducing pain.
        - Has been shown to increase metabolism and activate antioxidant enzymes while reducing pro-inflammatory protein actions.

10. Are there any contraindications with medications?

It is critical to know if there are any contraindications when taking medications with nutritional supplements. It is best to check with both a physician and the MedlinePlus database for side effects and precautions affected by drug-nutrient interactions.

- Certain nutrients are claimed to interfere with a drug's absorption in various ways.
    - Food may delay or impair drug absorption.
    - Certain foods may reduce drug absorption or interfere with a drug's effectiveness.
    - Nutrient deficiencies may affect a drug's absorption.
    - Foods such as grapefruit can interfere with some drugs by how enzymes metabolize them.

- Certain foods may interfere with drug metabolism.
    - Accelerate metabolism.
    - Inhibit metabolism.
    - Bacterial conditions in the gut.
    - May contain compounds that adversely interact with drugs.

- Certain foods and nutrients may alter the ability to excrete drugs.
    - May adversely affect kidney functions of filtering out drugs.
    - May affect functions of the body's cytochrome P450 enzymes in metabolizing drugs, toxins, endogenous compounds.

- Interference with nutrient absorption.
    - Some drugs may affect nutrient absorption.
    - Some drugs may block absorption, ability to synthesize nutrients causing deficiencies.

MedlinePlus. National Library of Medicine. U.S. Department of Health and Human Services. Drugs, Herbs, and Supplements. 2025. https://medlineplus.gov/druginformation.html.

Body Systems Involved in Metabolism

a. **Gut Microbiome**
   Impact nutrient absorption.

   Rowland I, Gibson G, Heinken A, Scott K, Swann J, Thiele I, Tuohy K. Gut microbiota functions: metabolism of nutrients and other food components. Eur J Nutr. 2018 Feb;57(1):1-24. doi: 10.1007/s00394-017-1445-8. Epub 2017 Apr 9. https://pmc.ncbi.nlm.nih.gov/articles/PMC5847071/.

b. **Liver**
   Regulates blood glucose levels through glycogenesis (synthesizing glycogen) and gluconeogenesis (production of glucose from sources other than carbohydrates).

   Rui L. Energy metabolism in the liver. Compr Physiol. 2014 Jan;4(1):177-97. doi: 10.1002/cphy.c130024. https://pmc.ncbi.nlm.nih.gov/articles/PMC4050641/.

c. **Pancreas**
   Maintains blood glucose homeostasis.
   Secretes the hormone insulin to lower blood sugar.
   Secretes the hormone glucagon to raise blood sugar.

   Karpińska M, Czauderna M. Pancreas-Its Functions, Disorders, and Physiological Impact on the Mammals' Organism. Front Physiol. 2022 Mar 30;13:807632. doi: 10.3389/fphys.2022.807632. https://pmc.ncbi.nlm.nih.gov/articles/PMC9005876/.

d. **Kidneys**
   Filter and eliminate metabolic wastes products.

   Science Direct. Kidney Metabolism. 2013, Haschek and Rousseaux's Handbook of Toxicologic Pathology (Third Edition)Kanwar Nasir M. Khan, ... Carl L. Alden. https://www.sciencedirect.com/topics/medicine-and-dentistry/kidney-metabolism#:~:text=The%20kidney%20plays%20an%20important,drugs%2C%20hormones%2C%20and%20xenobiotics

e. **Muscles**
   Use glucose and fatty acids for energy

   Josep M. Argilés, Nefertiti Campos, José M. Lopez-Pedrosa, Ricardo Rueda, Leocadio Rodriguez-Mañas, Skeletal Muscle Regulates Metabolism via Interorgan Crosstalk: Roles in Health and Disease, Journal of the American Medical Directors Association. Volume 17, Issue 9. 2016. Pages 789-796. ISSN 1525-8610. https://doi.org/10.1016/j.jamda.2016.04.019. https://www.sciencedirect.com/science/article/pii/S152586101630113X.

f. **Adipose Tissues (body fat stores)**
   Store body fat
   Adipokines (hormones and cytokines) that influence metabolism, appetite, and insulin sensitivity.

   Luo L, Liu M. Adipose tissue in control of metabolism. J Endocrinol. 2016 Dec;231(3):R77-R99. doi: 10.1530/JOE-16-0211. https://pmc.ncbi.nlm.nih.gov/articles/PMC7928204/.

Reference:

FDA. U.S. Food and Drug Administration. HHS, FDA to Phase Out Petroleum-Based Synthetic Dyes in Nation's Food Supply. April 22, 2025. https://www.fda.gov/news-events/press-announcements/hhs-fda-phase-out-petroleum-based-synthetic-dyes-nations-food-supply.

Gilbert, M. E. (2021). Potent Superfoods for Lifelong True Health. Tucson, AZ: Holistic Choices Publishing. https://www.holisticchoices.com/books-by-mary-esther-gilbert.

Gilbert, M. E. (2023) Eating for Physical Power and Stamina. Tucson, AZ. Holistic Choices Publishing. https://www.holisticchoices.com/books-by-mary-esther-gilbert.

Gilbert, M. E. (2024). The APL Product Reference Nutritional Health Guide, 2nd Edition, Ageo Product Line, Acumullit SA Technology. AZ: Mary Esther Gilbert, Holistic Choices Publishing. https://www.holisticchoices.com/apl.

Higgins JP, Tuttle TD, Higgins CL. Energy beverages: content and safety. Mayo Clin Proc. 2010 Nov;85(11):1033-41. doi: 10.4065/mcp.2010.0381. https://pmc.ncbi.nlm.nih.gov/articles/PMC2966367/#:~:text=INGREDIENTS%20OF%20EBs,been%20reported%2C%20including%20cardiac%20arrest.&text=The%20components%20of%20the%204,subsequently%20discussed%20in%20more%20detail.

Hiller-Sturmhöfel S, Bartke A. The endocrine system: an overview. Alcohol Health Res World. 1998;22(3):153-64. https://pmc.ncbi.nlm.nih.gov/articles/PMC6761896/.

Hodges RE, Minich DM. Modulation of Metabolic Detoxification Pathways Using Foods and Food-Derived Components: A Scientific Review with Clinical Application. J Nutr Metab. 2015;2015:760689. doi: 10.1155/2015/760689. Epub 2015 Jun 16. https://pmc.ncbi.nlm.nih.gov/articles/PMC4488002/.

Jun Zhu, Wenlin Sun, Wenqi Zhang, Nuo Hong, Yuying Liao, Yiling Yao, Lala Cai, Chunhua Xiong & Lanying Yao. (2024) A joint experimental and theoretical investigation of the binding mechanism between zein and folic acid in an ethanol–water solution. *International Journal of Food Properties* 27:1, pages 729-749. https://www.tandfonline.com/doi/citedby/10.1080/10408398.2023.2241541?scroll=top&needAccess=true.

Luo, X., Sun, J., Kong, D. *et al.* The role of germanium in diseases: exploring its important biological effects. *J Transl Med* **21**, 795 (2023). https://doi.org/10.1186/s12967-023-04643-0. https://translational-medicine.biomedcentral.com/articles/10.1186/s12967-023-04643-0#citeas.

Potera C. The artificial food dye blues. Environ Health Perspect. 2010 Oct;118(10):A428. doi: 10.1289/ehp.118-a428. https://pmc.ncbi.nlm.nih.gov/articles/PMC2957945/#:~:text=Red%2040%2C%20Yellow%205%2C%20and%20Yellow%206%20contain%20benzidene%2C,based%20colorings%20in%20some%20countries.

Roh, E., Song, D. & Kim, MS. Emerging role of the brain in the homeostatic regulation of energy and glucose metabolism. *Exp Mol Med* 48, e216 (2016). https://doi.org/10.1038/emm.2016.4

Valencia S, Zuluaga M, Florian Pérez MC, Montoya-Quintero KF, Candamil-Cortés MS, Robledo S. Human Gut Microbiome: A Connecting Organ Between Nutrition, Metabolism, and Health. Int J Mol Sci. 2025 Apr 26;26(9):4112. doi: 10.3390/ijms26094112. https://pmc.ncbi.nlm.nih.gov/articles/PMC12071897/#:~:text=There%20is%20a%20great%20diversity%20of%20foods,the%20needs%20of%20the%20tissues%20[%2080].

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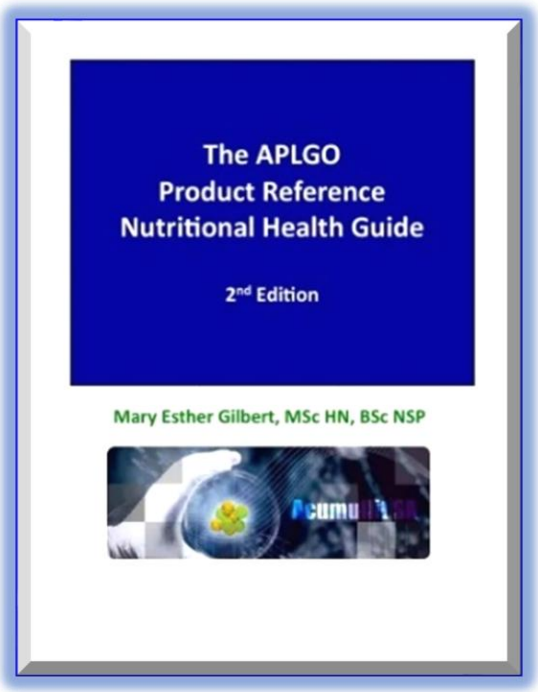

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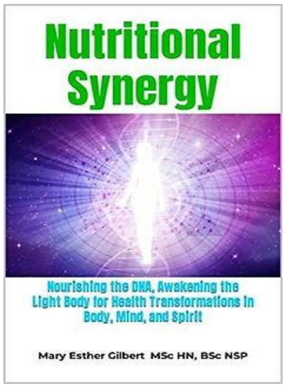

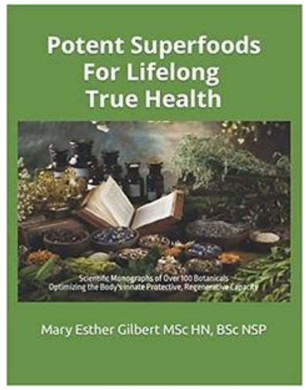

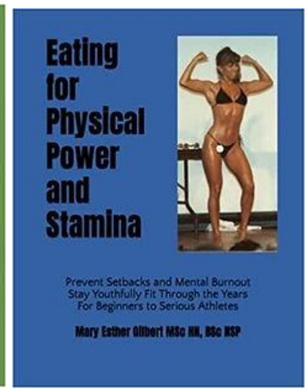

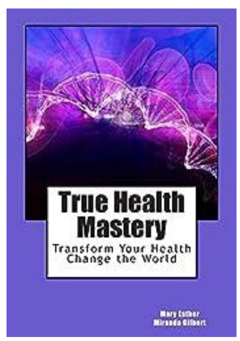

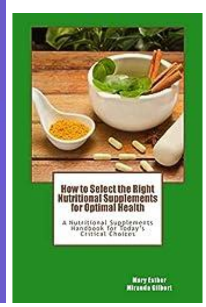

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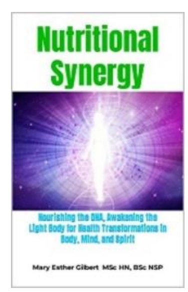

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