AYA Educational Institute
1998

Fall 2020

The Healing Power of Melanin

Melanin - The Healer

Khem/Melanin - The Educator
Khem/Melanin - Upwat - Opens The Way

Many of us know of melanin as the pigment protecting human skin from the harmful UV rays emitted from the sun. *It is that and more - much more!*

Some of you know of melanin as our bodily equivalent of the black holes in the universe - capturing 99.9% of all light throughout the electromagnetic spectrum. Still others praise melanin for its ability to open the gate to higher intuition and for insights into the esoteric unknown. Those who focus on the pineal gland may know melanin as a facilitator of memory, inner vision, intuition, creative genius, and spiritual Illumination.

Melanin - The Healer will take you on a slightly different journey. We will follow melanin to learn and appreciate its biological and chemical properties and functions that make it a powerful ***healer -*** the ***antioxidant***, ***nerve conduction facilitator***, and the ***energy converter***. Owing to the MAAFA, the Afrikan-American community has been shepherded away from science and math. Therefore, we often favor the esoteric while abandoning the foundation.

This course calls the principle of Upwat. He was the Kemetic (Egyptian) jackal-headed deity as known as Anpu - the maker of fine judgments. As Upwat he was “The Opener of Ways.” In this class we’ll use Khem, Melanin, our Blackness to lead us back into the wonders of biology, chemistry, neurology and more. This becomes the foundation for later philosophical, psychological, and even spiritual illumination. Khem/Melanin will open the way to the innate scientists that reside within.

Wekesa Madzimoyo, Instructor

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat.

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What You Know / Want To Know

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Wekesa Madzimoyo

Class Introductions

Class Focus

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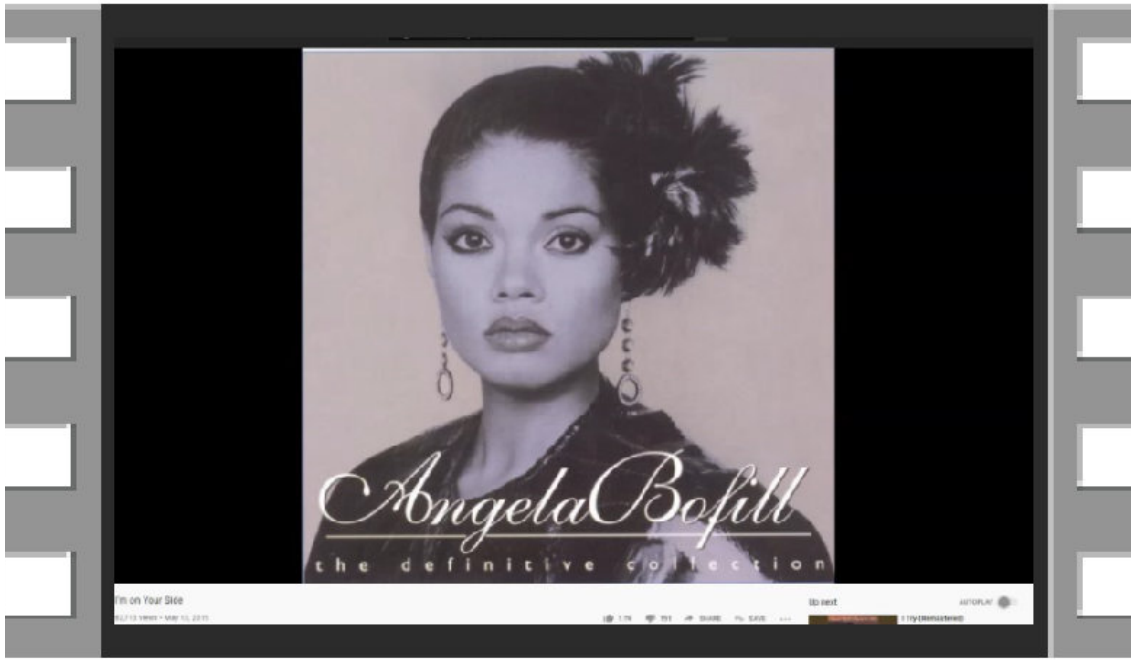
GOT MELANIN?

What You Know About Melanin?

Is the T-shirt enough? What do you you want to know?



Melanin is on your side!

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Melanogenisis

Biological Light

Absorbing The Electro-Magnetic Light Spectrum

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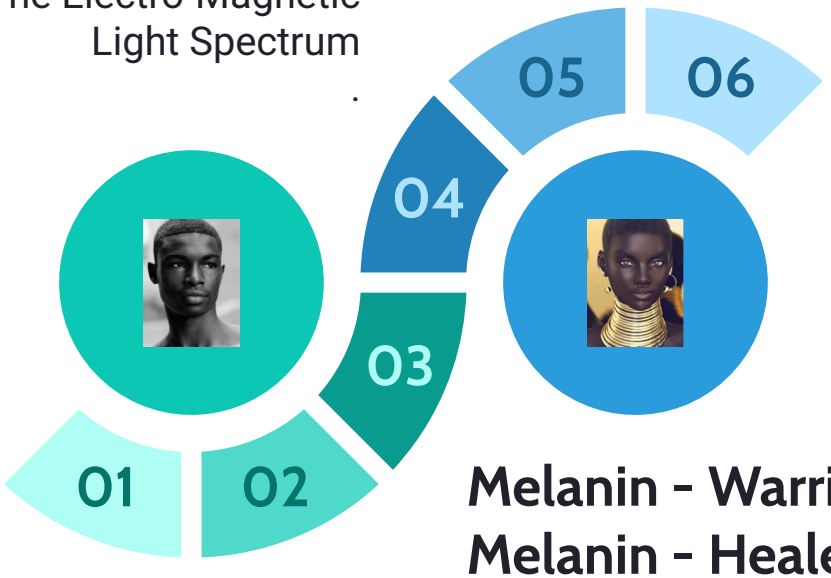

Biology | Khemistry Then The Cosmos

Paying Homage

Afrikans who made Melanin popular in the Black Community.

Melanin - Warrior
Melanin - Healer
Melanin - Builder

Beyond The Solar Function

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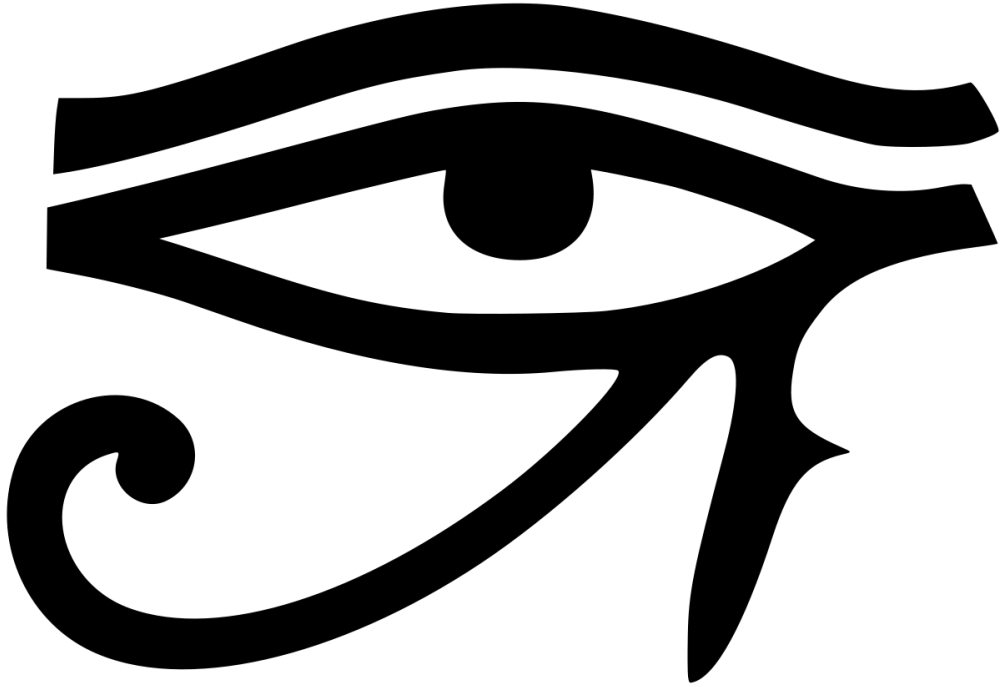
“Children of the Sun”
Khem - Black
The Black Dot



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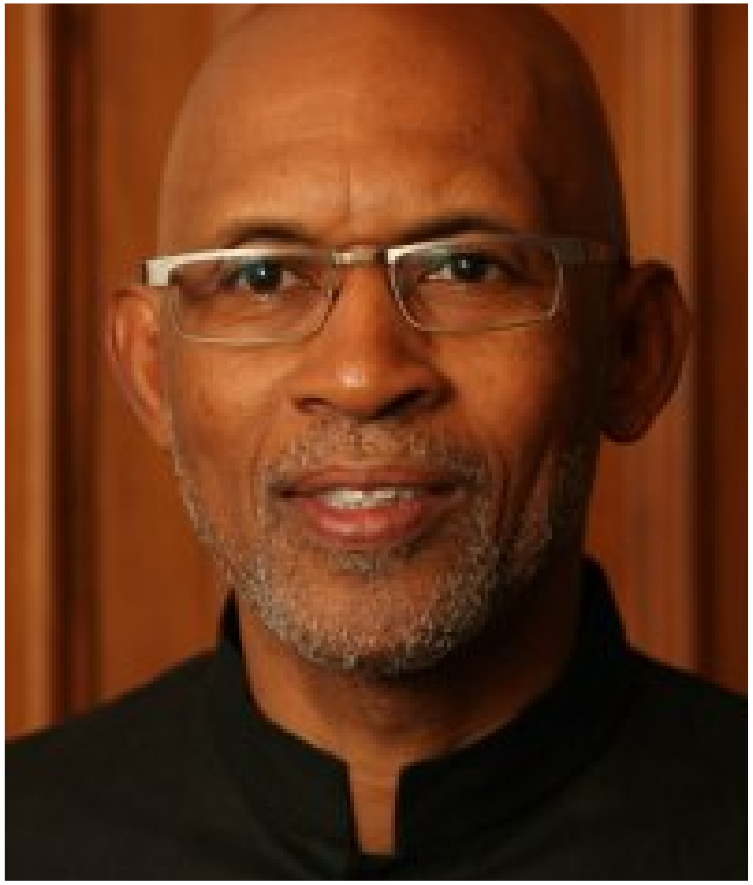
African children. Why? Strengthening the African family is fundamental to its survival. This is best done through the socialization and education of children.

To "do Asa" is to act on those areas that impact the African family. In an unpublished paper by Dr. Hilliard in November 2001, he outlined a community's obligation to socialize and educate African children. Shown below are the 13 tasks in his outline, requirements that the socialization process must perform to bring about desirable outcomes of being African:

1. Study and know yourself and your people.
2. Model expected behavior.
3. Expose children to the wider world.
4. Involve children in the real world of work, play, joy, pain, and truth.
5. Participate with children in organized groups that serve the interests of the larger community.
6. Give children responsibilities and hold them accountable.
7. Listen well to children's thoughts and feelings.
8. Provide an environment with unconditional respect (not automatic approval).
9. Provide an environment where children are well enough known by significant adults so that they can get mature feedback.
10. Provide an environment for appropriate recognition for children's efforts.
11. Provide an environment where children experience unconditional love.
12. Maintain structures linking elders and youth.
13. Tell and retell the story of one's family and people, so that the children can locate themselves in time, in space, in context, and in destiny.



Tony Browder

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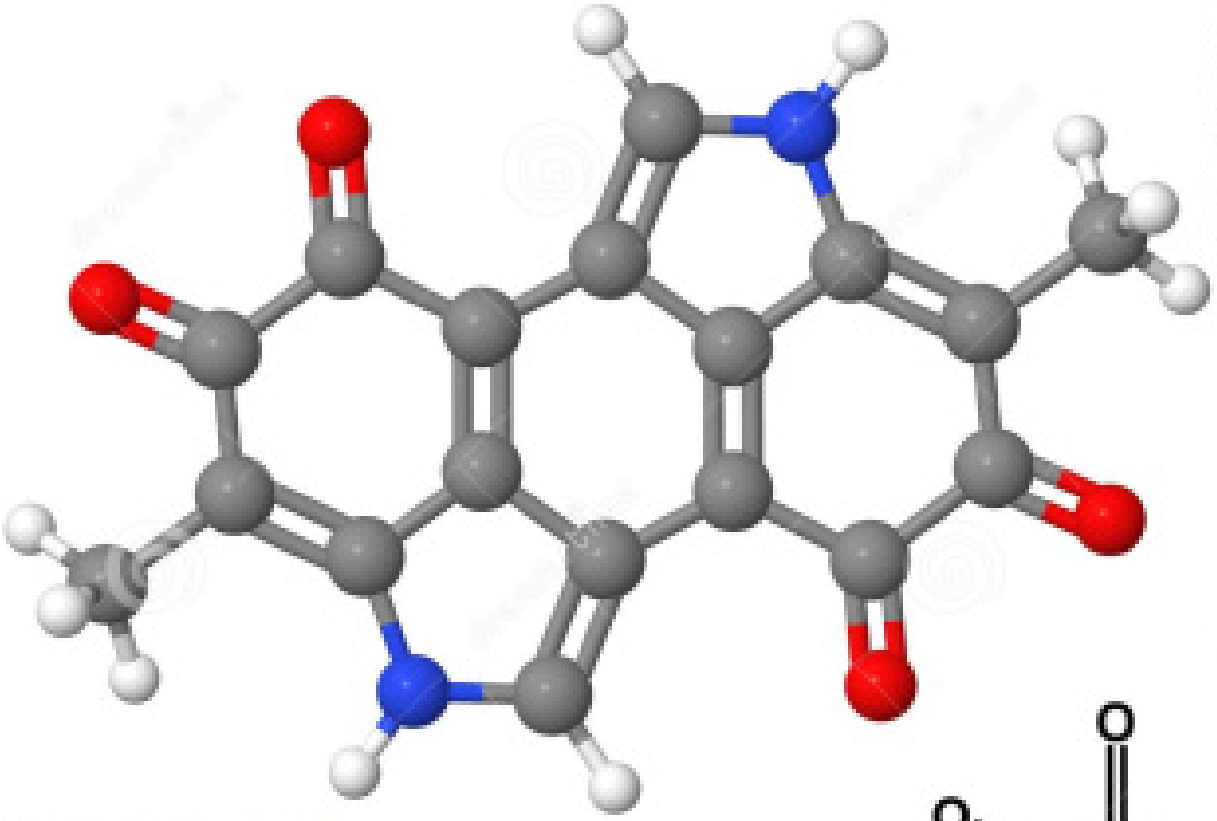
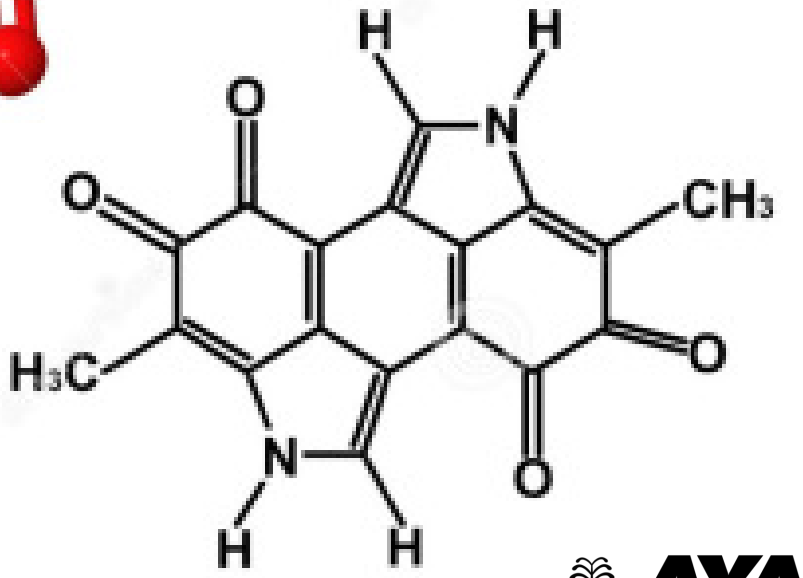
THE MELANIN MOLECULE



Fact: there are over 900,000 patents w/ the word "MELANIN" in them. (Keyamsha.com)

Keyamsha

"A lack of Melanin is directly related to the malfunctioning of the Central Nervous System (CNS). Melanin forms a network between all the Spiritual-Material planes of the Cosmos.," Joseph A. Bailey, II, M.D.



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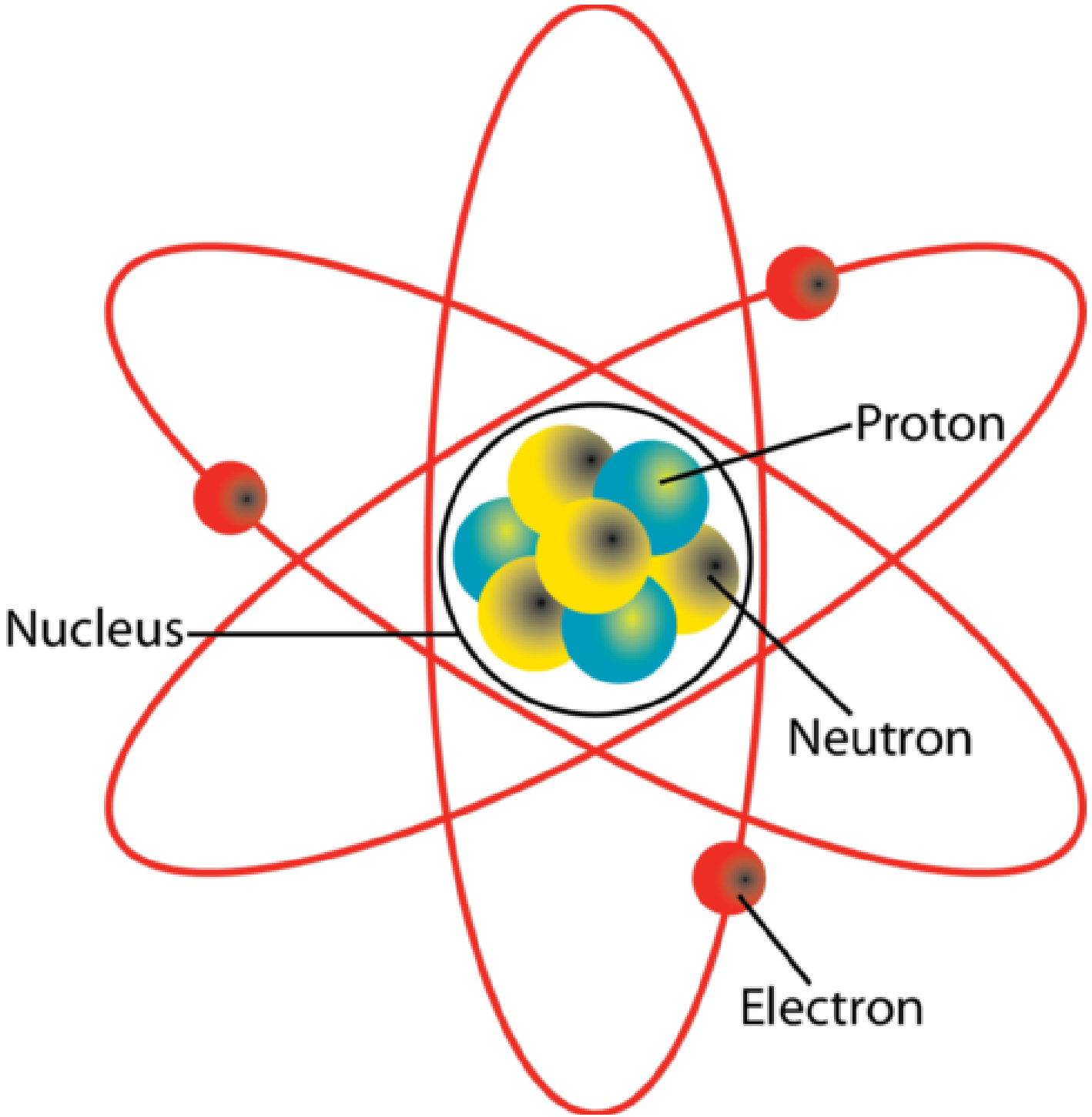
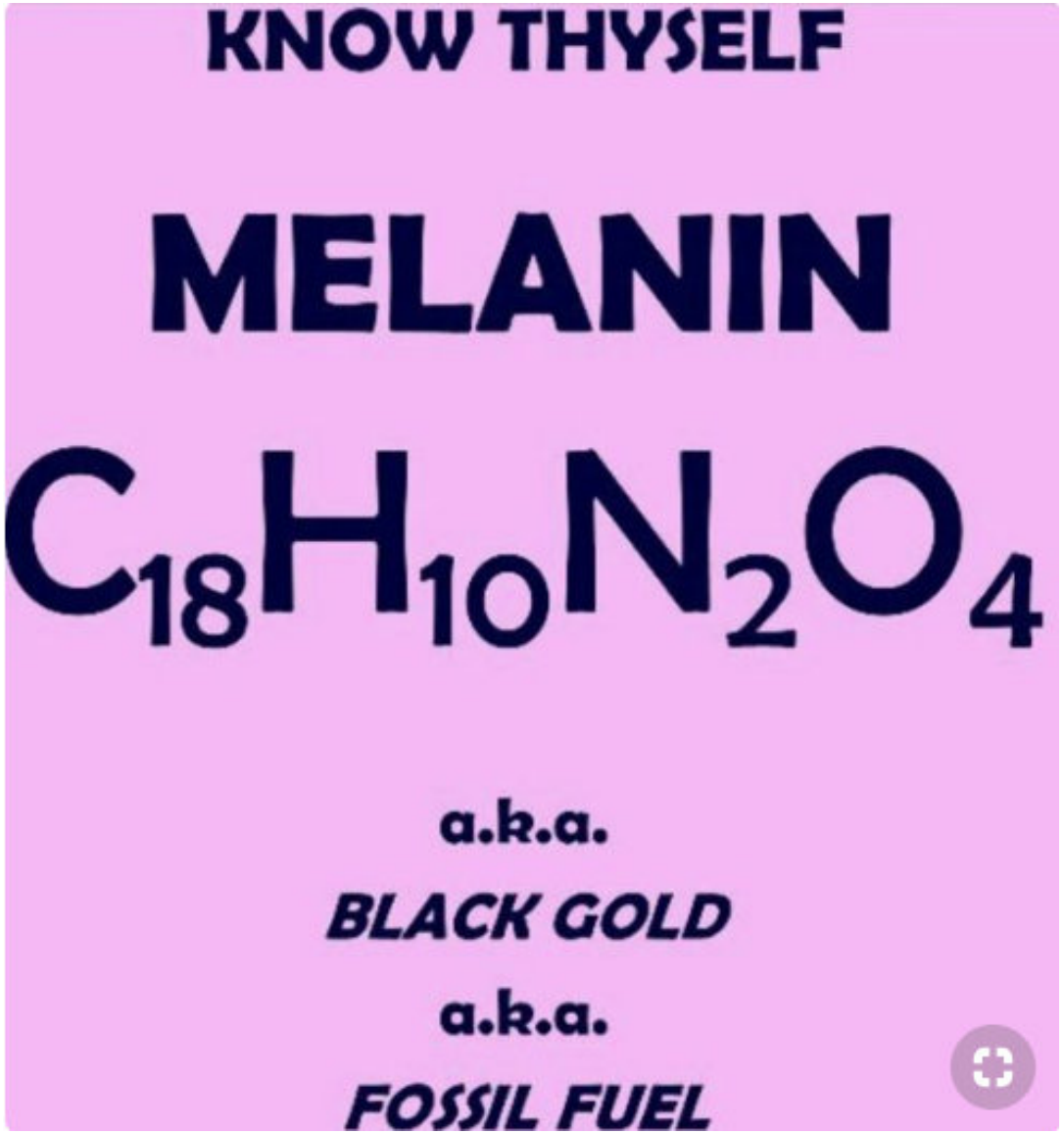
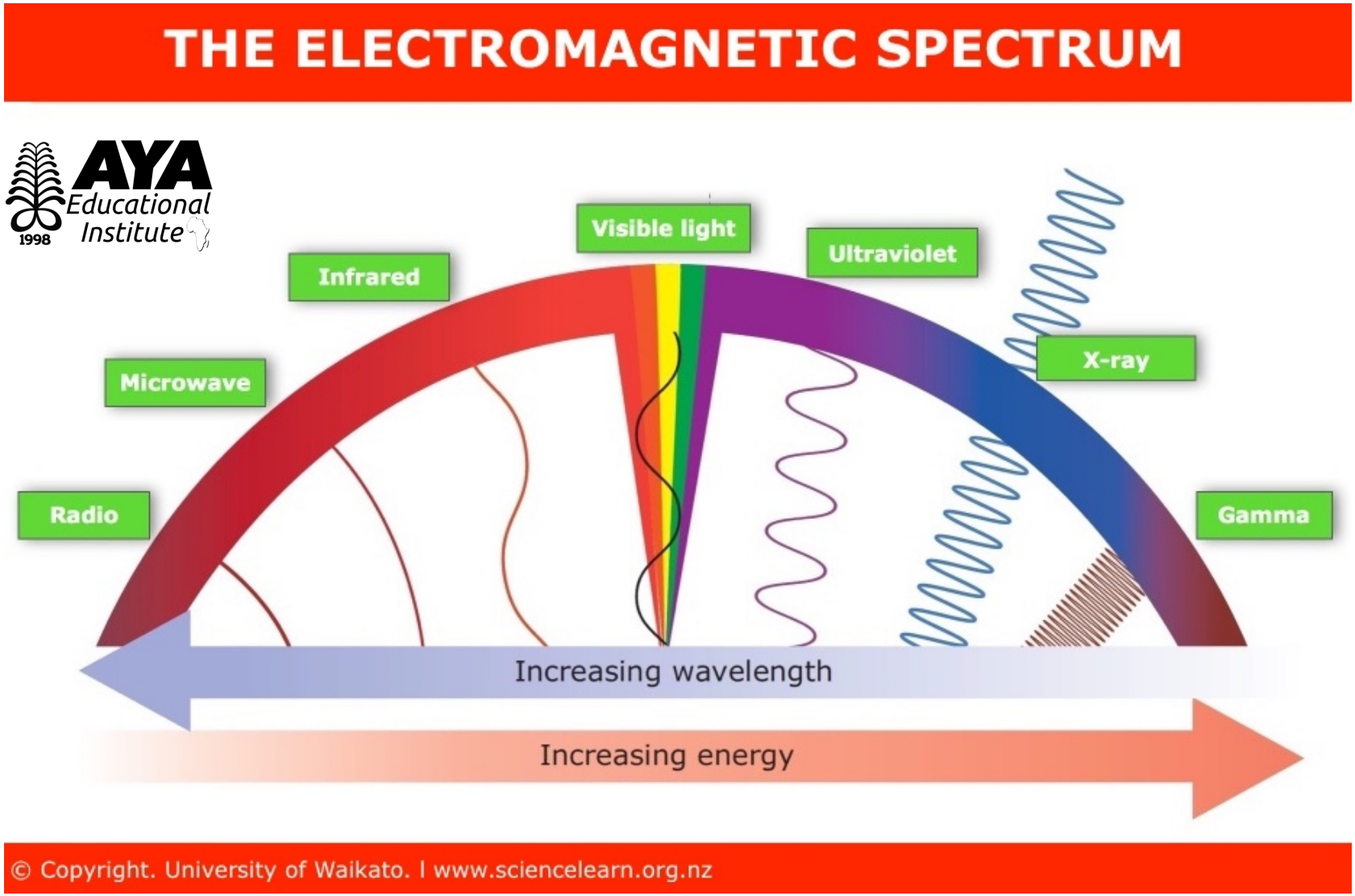

Proton
Nucleus
Neutron
Electron

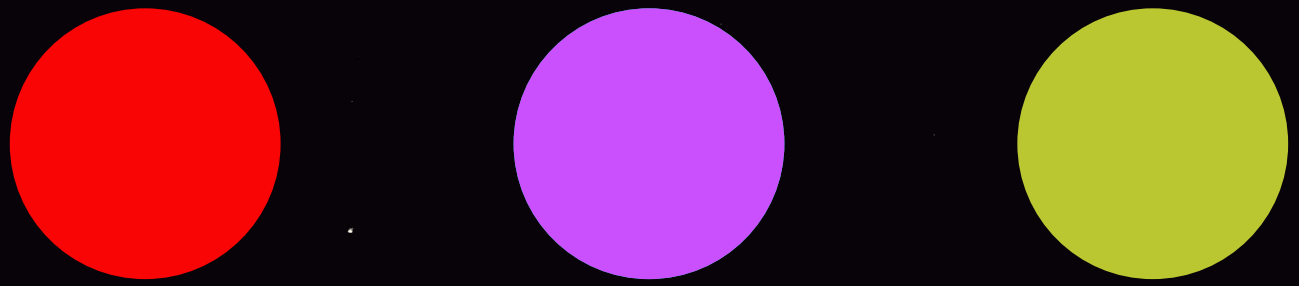

KNOW THYSELF
MELANIN
$C_{18}H_{10}N_2O_4$
a.k.a.
BLACK GOLD
a.k.a.
FOSSIL FUEL



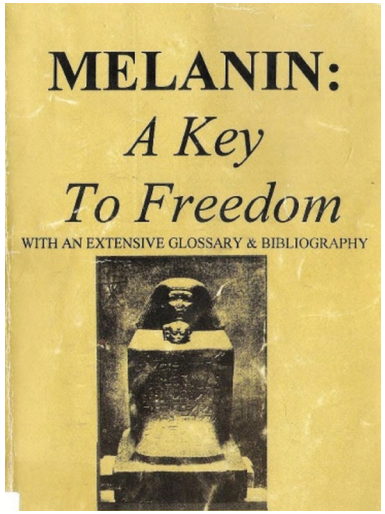
"Melanin is Biological Light!"

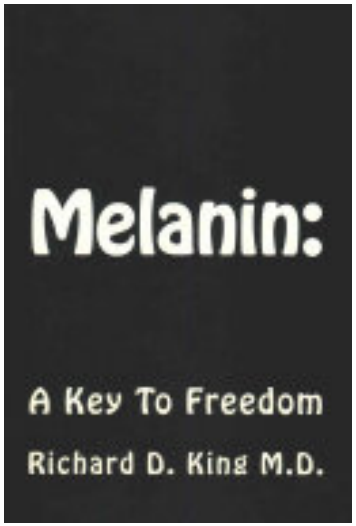
Dr. Jewel Pookrum

BLACK Light ?



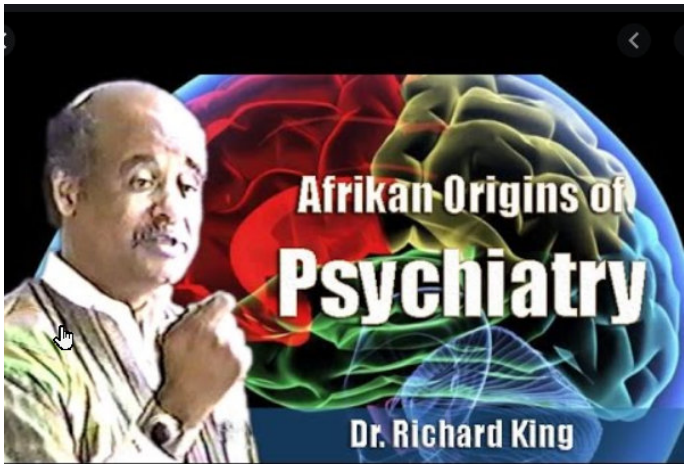
Dr. Richard King, MD



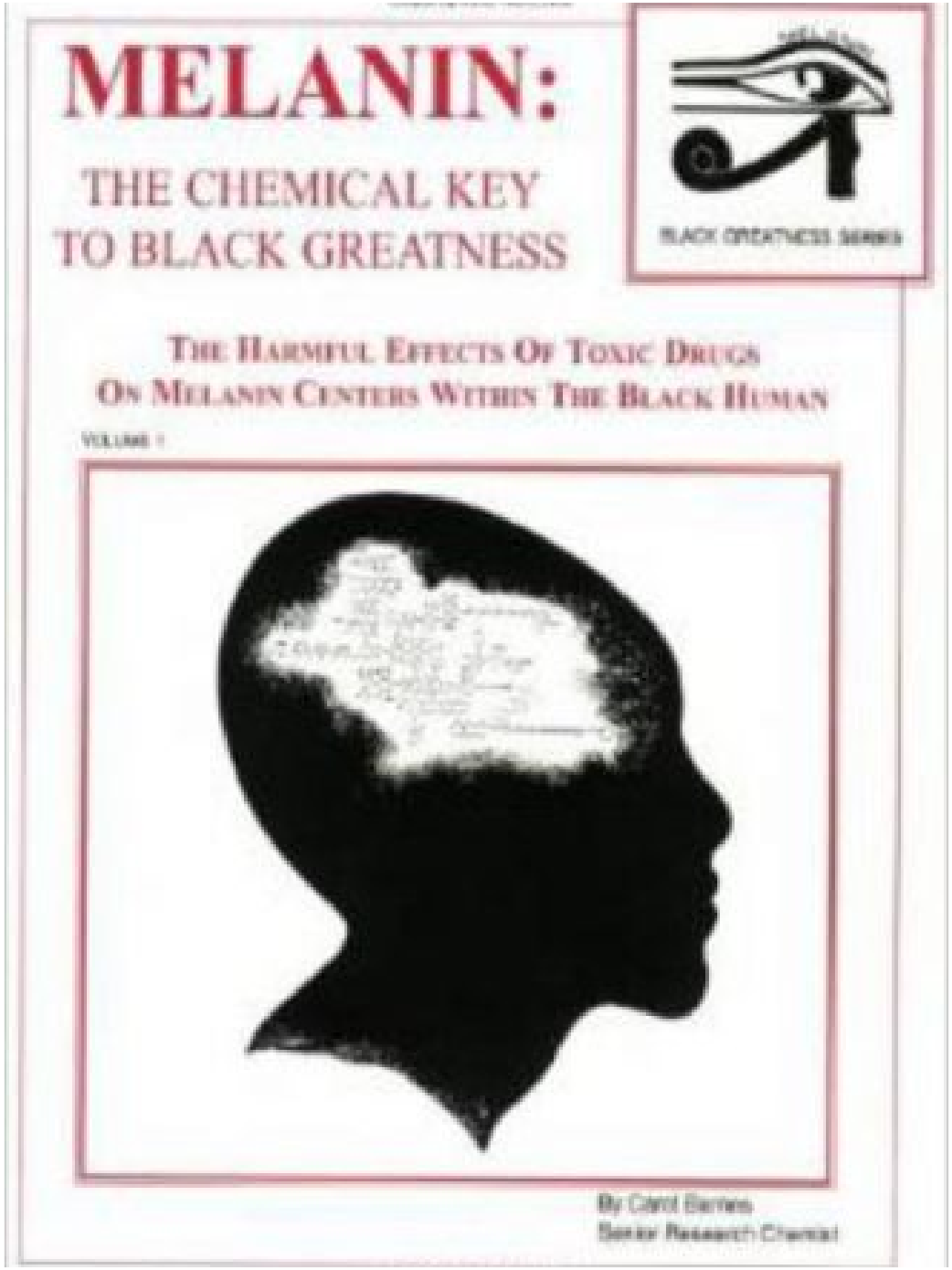


The black dot!

Dr. Richard King | Afrikan Origins of Psychiatry (Dec1993)



A Study of ancient African history reveals an early African definition of the human Melanin System as a whole body Black Melanin System that serves as the eye of the soul to produce inner vision, true spiritual consciousness, creative genius, beatific vision, to become Godlike, and to have conversation with the immortals (Ancestors). The purpose of ancient African education was to provide knowledge and development of the will of the student that allowed salvation (freedom) of the soul from the fetters (chains) of the physical body (George G. M. James, Stolen Legacy



Dr. Carol Barnes

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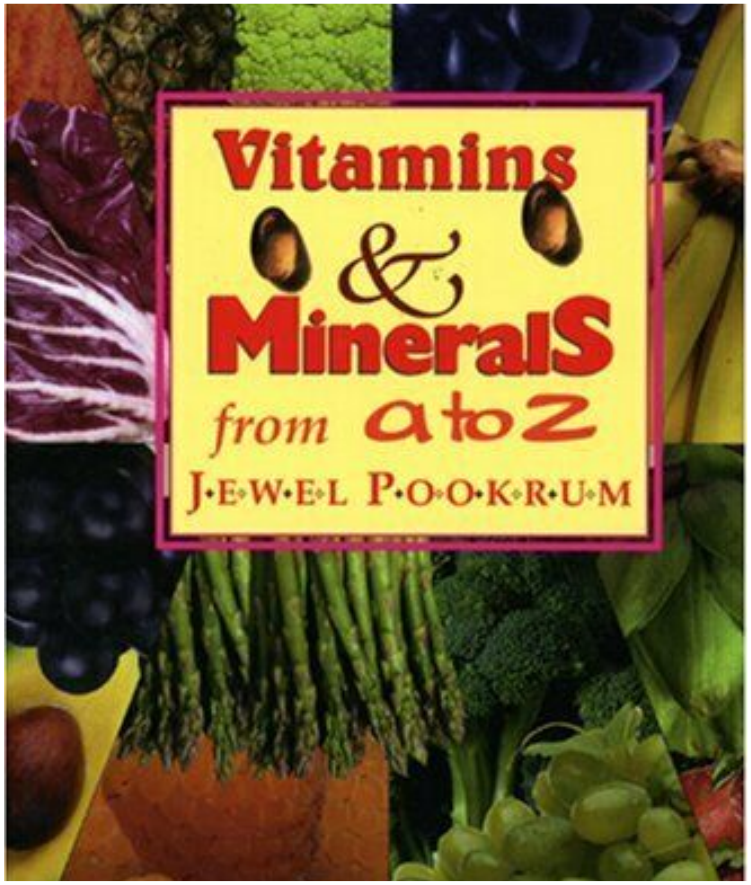

“Melanin is biological living light.”
Active metabolic process!

Pineal gland is the core regulator for the activity of melanin - via serotonin and melatonin.

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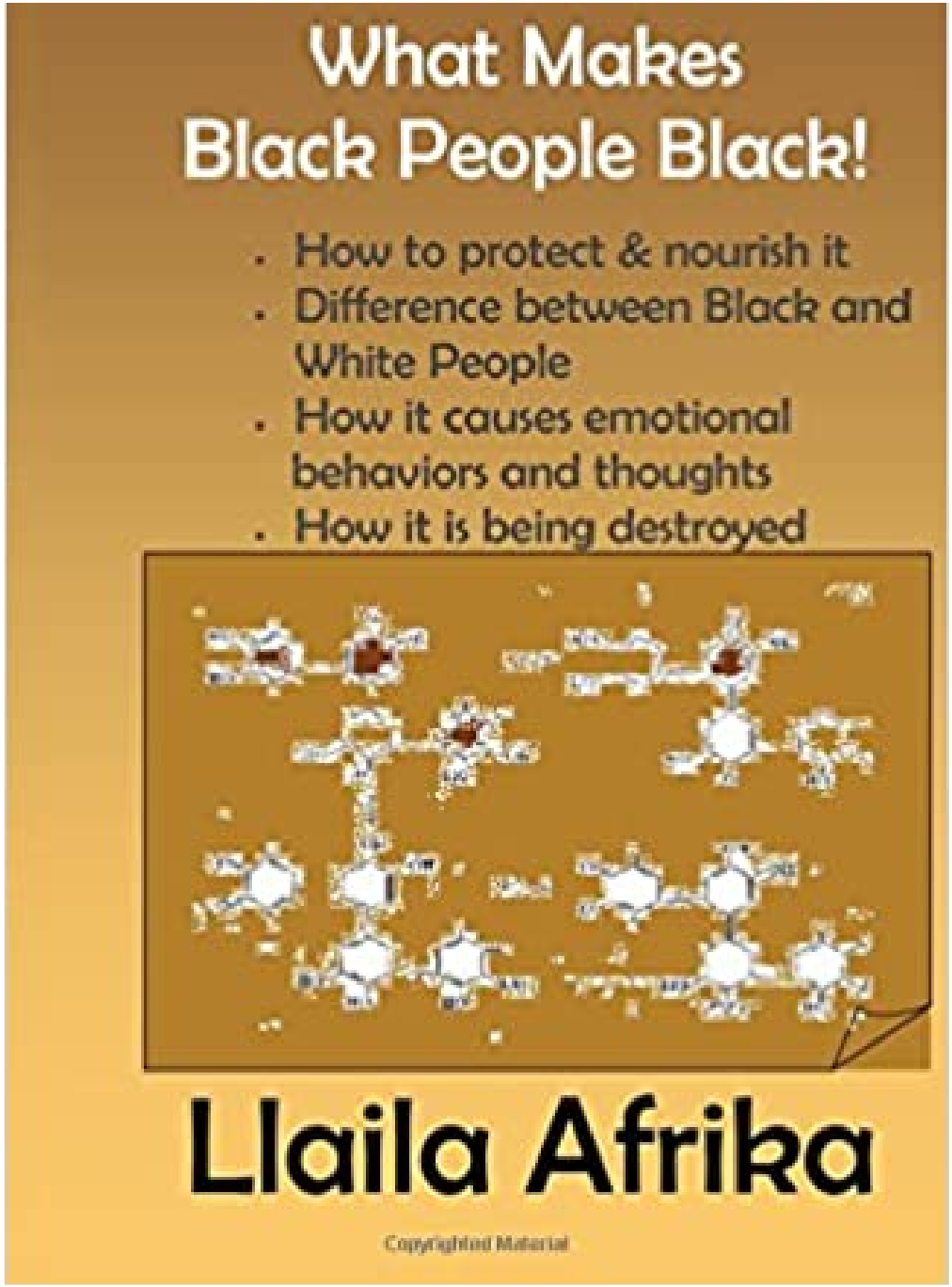

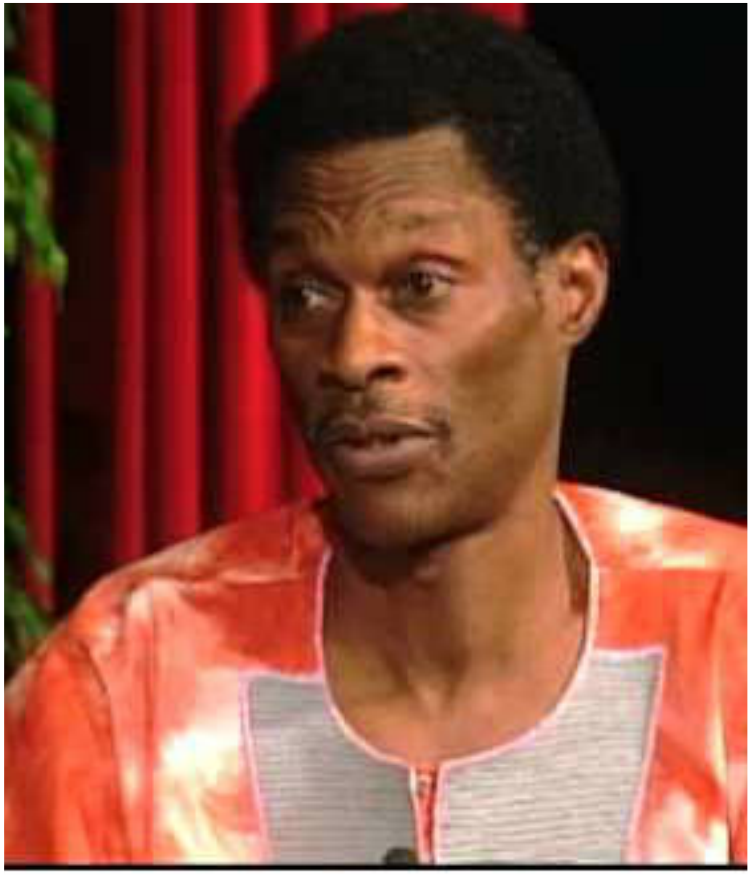

"Melanin is biological living light." Active metabolic process!

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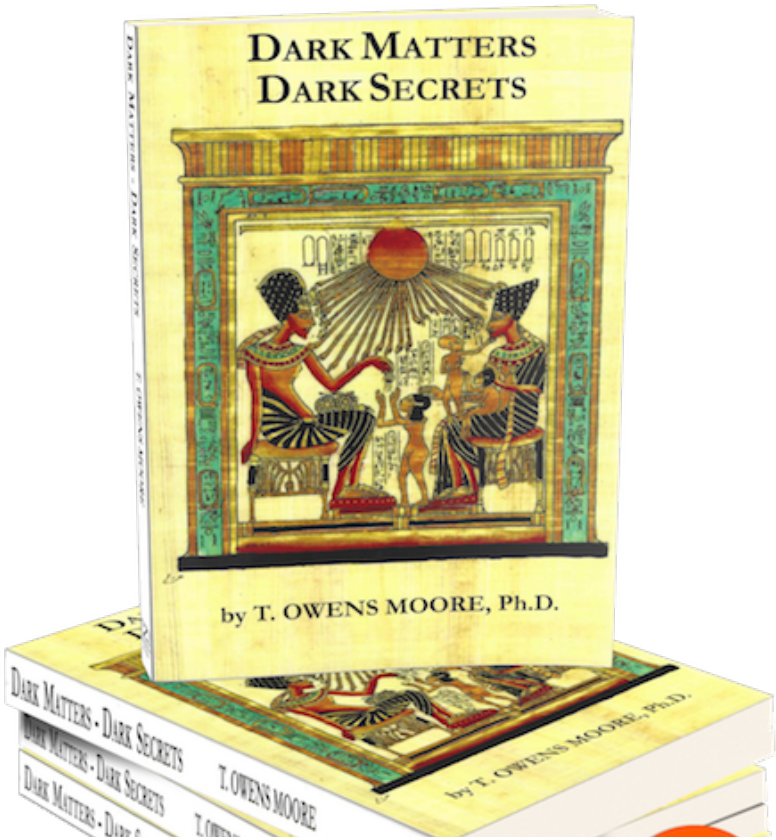

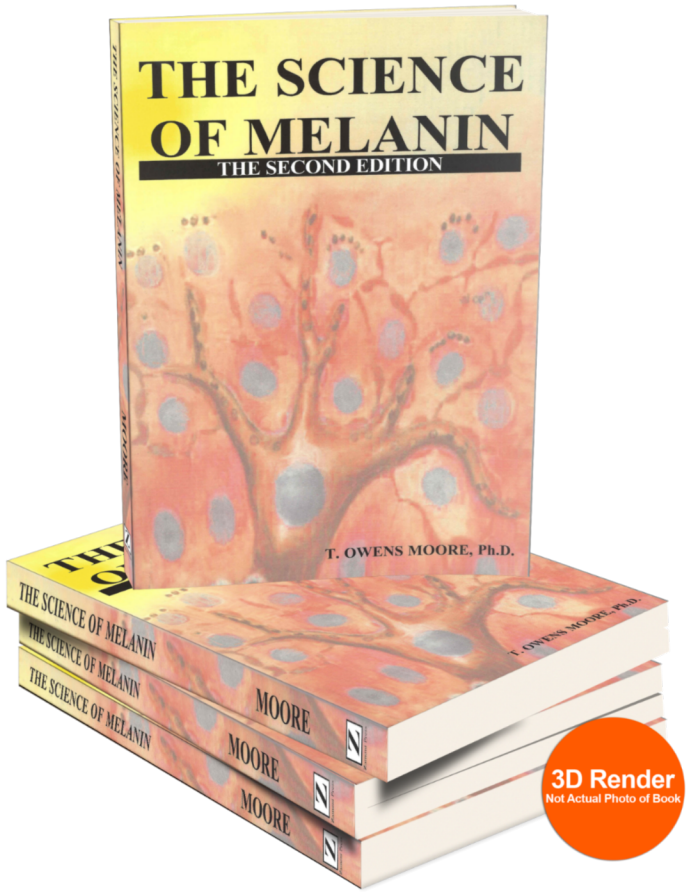

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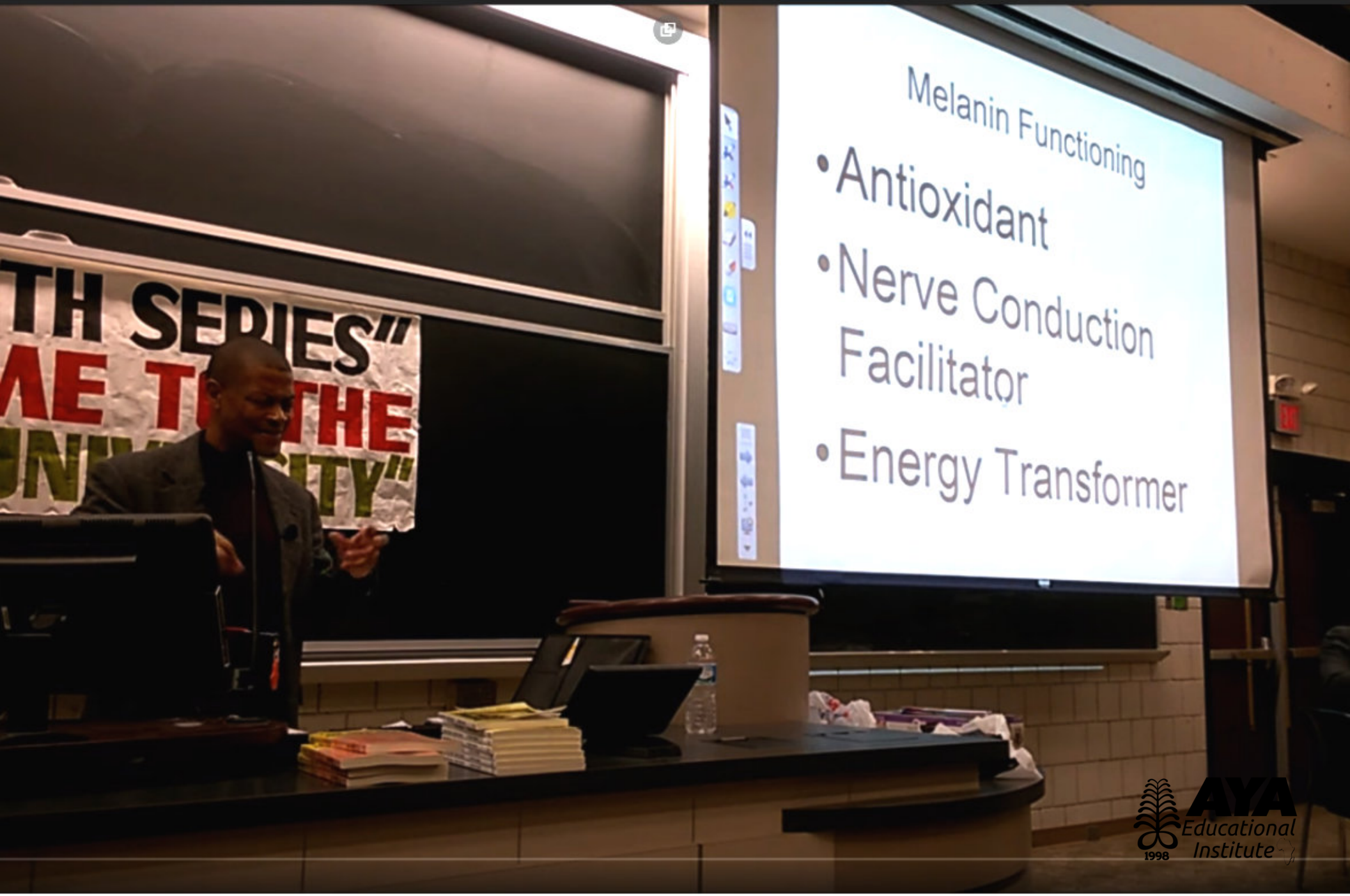
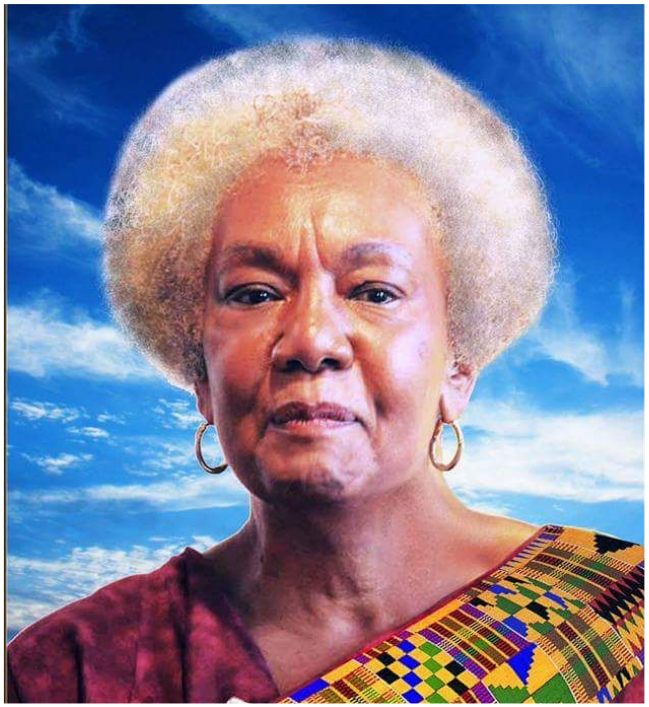
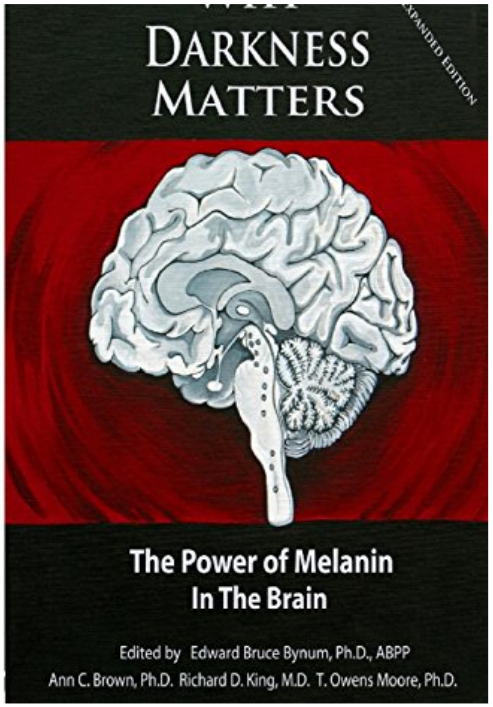


ye of heru..Science of the brain Dr. T. Moore

, 2016



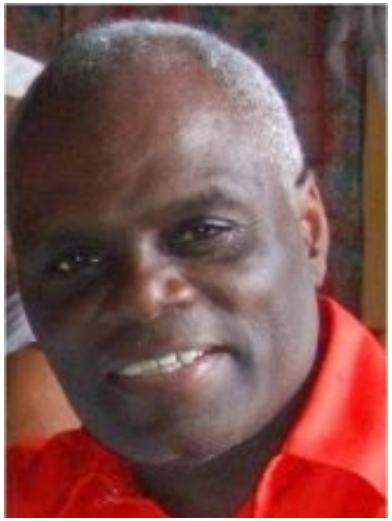
Dr. Frances Cress Welsing



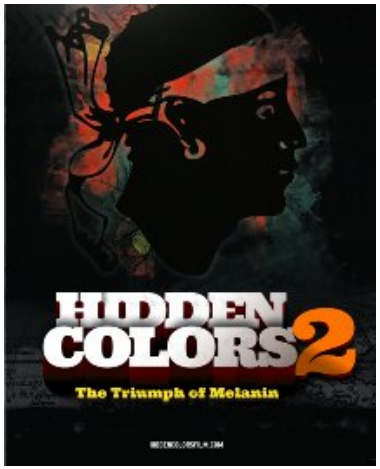
Edward Bruce Bynum

Dr. Anne Brown

Deborah Maat



Dr. Hunter Adams



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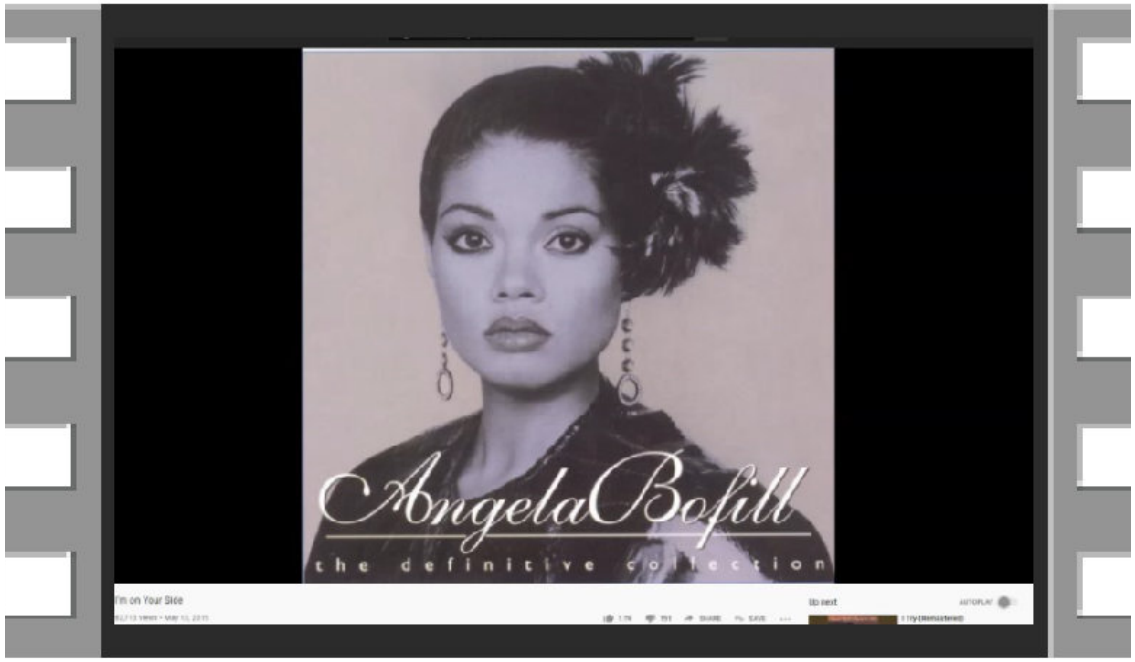

Melanin is on your side!

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Where is Melanin?

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat.

Body Healing

What are the organs of the human body?
How does melanin help them perform optimally and help them heal?

In an organ, different tissues work together to carry out a particular function. These are the main organs, as well as their primary function:

- The **brain** controls thoughts, memory and other organs.
- The **heart** pumps blood around the body.
- The **lungs** separate oxygen from the air and remove carbon dioxide from the blood.
- The **stomach** helps to digest food.
- The **intestines** absorb nutrients from food.
- The **liver** removes poisons from the blood.
- The **kidneys** filter blood and produce urine.
- The **bladder** stores urine.
- The **skin** protects and contains the other organs.

J. Anat. Lond., (1963), 97, 2, pp. 243–253
With 2 plates and 4 text-figures
Printed in Great Britain

A study of the melanocytes and melanin in a healing deep wound

By R. S. SNELL

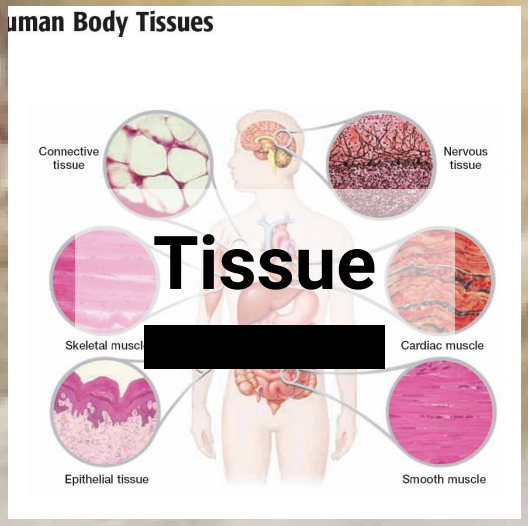
Department of Anatomy, Medical School, King's College, Newcastle upon Tyne 1

The histological changes which occur in the healing of a skin wound by secondary intention have been the subject of many investigations. Only recently, however, has any work been carried out on the activity of the melanocytes and the appearances of melanin during this process. The present experiment is a study of the density and morphology of the melanocytes and the amount of free melanin present in different areas of a deep skin wound in the guinea-pig during the repair process.


Skin

Albino

[redacted]



Tissue

[redacted]

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Albino

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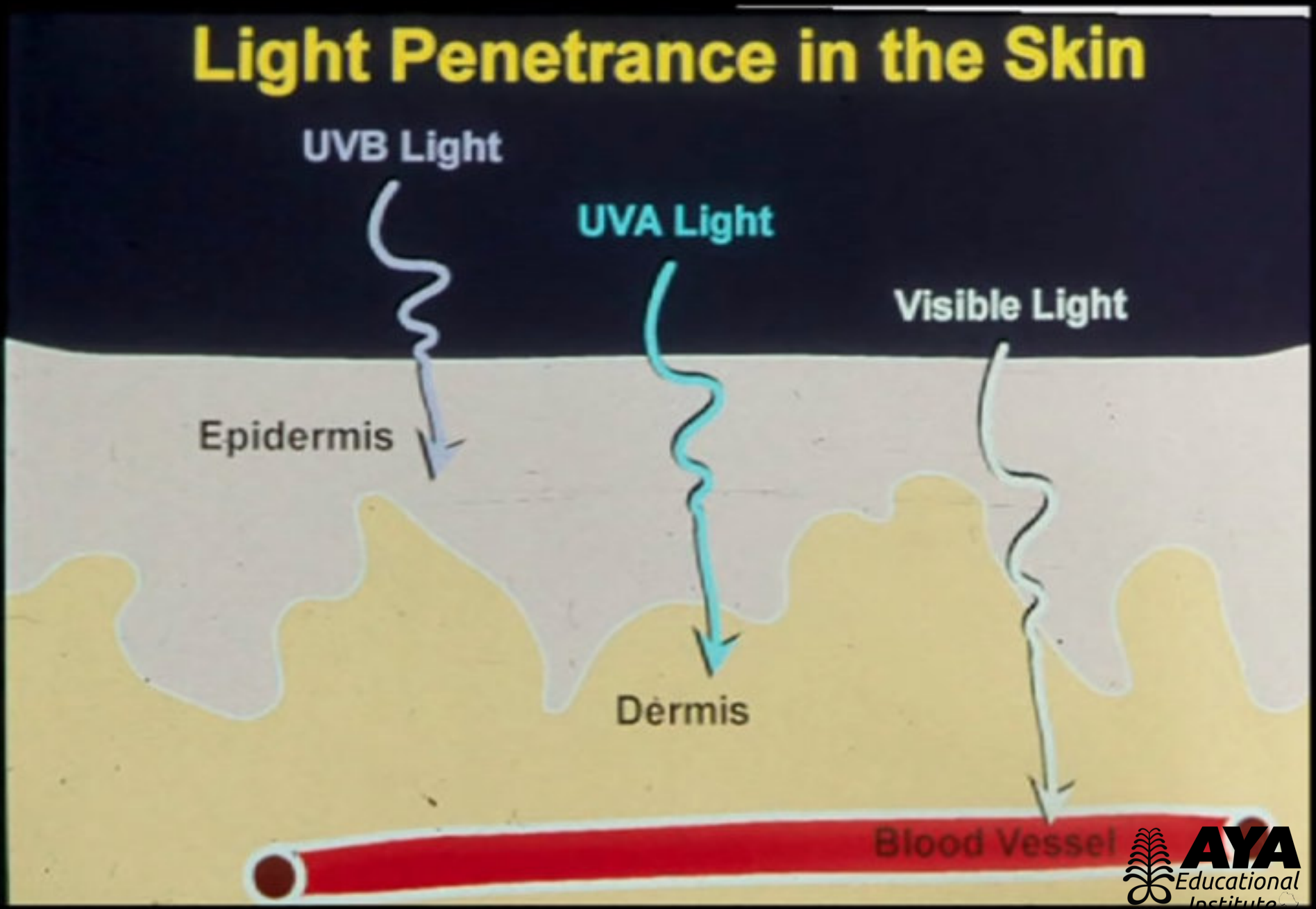
Light Penetrance in the Skin
UVB Light
UVA Light
Visible Light
Epidermis
Dermis
Blood Vessel
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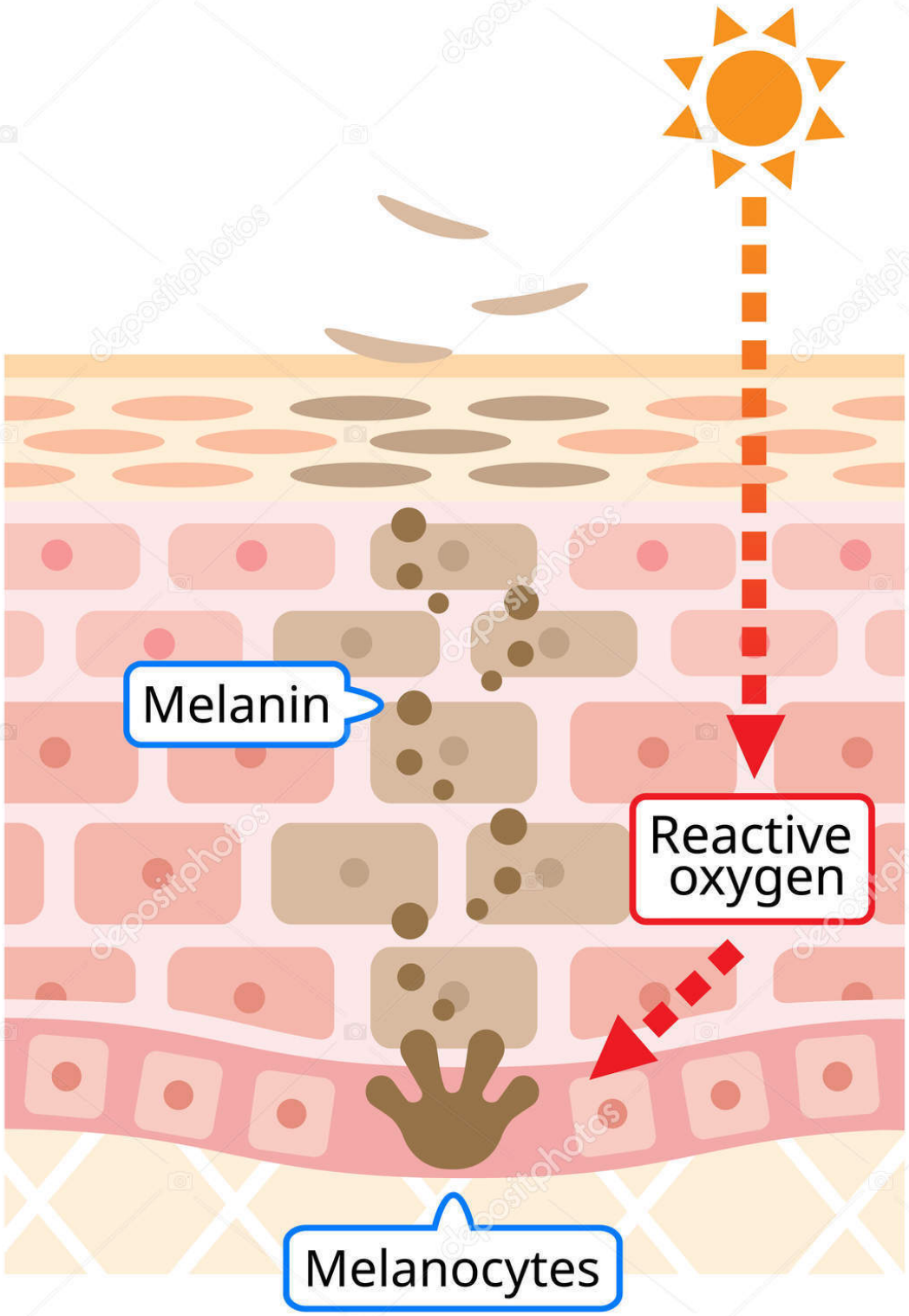

Dark

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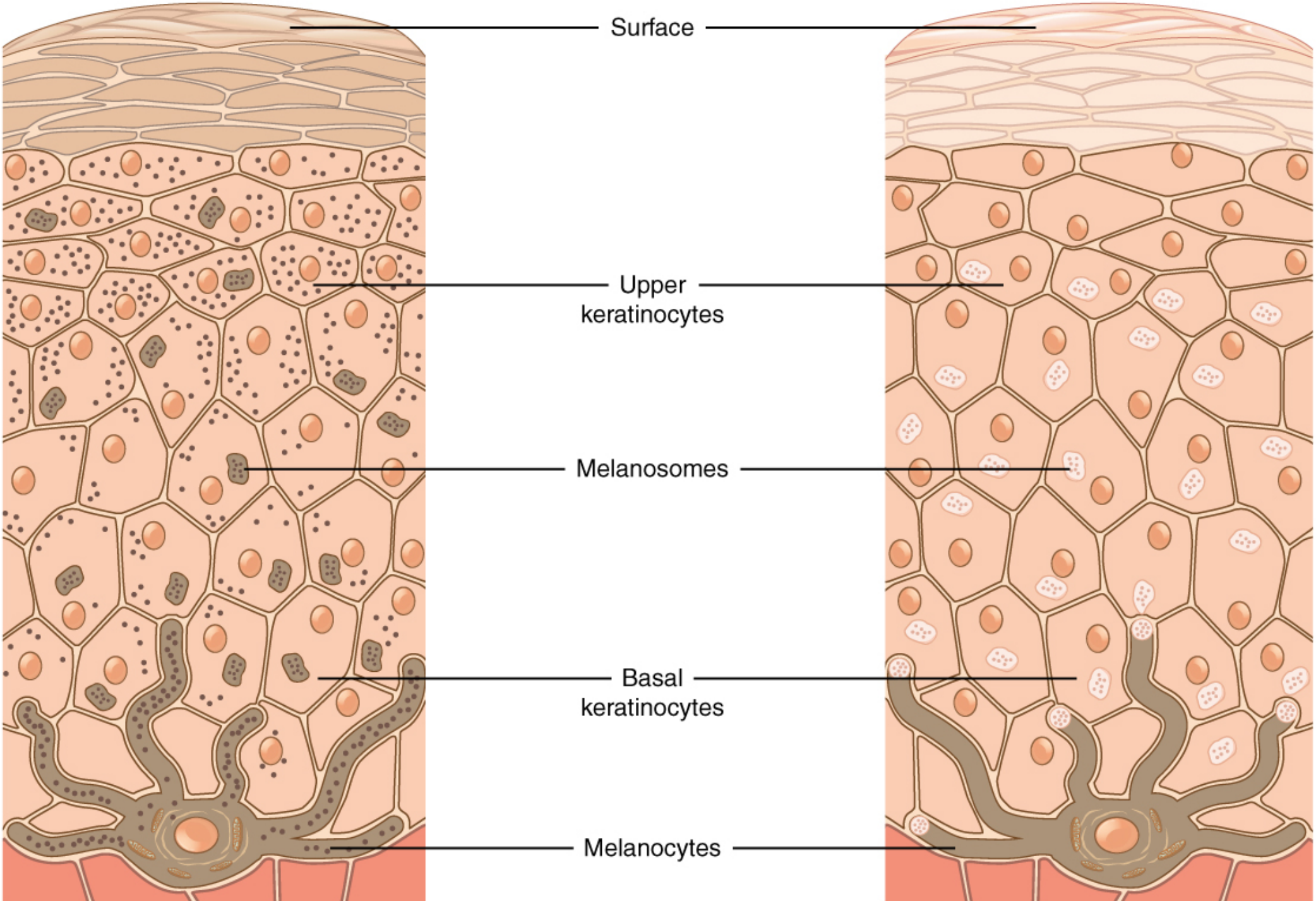
Light



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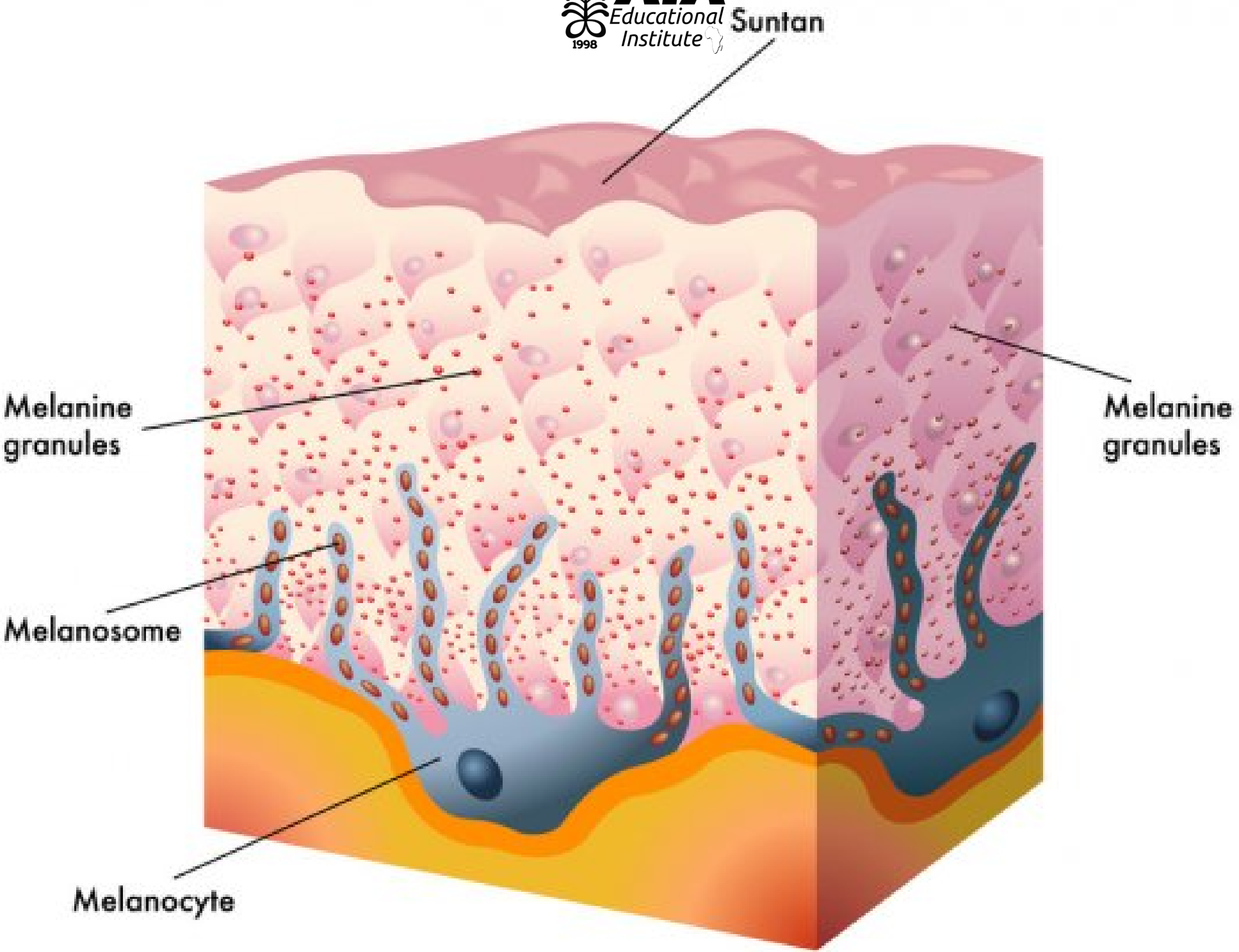

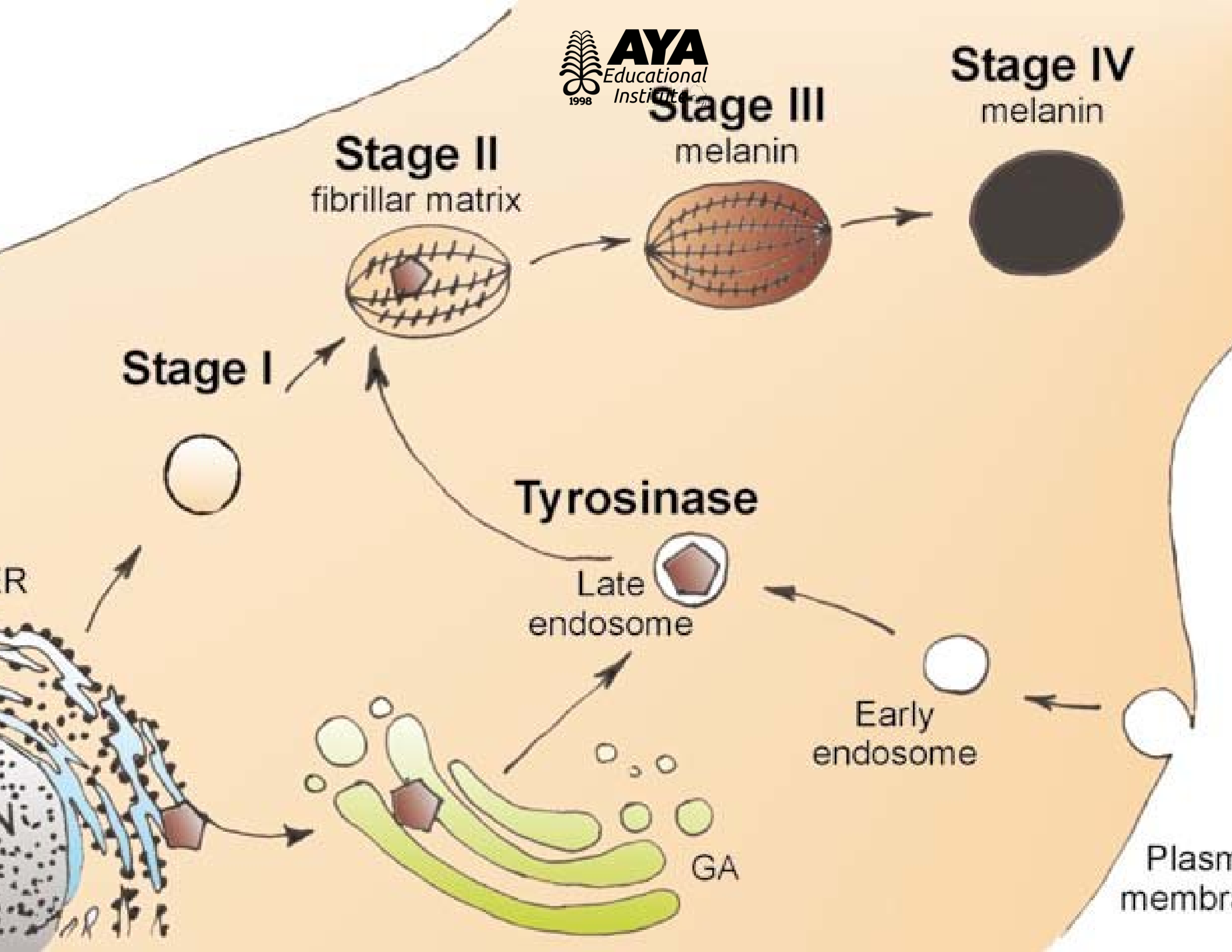
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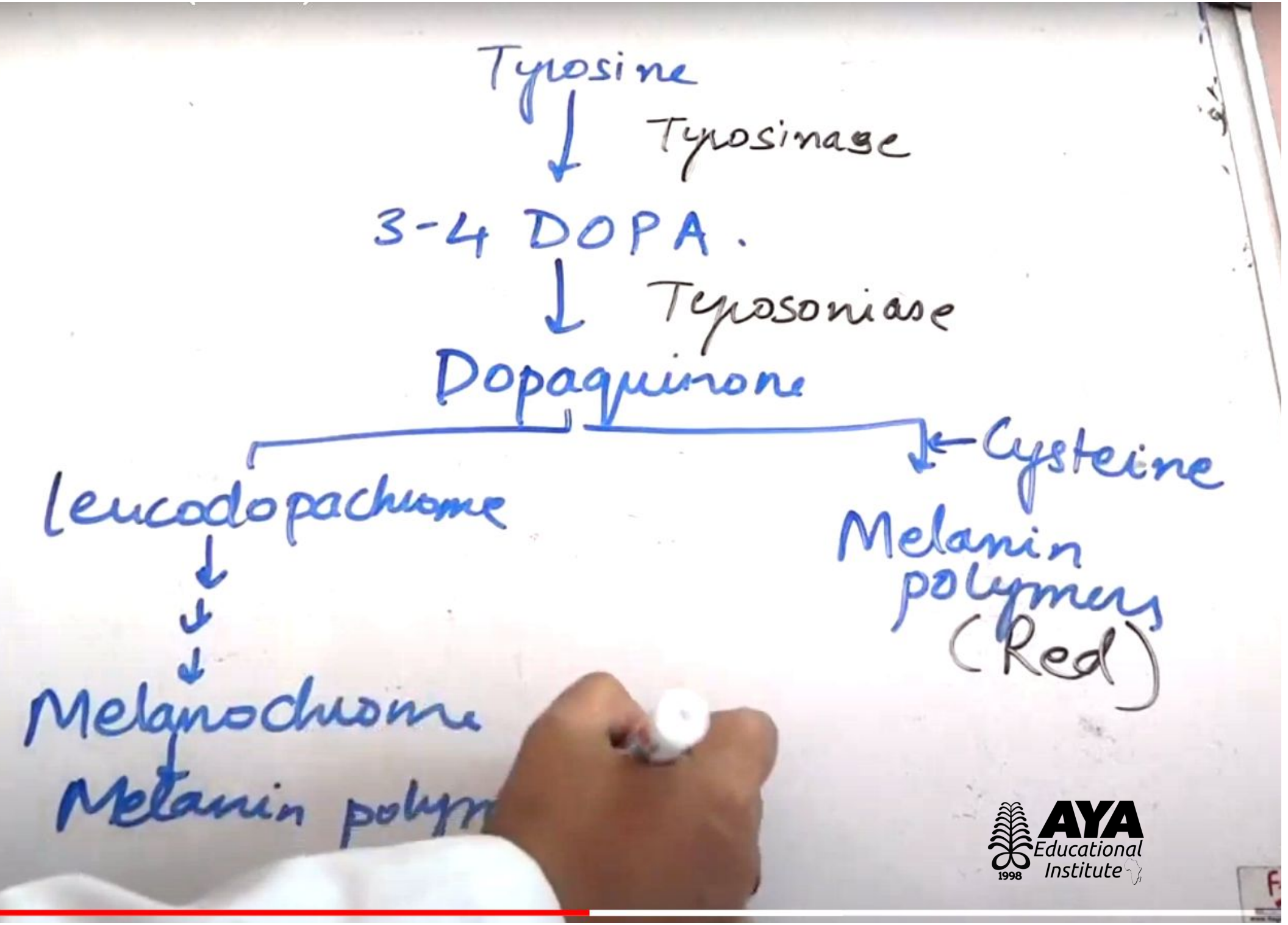
Stage IV
melanin
Stage III
melanin
Stage II
fibrillar matrix
Stage I
Tyrosinase
Late
endosome
Early
endosome
GA
Plasm
membr


Tyrosine
Tyrosinase
3-4 DOPA.
Tyrosoniase
Dopaquinone
Cysteine
Leucodopachrome
Melanin polymers (Red)
Melanochrome
Melanin polym


Eumelanin

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Pheomelanin

Red, Yellow

The MC1R Gene

“

Genetics also play a leading role in who is more likely to develop freckles based on which type of melanin their body produces.

The body can produce two types of melanin called pheomelanin and eumelanin. Eumelanin protects the skin from UV rays, but pheomelanin does not.

The type of melanin the body produces depends on a gene called MC1R.

- People with dark hair, eyes, and skin usually produce mostly eumelanin and are less likely to develop freckles.
- People with red, blonde, or light brown hair and who have light-colored skin and eyes usually produce mainly pheomelanin and are more likely to develop freckles.


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Your Skin Sees

In lab experiments with human melanin-producing **skin** cells called melanocytes, researchers discovered that the cells contain **rhodopsin**, a photosensitive receptor used by the eye to detect light and traced the steps of how it unleashes calcium ion signals that instigate **melanin** production.

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Your Skin Sees (Rhodopsin?)

What's the largest organ in the body?

In an organ, different tissues work together to carry out a particular function. These are the main organs, as well as their primary function:

- The **brain** controls thoughts, memory and other organs.
- The **heart** pumps blood around the body.
- The **lungs** separate oxygen from the air and remove carbon dioxide from the blood.
- The **stomach** helps to digest food.
- The **intestines** absorb nutrients from food.
- The **liver** removes poisons from the blood.
- The **kidneys** filter blood and produce urine.
- The **bladder** stores urine.
- The **skin** protects and contains the other organs.

.

There are two types of melanin:

- **eumelanin** – black-brown form
- **pheomelanin** – red-yellow form

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The more eumelanin in your epidermis, the darker your skin.

Light skin contains little eumelanin.

Fair skin, freckling, and carrot-red hair is associated with large amounts of pheomelanin and small amounts of eumelanin.

Pheomelanin & Cancer

Less Protection Against Skin DNA Damage

Melanin protects the skin against DNA damage induced by direct absorption of sunlight's UV radiation. Yet, irradiating melanin in vitro or in cultured cells also generates active oxygen species such as superoxide, which can indirectly induce oxidative base lesions and DNA strand breaks. This photosensitization is greater for pheomelanin (yellow and red melanin) than for eumelanin (brown and black).

… Because the concentration of eumelanin in black mice was three times that of pheomelanin in yellow mice, pheomelanin had 3-fold greater specific activity. We conclude that UV-irradiated melanin, particularly pheomelanin, photosensitizes adjacent cells to caspase-3 independent apoptosis, and this occurs at a frequency greater than the apoptosis induced by direct DNA absorption of UV. Melanin-induced apoptosis may contribute to the increased sensitivity of individuals with blonde and red hair to sunburn and skin cancer.

https://www.pnas.org/content/101/42/15076.abstract

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Vocabulary

Molecule | Atom | Compound | Ions

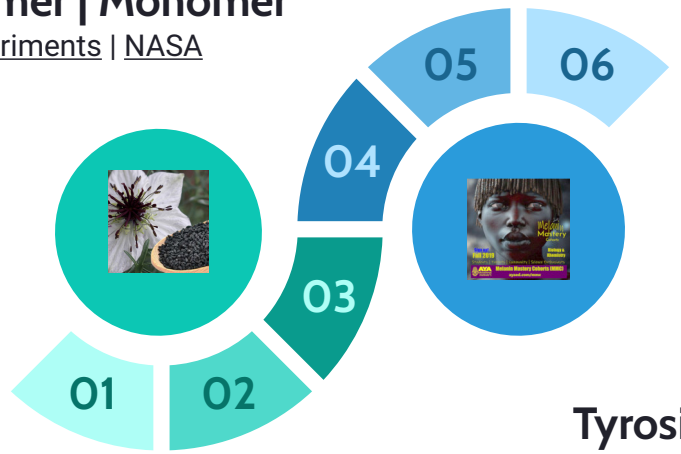
What is an Atom and How do We Know?
How Small?

Pigment | Polymer | Monomer

Polymer | Experiments | NASA

C18|H10|N2|O4

Carbon 18, Hydrogen 10,
Nitrogen 2, Oxygen 4



Melanocyte | Melanosome | Melanin

Eu-melanin, Pheomelanin,
Neuromelanin, Allomelanin,
Selenomelanin

Tyrosine - Tyrosinase >> Reaction

Amino Acids
Enzymes

Single, Double, Covalent Bonds

A **covalent bond**, also called a **molecular bond**, is a chemical bond that involves the sharing of electron pairs between atoms.

When Melanin Malfunctions?

What is Ocular Albinism?

Ocular albinism is an inherited condition that affects a person's eyes. People with ocular albinism lack melanin, which gives eyes their blue, green, brown, or hazel color. Melanin also acts like sunscreen to protect the eyes from the sun's harmful UV rays. It can cause vision problems, such as nearsightedness, farsightedness, and astigmatism.

Ocular albinism affects the retina, which is the light-sensitive tissue lining the inside of the eye, and the optic nerve that sends signals about what the person sees to the brain. The condition prevents the retina from developing properly, which causes things to look blurry.

Pigment gives the iris of the eye its blue, brown, green or gray color, but it also helps the eye function better. The iris's job is to limit the amount of light entering the eye, for example, and the pigment makes the iris opaque so that less light gets through.
Pigment is also present in other tissues of the eye, including the retina, which is the light-sensitive tissue lining the back of the eye.
Unlike other types of albinism, ocular albinism does not noticeably affect a person's complexion or hair. They may have slightly lighter skin than do other members of their family, but the differences in complexion are usually minor.

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Waarenburg syndrome
Suri from Ethiopia was born deaf

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THE EYE COLOR SPECTRUM: REDUCING

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Studies Shed Light On Role Of Melanin In Preventing Macular Degeneration

sciencedaily.com/releases/2005/07/050729062519.htm

Two studies from an unusual research partnership at the University of Chicago appear to have resolved a long-standing dispute about the role of melanin in the eye. The studies, one published in the roceedings of the National Academy of Sciences (PNAS) and one early online in the Journal of the American Chemical Society (JACS), also suggest a new way to prevent a common cause of blindness.

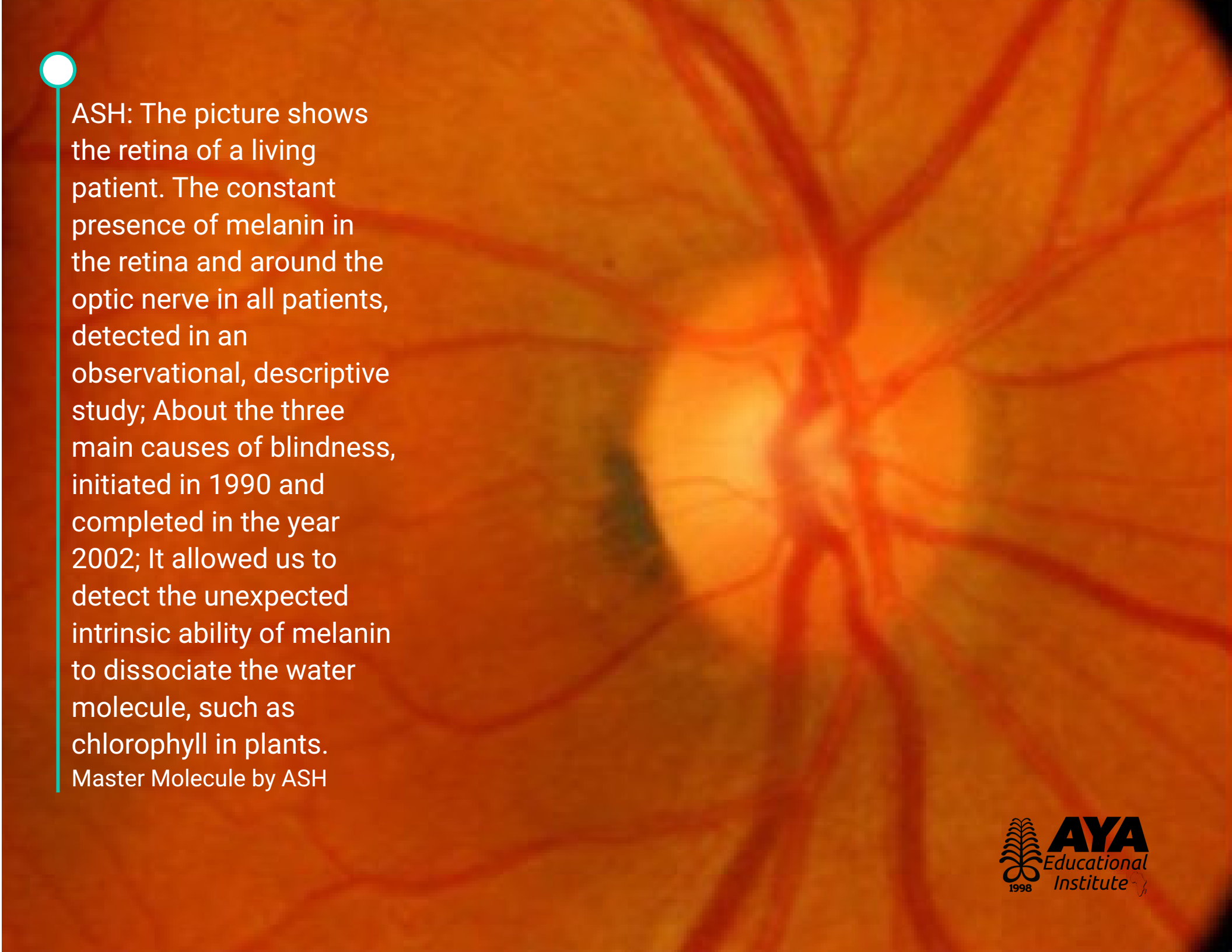
Chemist James Norris, Ph.D., and retina surgeon Kourous Rezai, M.D., combined resources to show that melanin, a pigment found throughout the human body, acts like a neutralizing sponge inside cells in the retina to soak up and destroy reactive oxygen species.“

Reactive oxygen species, or free radicals, nergized by light, are thought to play a major role in macular degeneration, the leading cause of blindness in people over the age of 60.

We now have the first persuasive evidence that melanin plays an important protective role within the eye,” said Norris, professor in the Department of Chemistry and the Institute for Biophysical Dynamics at the University of Chicago and one of the senior authors of both papers.

“Although melanin contains its own intrinsic free radical, we found that **it absorbs a far more damaging form of free radical,** converting its destructive energy into harmless heat before it can hurt the retina.”

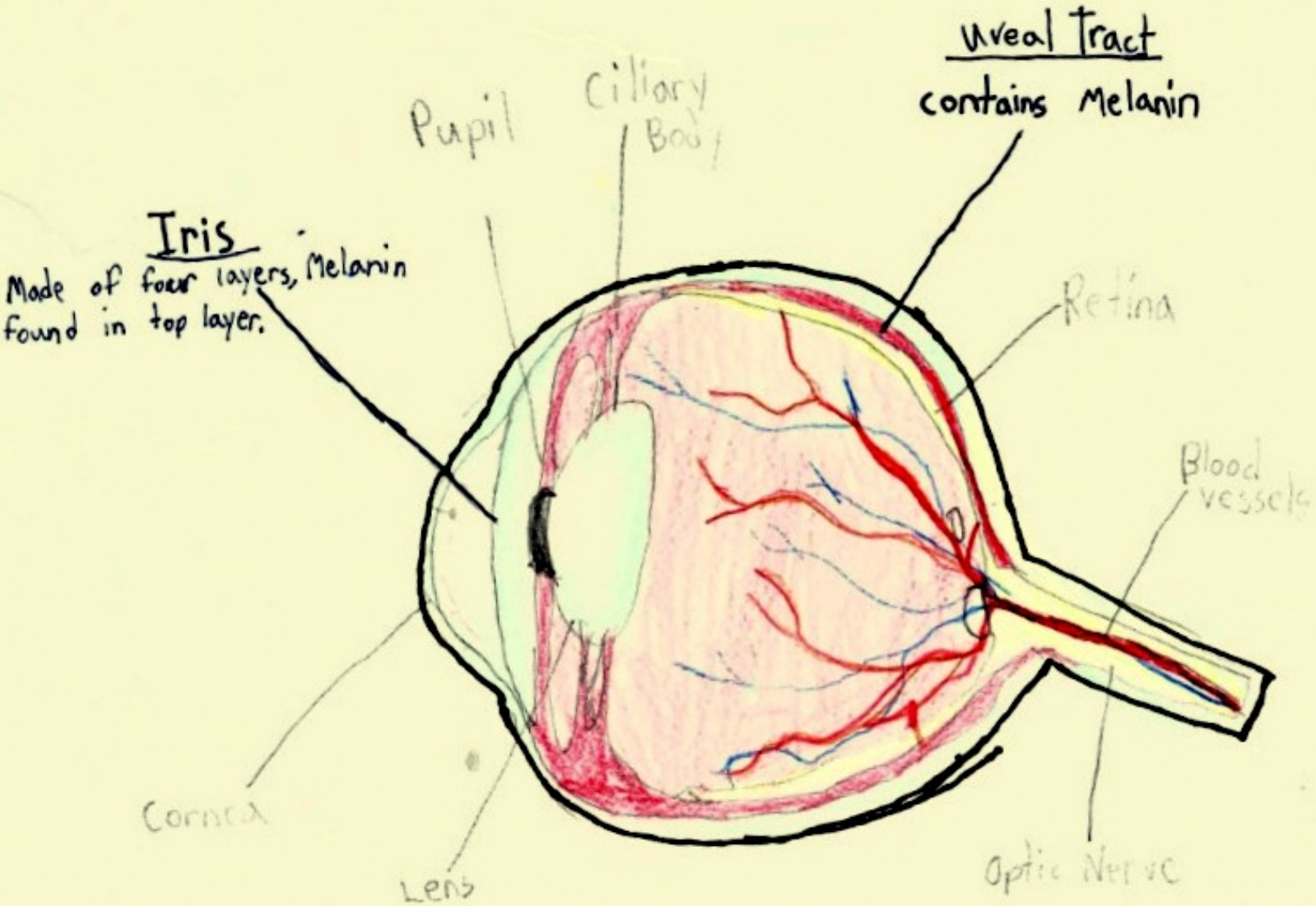
AYA Educational Institute 1998



ASH: The picture shows the retina of a living patient. The constant presence of melanin in the retina and around the optic nerve in all patients, detected in an observational, descriptive study; About the three main causes of blindness, initiated in 1990 and completed in the year 2002; It allowed us to detect the unexpected intrinsic ability of melanin to dissociate the water molecule, such as chlorophyll in plants.

Master Molecule by ASH

AYA Educational Institute 1998



Studies Shed Light On Role Of Melanin In Preventing Macular Degeneration

sciencedaily.com/releases/2005/07/050729062519.htm

FULL STORY

Two studies from an unusual research partnership at the University of Chicago appear to have resolved a long-standing dispute about the role of melanin in the eye. The studies, one published in the Proceedings of the National Academy of Sciences (PNAS) and one early online in the Journal of the American Chemical Society (JACS), also suggest a new way to prevent a common cause of blindness.

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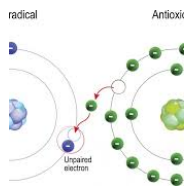
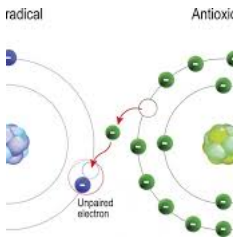
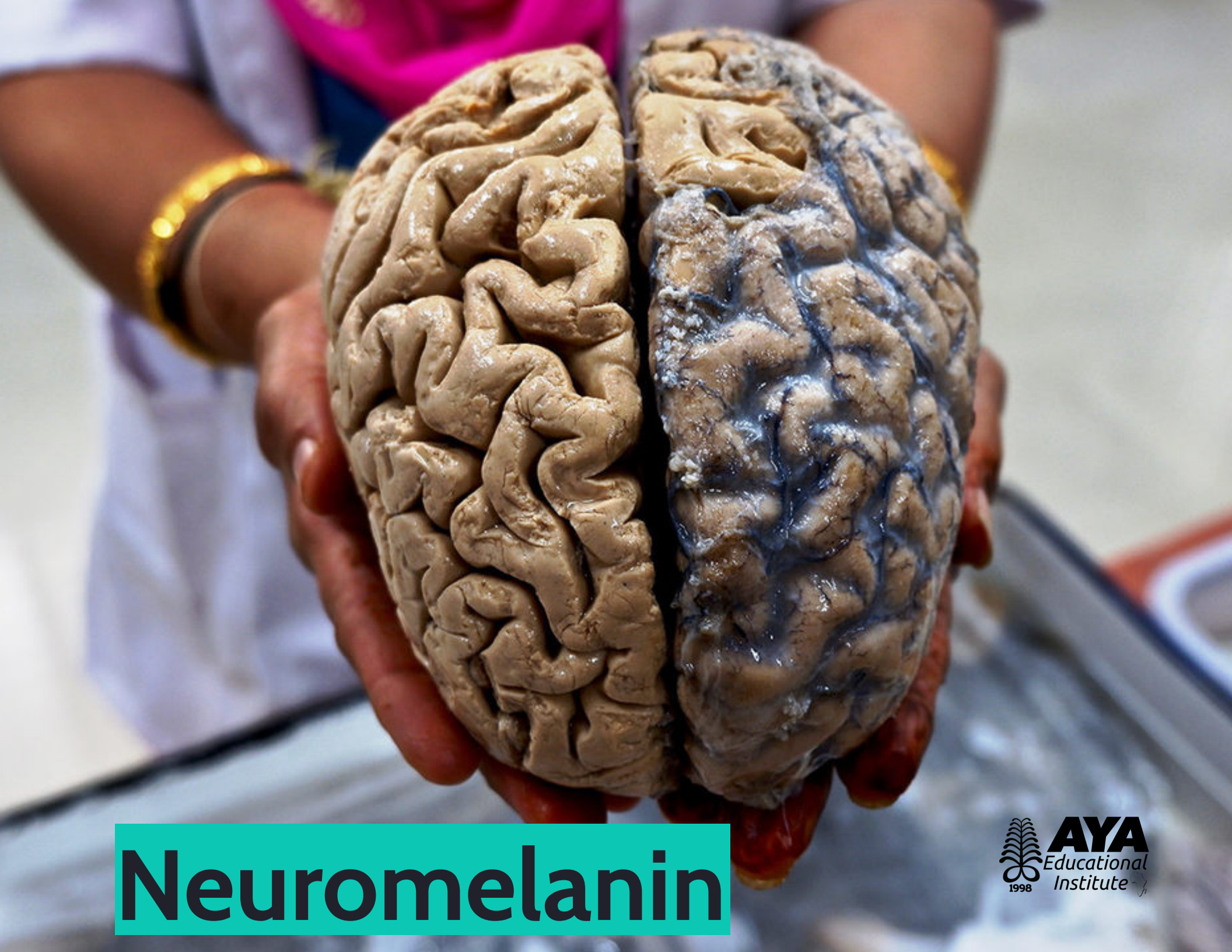


Free Radicals



Less AMD for Afrikans

AYA Educational Institute 1998



Neuromelanin

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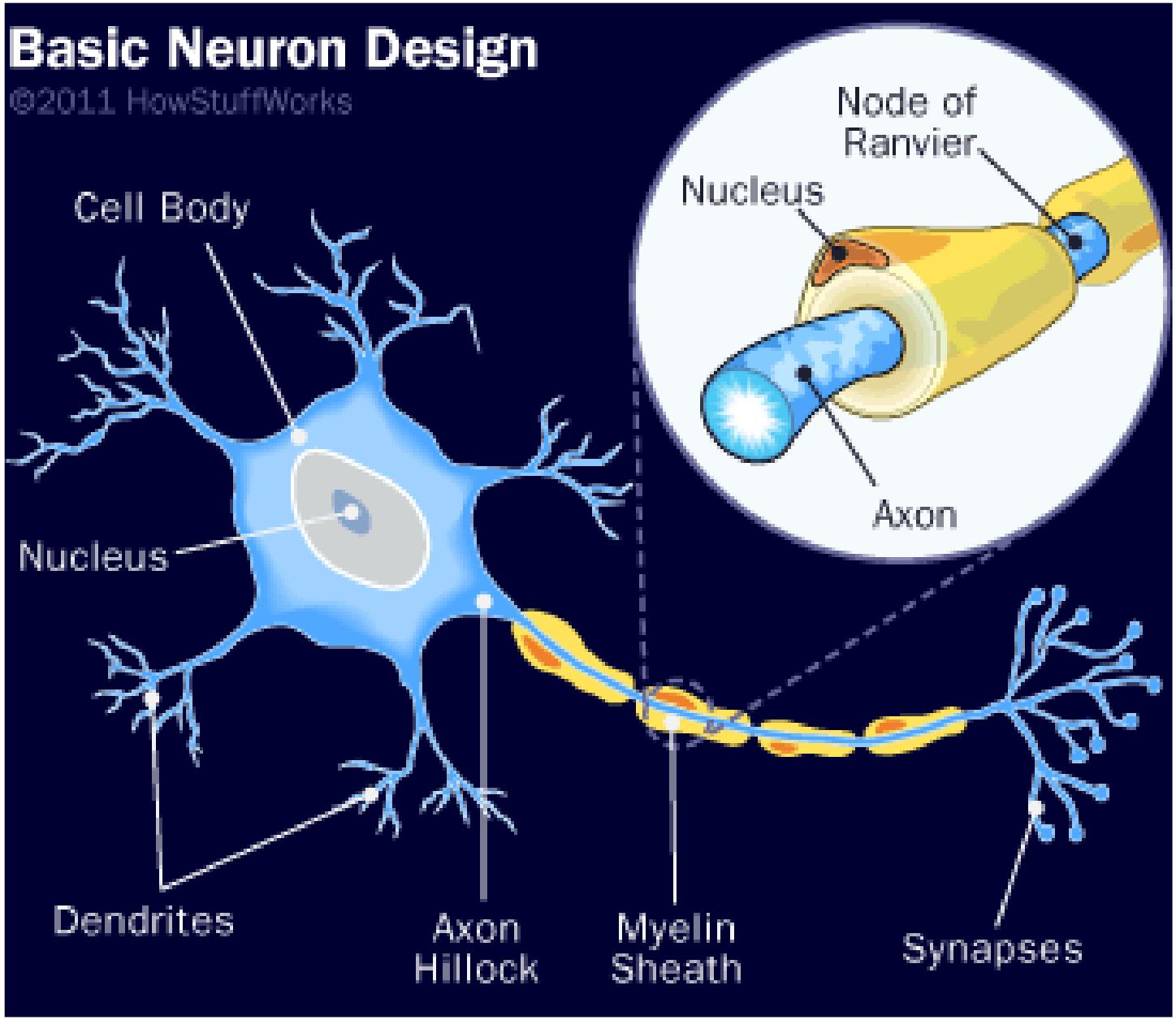

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Organ systems

Organs are organized into organ systems.

An organ system is a group of organs that work together to do a job.
Key human organ systems:

- The **circulatory system** includes the heart, veins and arteries. Its function is to transport substances in the blood, around the body.
- The **respiratory system** includes the nose and the lungs. It takes in oxygen and removes carbon dioxide.
- The **digestive system** includes the stomach and intestines. It breaks down food and absorbs nutrients.
- The **reproductive system** includes the uterus and vagina in women, and the penis and testes in men. Its function is to create offspring.
- The **musculoskeletal system** includes bones and muscles. It supports the body and allows movement.
- The **immune system** includes bone marrow. It protects the body from infection.

.

Neuromelanin: Past, Present, Future

M. Miranda

Department of Cell Biology and Physiology.

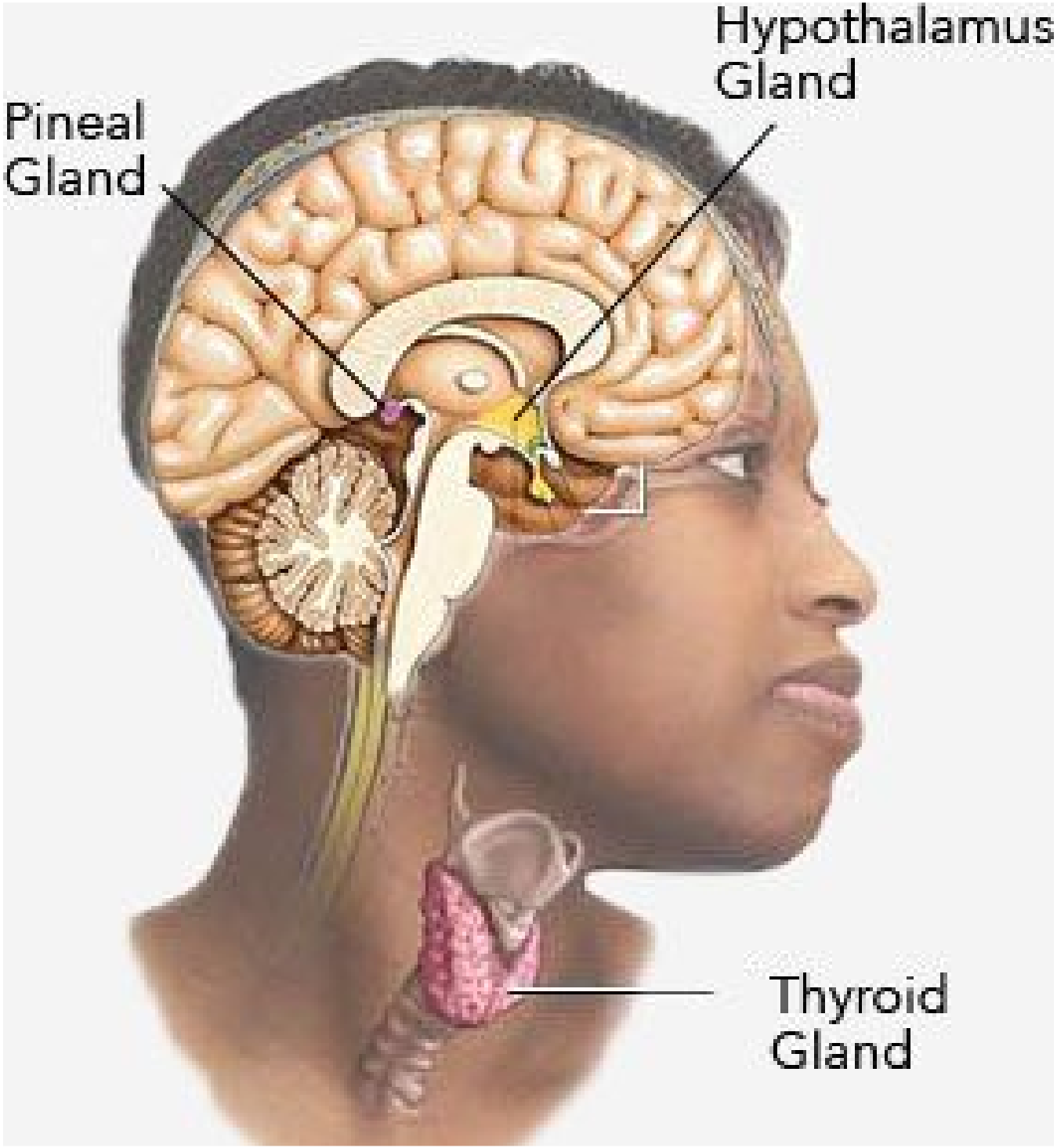
University of L'Aquila, I - 67010 Coppito, L'Aquila, Italy

The "International Colloquium on Neuromelanin and Parkinson's Disease", held in Sorrento (Naples, Italy) on the 6th - 8th May of this year, (Chaired by Prof. G. Prota) gave me the occasion to make the state of art about neuromelanin structure, function and involvement in neurodegenerative syndromes such as Parkinson's disease. As we will discuss later in this review we expect much from future work concerning neuromelanin function and structure, in fact past and present work reports have not yet provided conclusive results about those topics.

Some more progress has been achieved as concerns the involvement of neuromelanin in drug, for instance MPTP (1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine) or metal caused parkinsonism in primates and man (1-6).

PAST:

Since the first description of a dark brown pigment occurrence within the brain stem of humans by d'Azur (7), much time has flown before an experimental approach to investigative the biochemical nature of the brain pigment was performed. Especially the pigment found in the substantia nigra and in the locus coeruleus



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Pineal Gland

There actually is a relationship between melanin and melatonin; the pineal gland. Melatonin is a hormone found in animals and humans. It is secreted in the pineal gland of the brain and other peripheral organs including the retina and gastrointestinal tract. The pineal gland is a pea-sized endocrine organ shaped like a pine cone in the middle of the brain. It regulates the circadian rhythms by varying the production of melatonin at different times of day. Circadian rhythms are biological processes that occur within a 24 hour time frame or timed to the earth's daily rotation through the phases of day to night and back again.

The rate at which melatonin production occurs is controlled by a bundle of 20,000 nerves in the hypothalamus of the brain just above the optical nerves called the **suprachiasmatic nucleus**, or SCN. Melatonin is secreted by cells in the pineal gland known as pinealocytes. Melatonin secretion is inhibited by light entering the retina and stimulated by darkness.

Pituitary stimulates: MSH - **Melanin Stimulating Hormone. These tell the melanocytes to increase production of melanin.**

Pineal Gland
Melatonin | Serotonin

10 Other Functions of Melatonin

Epiphysis cerebri

In addition to regulation of the (Sleep-wake cycle and other time-dependent, seasonal rhythms)

1. Memory formation
2. Long-term potentiation
3. Synaptic plasticity (among other functions) within the hippocampus
4. Consciousness
5. Stress
6. Menopause
7. Aging
8. Immune system
9. Protection of the upper portion of the gastrointestinal tract
10. Possibly antioxidant, antidepressive, anxiolytic and nootropic effect
11. Influence on the insulin secretion

Pituitary stimulates: MSH - **Melanin Stimulating Hormone. These tell the melanocytes to increase production of melanin.**

Deborah Maat: Melanin & Melatonin

MELANIN (PINEAL) NUTRITION

Melanin is the foundation for immunity. It is a free radical scavenger; aids digestion, antioxidant, bones, nerves, cellular and hormone functions. The following are essential for melanin production.

MELANIN HORMONES: NERVOUS SYSTEM STIMULATED:	**Serotonin/ Sympathetic Stress**	**Melatonin Parasympathetic Stress**
	SUPPLEMENTS	
	Vitamin A	d-Alpha
	B-6	Tocopherol
	B-12	B-1
	Calcium	B-2
	Chromium	Magnesium
	Cobalamin	Vanadium
	Copper	Coenzyme Q-10
	Vitamin C	Vitamin E
	Niacin	Vitamin D, Iodine

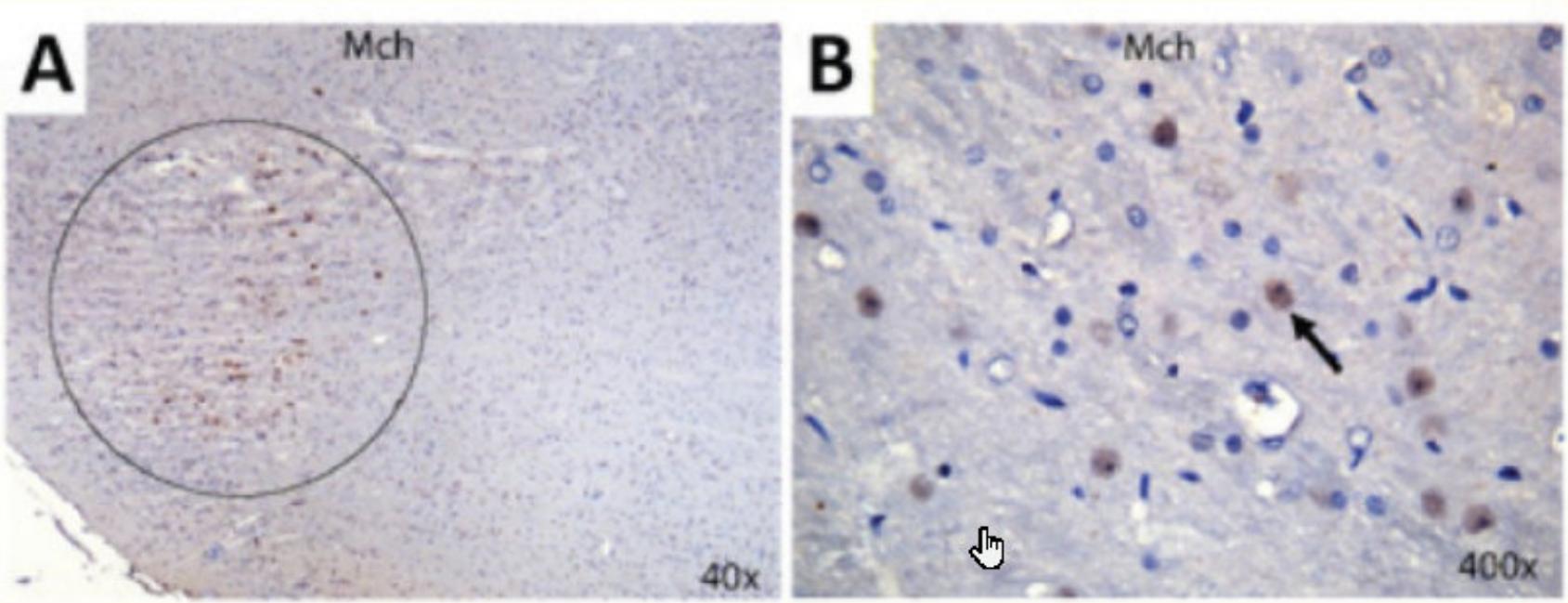

Figure 3

Melanin-concentrating hormone immunopositive (brown) cells on formalin fixed paraffin embedded rat brain slides, haematoxylin counterstain. At low magnification (Panel A – 40x) there are strong immunoreactions in the hypothalamic area (circle). At higher magnification (Panel B – 400x) the reaction is limited to the cytoplasm (arrow).

The Melanin-Concentrating Hormone

System in Human, Rodent and Avian Brain

Melanin-concentrating hormone (MCH) is a cyclic 19 amino acid orexigenic hypothalamic peptide.

MCH is located in the lateral and dorsal hypothalamus, as well as in the zona incerta.

In mammals MCH increases food intake, contributes to regulation of energy balance, temperature, reproductive function, endocrine homeostasis and biological rhythms. Several studies have proved the significance of MCH in obesity, diabetes and depression.

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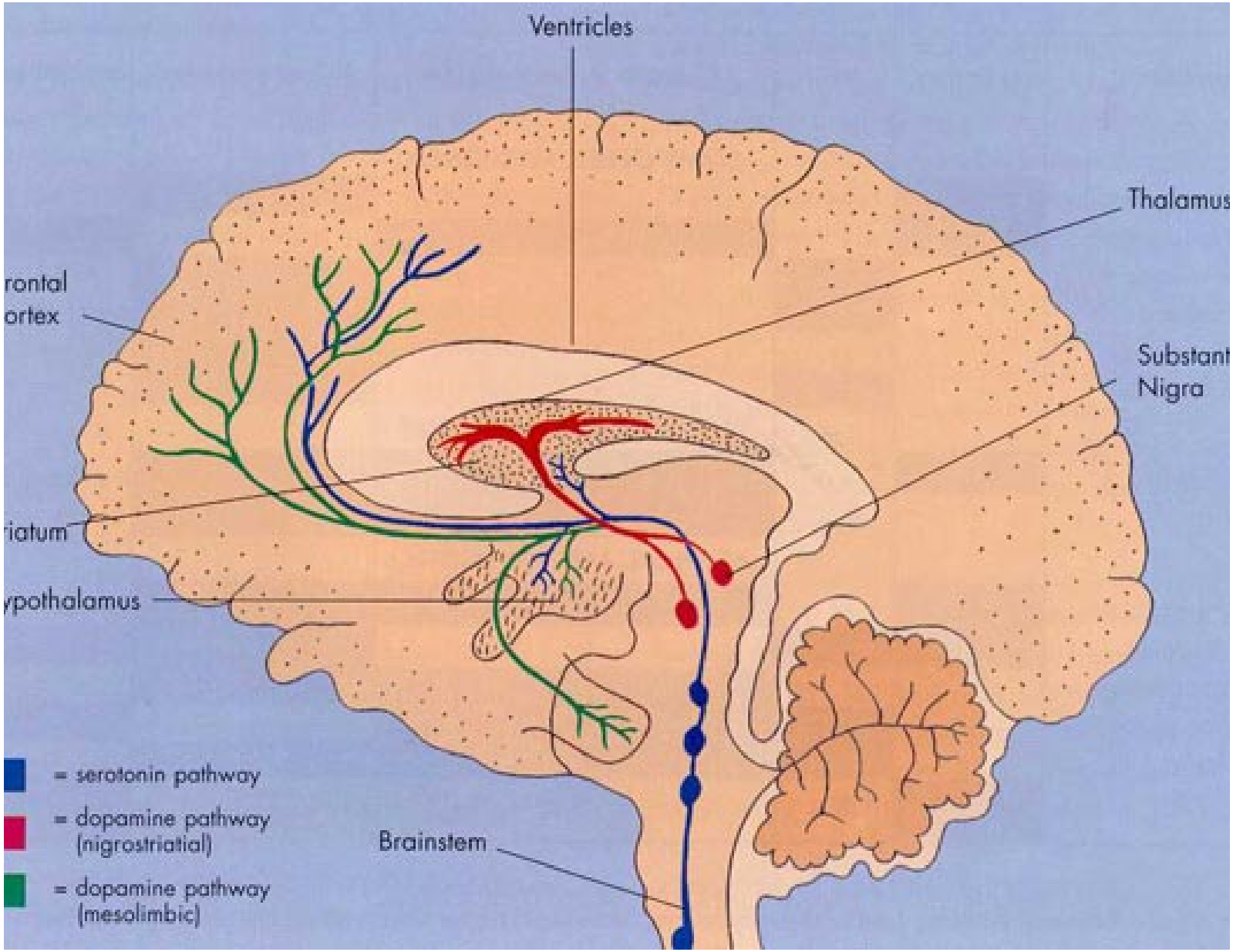

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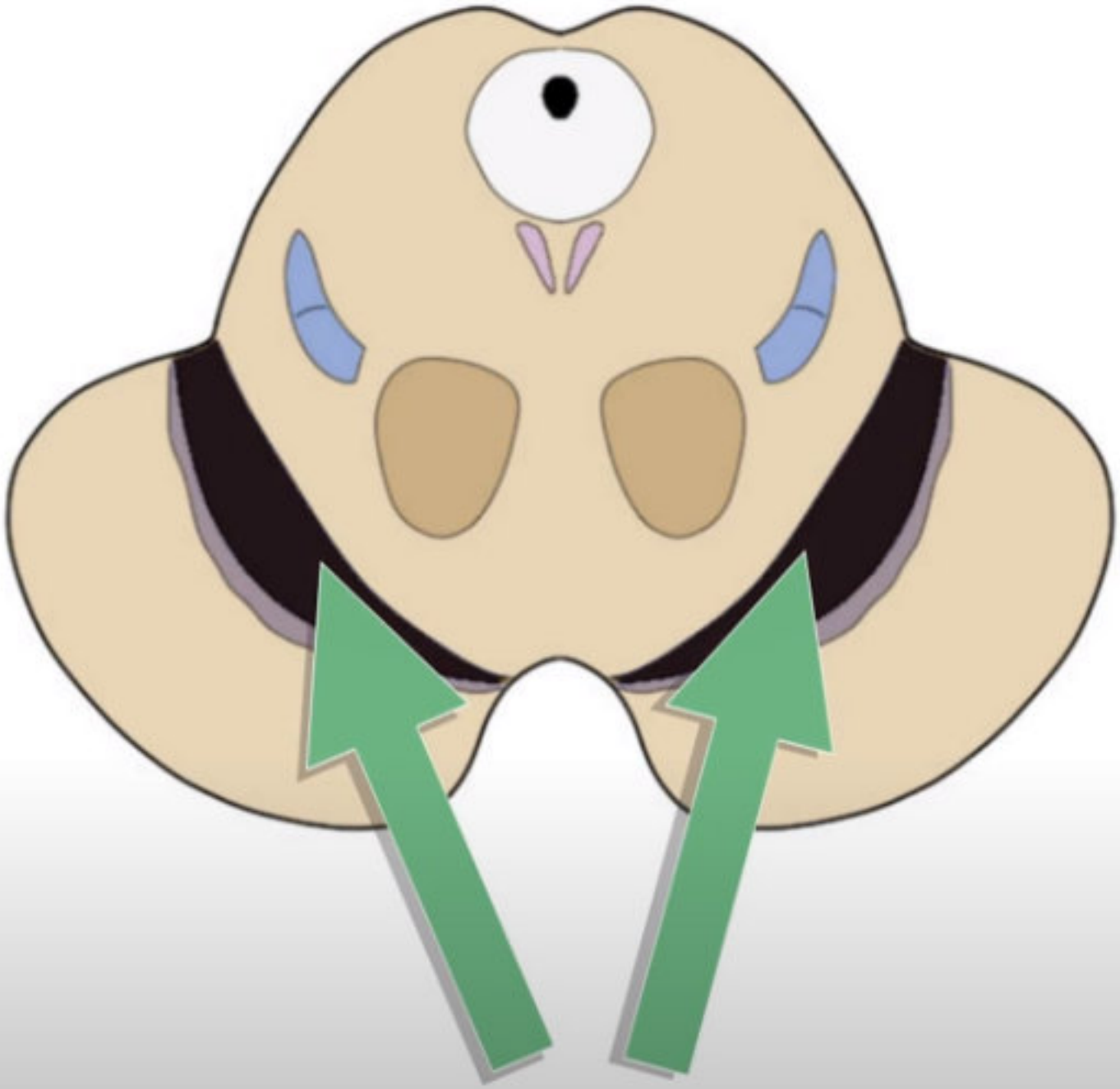

SUBSTANTIA NIGRA

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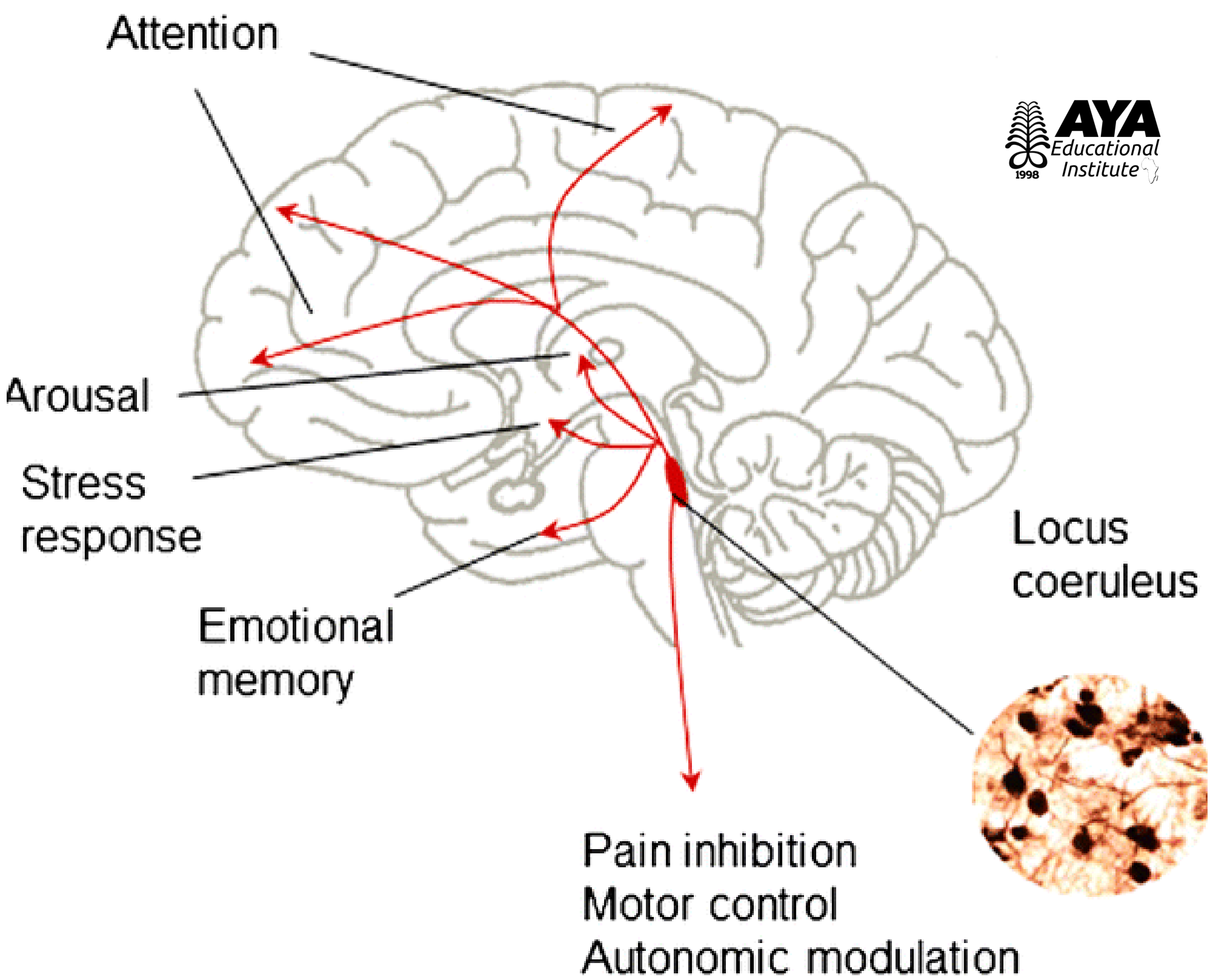
Attention
Arousal
Stress response
Emotional memory
Locus coeruleus
Pain inhibition
Motor control
Autonomic modulation
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1998

Locus Coreruleus

The locus coeruleus (LC) contains norepinephrine (NE)-synthesizing neurons that send diffuse projections throughout the central nervous system. The LC-NE system has a major role in arousal, attention and stress responses. In the brain, NE may also contribute to long-term synaptic plasticity, pain modulation, motor control, energy homeostasis and control of local blood flow.

The LC is severely affected in neurodegenerative disorders including Parkinson disease (PD). Involvement of the noradrenergic neurons of the LC precedes that of dopaminergic neurons of the substantia nigra pars compacta and has been increasingly recognized as a potential major contributor to cognitive manifestations in early PD, particularly impaired attention. Abnormal noradrenergic signaling may also potentially contribute to motor manifestations of the disease.This makes the LC-NE system a major contributor to the pathobiology and potential target for therapy of PD.

Thermal Melanism

The finding that color lightness is relevant for the thermoregulation of fungi is not only important for understanding the processes that shape the distribution of microorganisms but also suggestive that thermal melanism might have been of major significance for the evolution of eukaryotic life. In other words, melanin-based conversion of harmful solar radiation into useful biological energy might represent another crucial and general mechanism in addition to photosynthesis that enabled the earliest land-living organisms to survive and grow.

ELSEVIER

Journal of Investigative Dermatology

Volume 132, Issue 3, Part 2, March 2012, Pages 835-845

Review

Melanocytes: A Window into the Nervous System

Mina Yaar [1], Hee-Young Park [1]

Show more

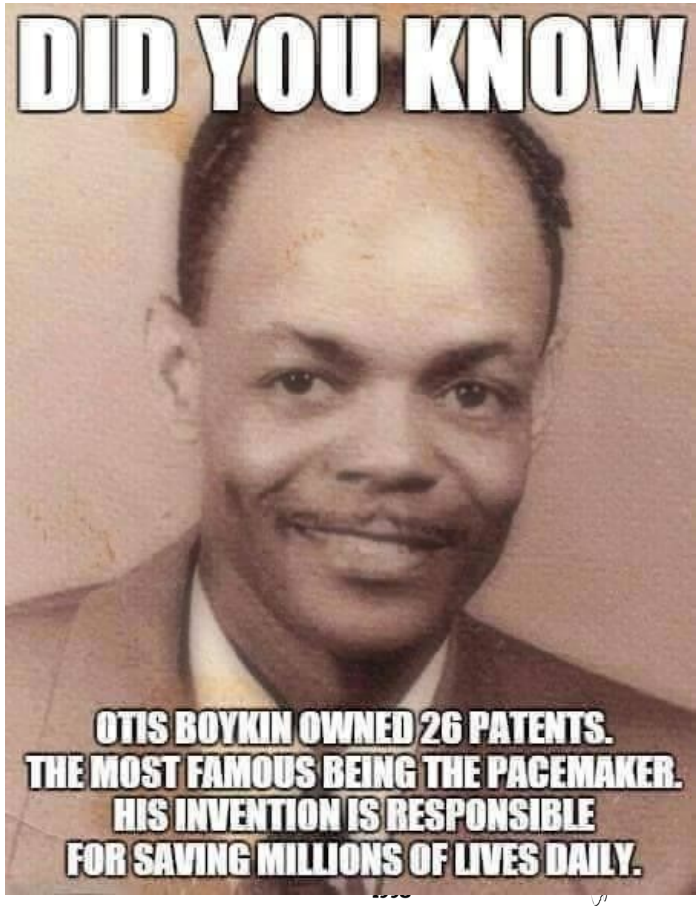
https://doi.org/10.1038/jid.2011.386

Medical batteries

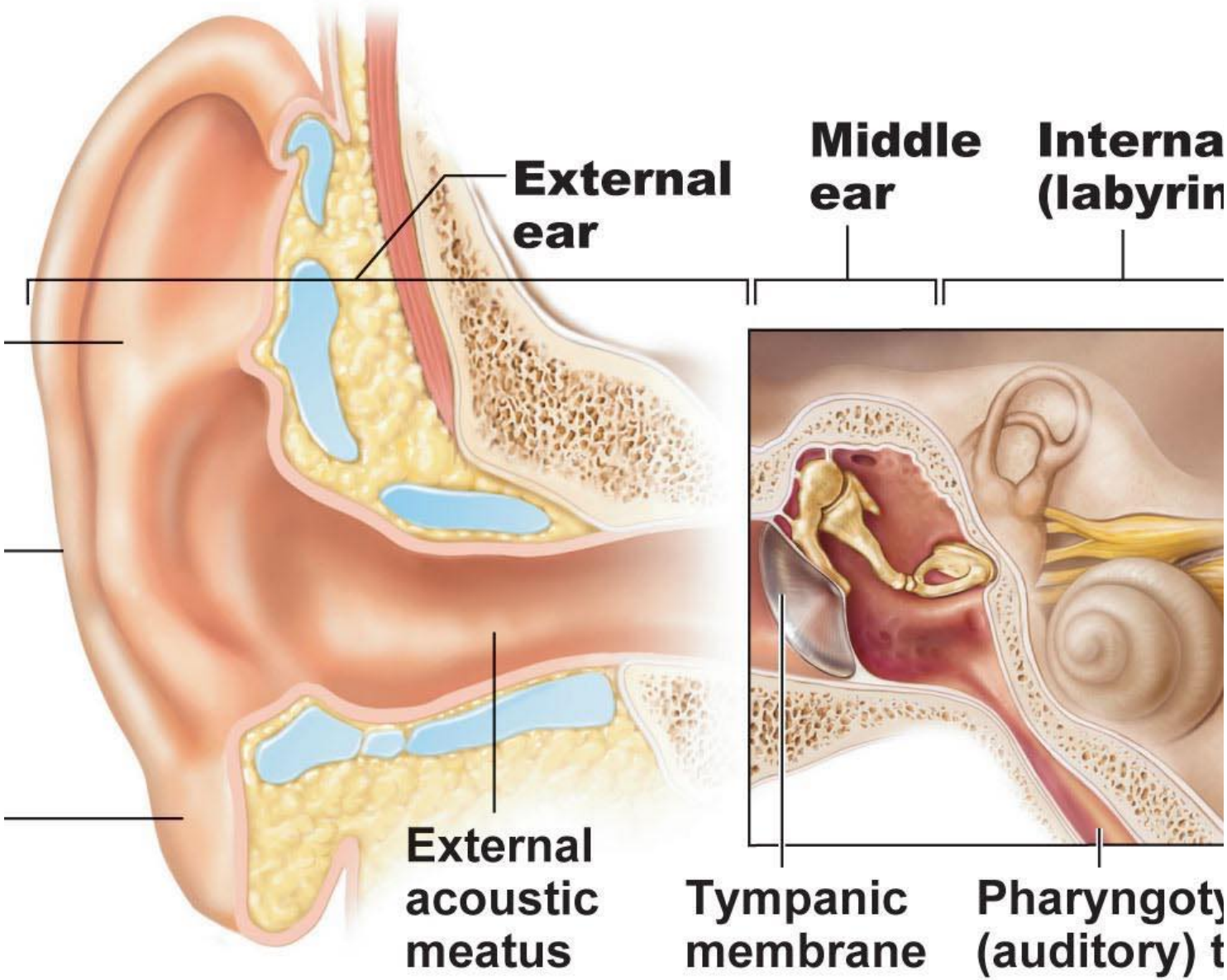
Dark arts

A bodily pigment may have industrial uses

Print edition | Science and technology Aug 27th 2016



Electro-Khemistry: (Spontaneous vs.Electrolysis)
Electrochemistry is the relationship between electricity and chemical reactions. There are two ways that electricity and chemical reactions interact: certain chemical reactions can create electricity, and electricity can force certain chemical reactions to happen that wouldn't happen otherwise. We'll look at two very common examples in electrochemistry. We'll see how a galvanic or voltaic cell uses a chemical reaction to create electricity, and we'll see how electrolysis uses electricity to cause water to decompose into hydrogen and oxygen gas. We'll also look at the list of Standard Reduction Potentials, to figure out what chemical reactions will happen on their own (are spontaneous) are can create electricity, and which will not happen on their own (are not spontaneous) and require electricity to happen.



three regions of the ear

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Inner Ear Melanocytes

Inner Ear Melanocytes

Mouse stria vascularis
Melanocytes have been identified within the inner ear within the modiolus, vestibular and stria vascularis (intermediate cells).[8] ((see review [9])
The stria vascularis, in addition to blood vessels, consists of 3 main cell types:

1. **Marginal cells - epithelial origin - line the lumen of the cochlear duct**
2. **Basal cells - mesoderm origin - form a continuous layer**
3. **Intermediate cells - neural crest origin - scattered between the marginal (interdigitated with the marginal cells) and basal cell layers - melanocyte-like cells derived from neural crest**

In addition to their role in stria vascularis development, these melanocytes have several suggested adult roles:[9]

- **biological reservoir for divalent ions and as an ion exchanger**
- **intracellular buffering system for calcium.**
- **binding ototoxic drugs**

Melanin accompanies all life!

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor.

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1998


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1998

Review > Peptides. 2005 Oct;26(10):1687-9. doi: 10.1016/j.peptides.2005.01.023.

Discovery that a melanocortin regulates sexual functions in male and female humans

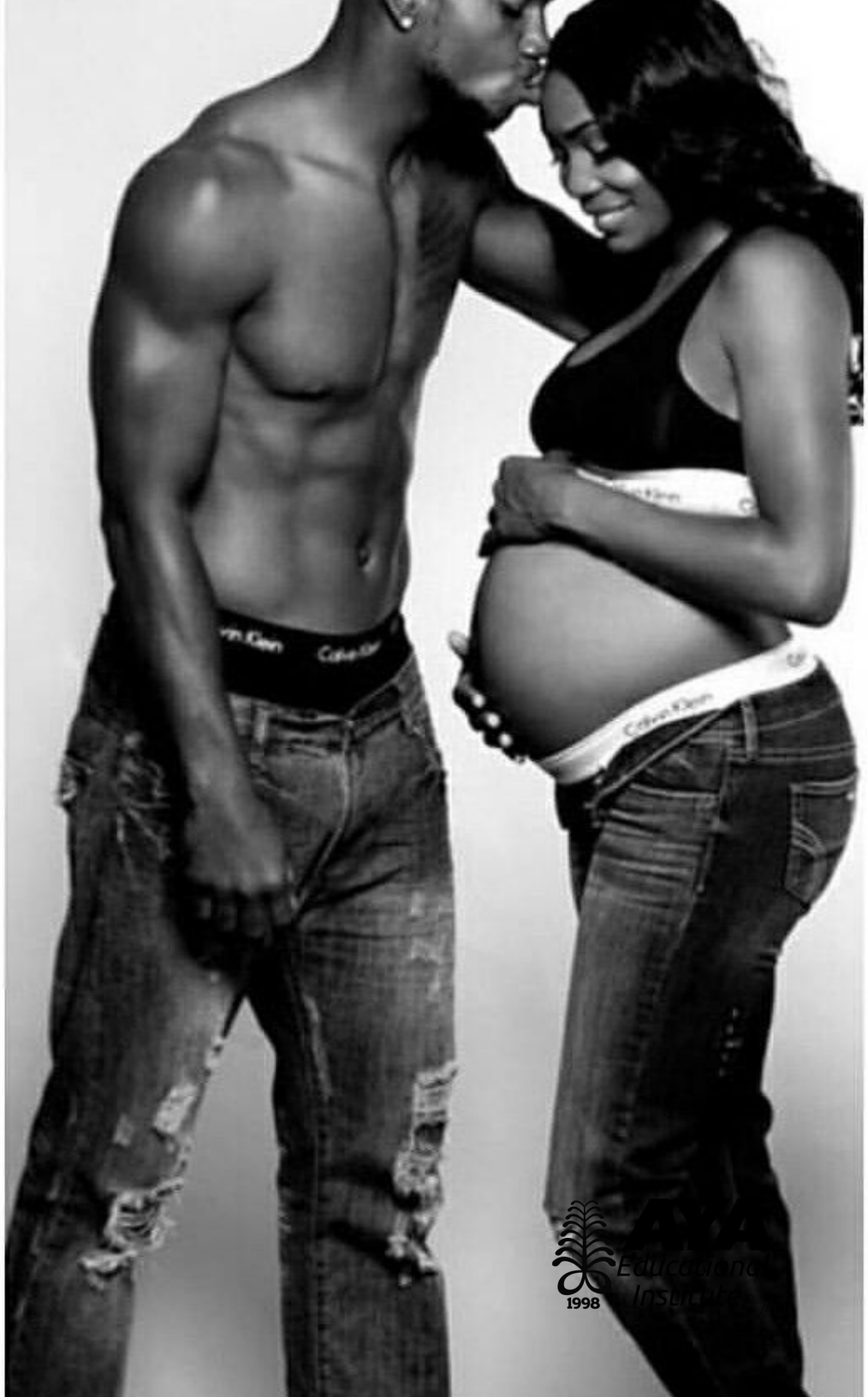
Mac E Hadley [1]

Affiliations + expand

PMID: 15996790 DOI: 10.1016/j.peptides.2005.01.023

Abstract

Melanocortins (MCs) are multifunctional peptide hormones that regulate a diversity of physiological functions. MCs have been implicated in sexual function in animals. We document here that a MC analog, Melanotan II (MTII), can enhance sexual function in human males (erectile activity) and females (increased levels of sexual desire and genital arousal). Unlike other sexual-enhancement drugs, MTII works at the level of the brain, thus eliciting a rather natural sexual response with minimal or no undesirable side effects. The actions of the peptide were discovered accidentally while studying the effects of the peptide and related analogs on human skin pigmentation (tanning).



My Face Hunter

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How to Get Rid of the Linea Nigra

Women’s Eggs Inherently Choosy When It Comes To Which Sperm Fertilizes It, Research Reveals

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Melanin & Embryology

When the mother's egg is fertilized by the father's sperm, that ball rapidly multiplies. A black dot forms on the surface of the mother's fertilized egg. It forms a thing called the pigmented pole. It will split apart and form two different poles. It will further divide and in the first 4 days will pass down the mother's Fallopian tubes. The morula anchors itself to the mother's uterine wall

Morula
(Latin, morula = mulberry) An early stage in post-fertilization development when cells divide rapidly (embryonic cell cycle) producing a solid mass of cells (12-15 cells) with a "mulberry" appearance.
The mulberry - Morula anchors to the wall of the mother's uterus - another black dot. It makes a trophoblast which makes two hormones:

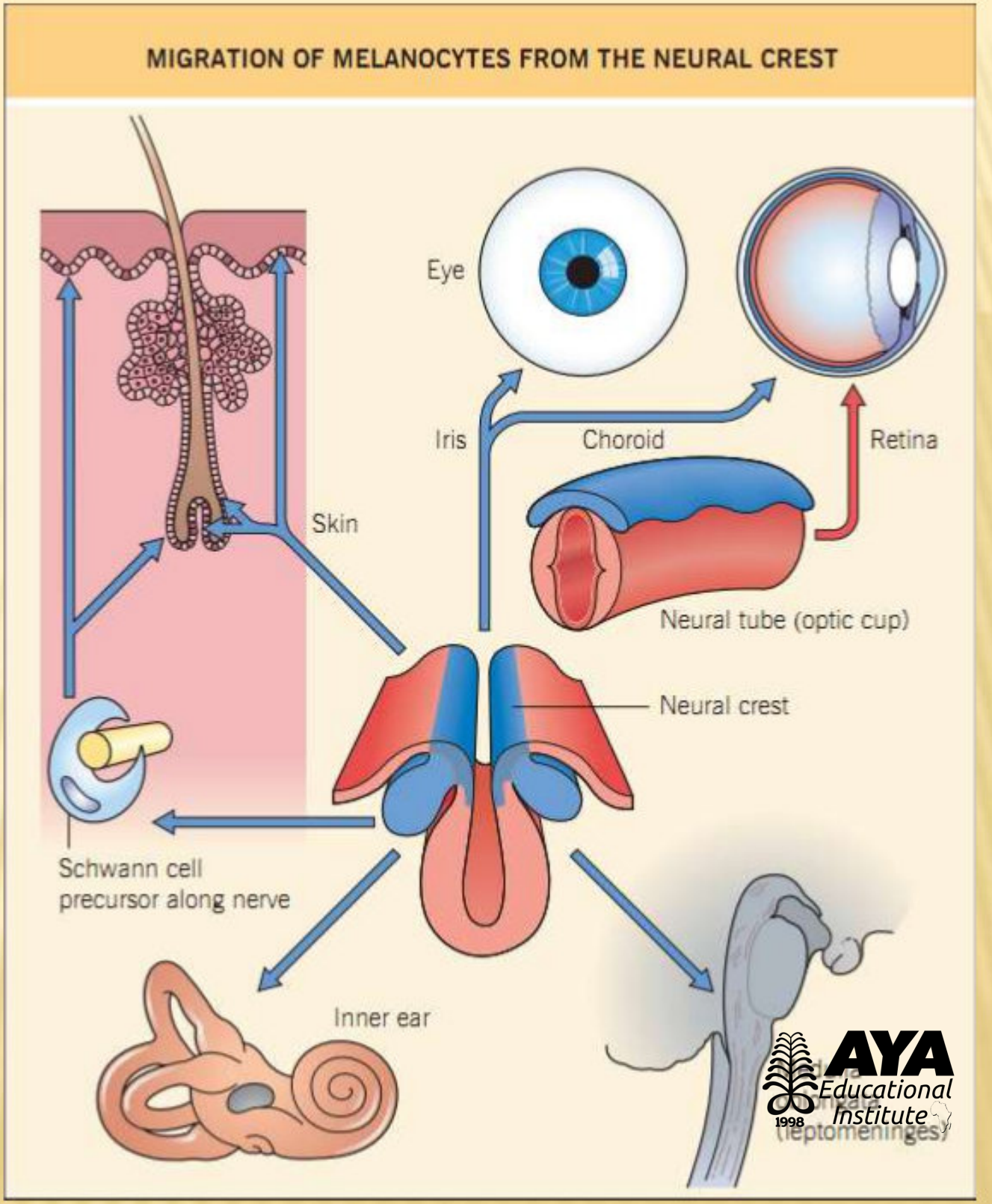
1. Human Cronionic Gonadotrophin (?) (HCG - this is what a home pregnancy test picks up from the blood) and
2. Melanocyte Stimulating Hormone (MSH) that controls black pigment cells

So from day-one blackness is working. Directing traffic, building the actual scaffolding, of the human body. Creating a blue print of the human body. It's telling DNA what to do.

Melanin precedes DNA.

.

Melanocytes, like other neural-derived tissues, have a low mitotic rate



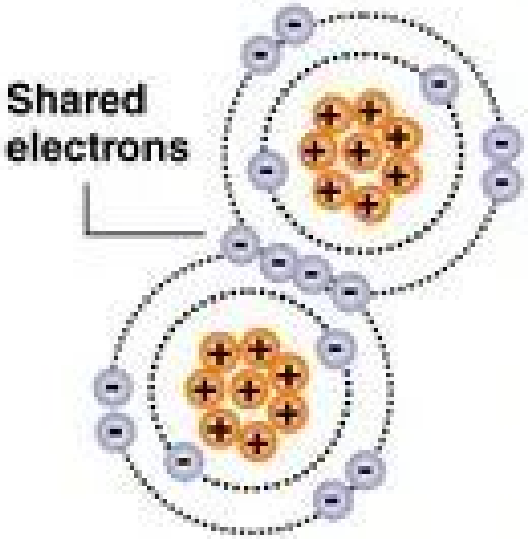
Free radicals and aging

Many experts say the aging process is due to free radicals, unstable oxygen molecules, that can damage DNA, decrease organ function.

+ Protons
- Electrons

Seeking stability

Atoms form molecules, share electrons to maintain equal pairs

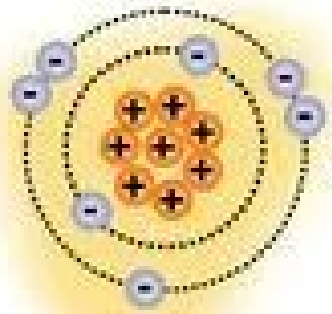


Stable atom

Equal pairs of protons, electrons

How free radical forms

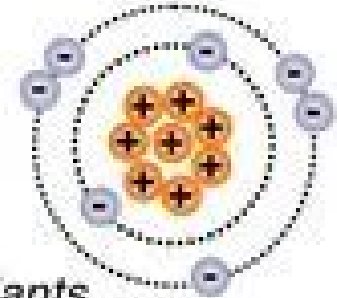
Molecule splits leaving an atom with unpaired electron



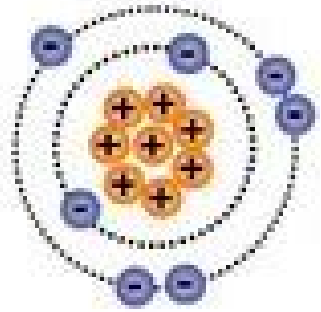
Unstable atom attacks other molecules to steal electron, sets off chain reaction of free radical formation that disrupts living cell

Stopping the damage

Antioxidants in body neutralize free radicals



Antioxidants donate an electron; chain reaction ends



Source: McClatchy Washington Bureau, HealthCheck Systems

The 6 Kingdoms of Life

Animalia
(eukaryotic,
multicellular)

Fungi
(eukaryotic,
multicellular)

Plantae
(eukaryotic,
multicellular)

Protista
(eukaryotic,
uni- or multicellular)

Archaebacteria
(prokaryotic,
unicellular)

Eubacteria
(prokaryotic,
unicellular)

Universal
ancestor

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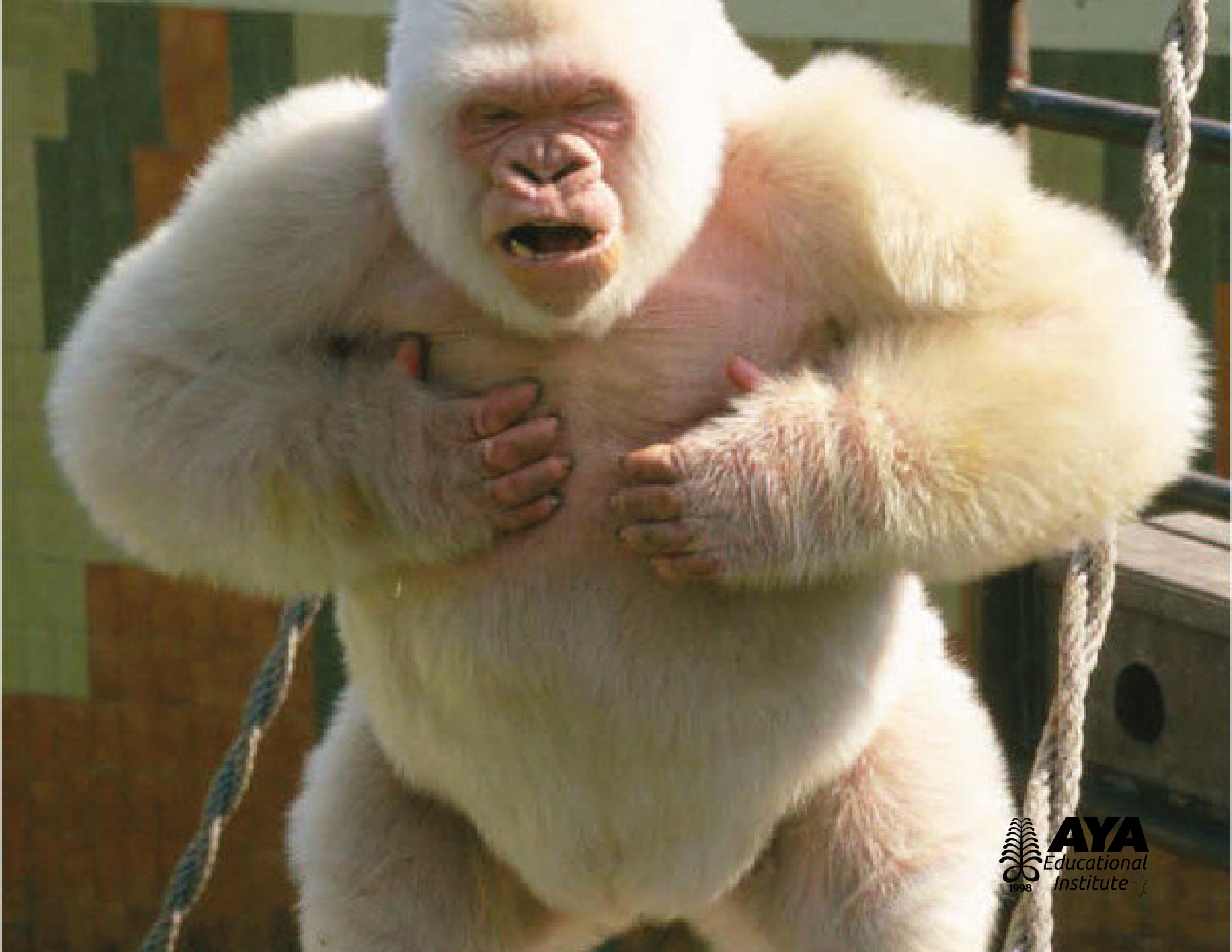
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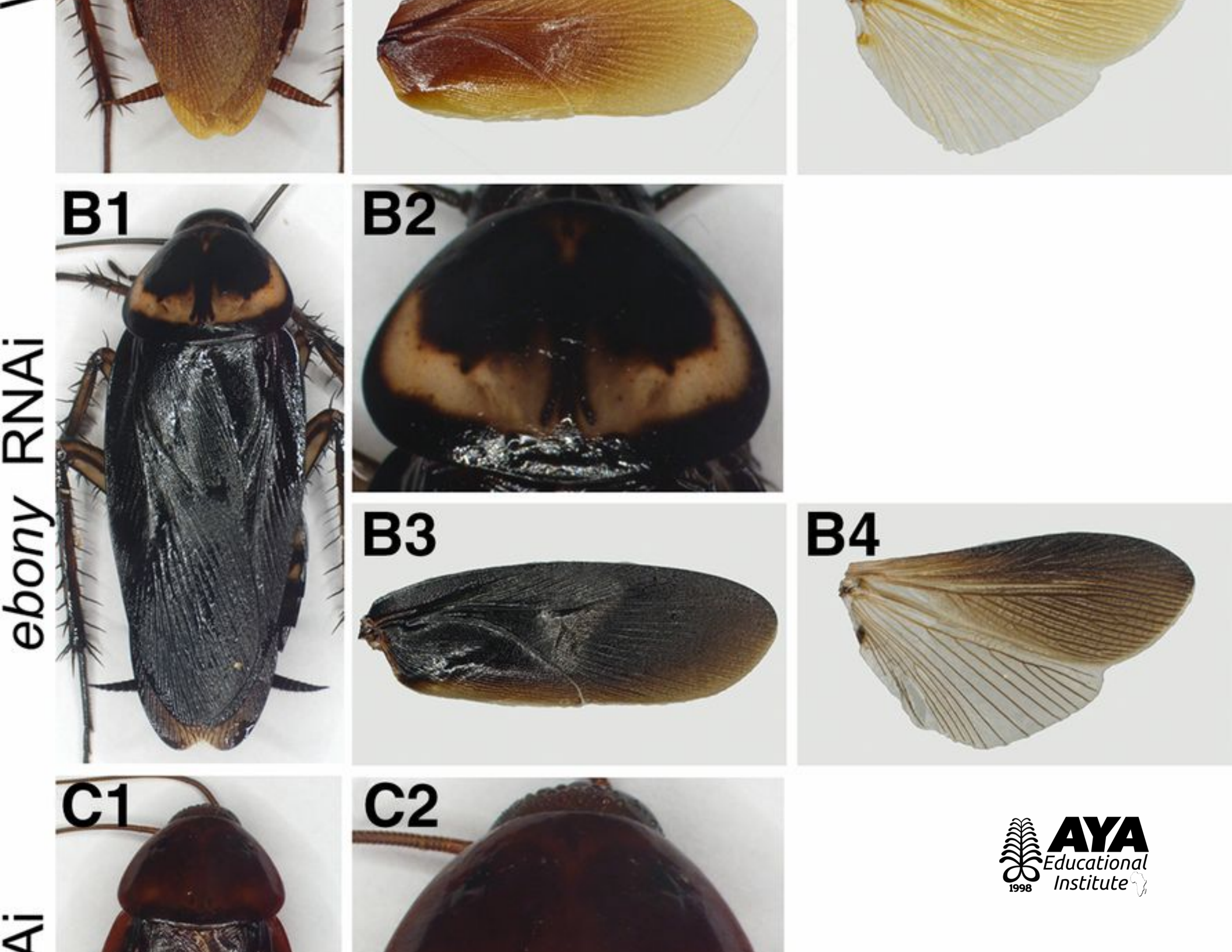
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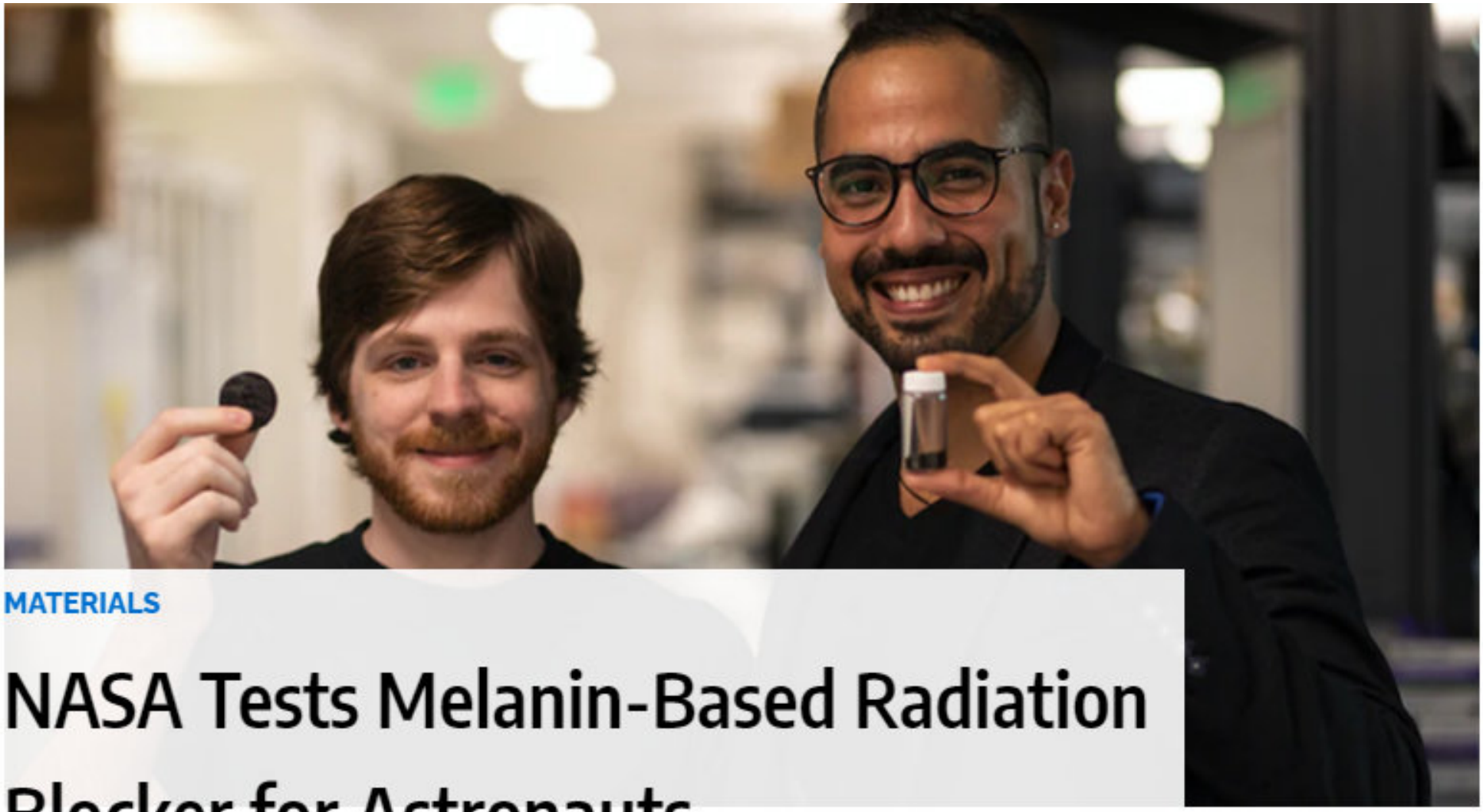

MATERIALS

NASA Tests Melanin-Based Radiation Blocker for Astronauts

A biological pigment mixed with manmade polymers could acts as a sunscreen strong enough for space journeys.

Stephen J. Mraz

Melanin In Space
Radames J.B. Cordero, PhD,

AYA Educational Institute 1998

NASA: Melanin in Space!

A biological pigment mixed with manmade polymers could acts as a sunscreen strong enough for space journeys.

NASA is sending biomaterial samples from Johns Hopkins University to the International Space Station, where their ability to protect against harmful radiation will be put to the test.

The samples consist of fungus-grown melanin and polymers biomaterials that Johns Hopkins researcher Radamés J.B. Cordero has spent the past four years developing and studying. On the space station, the material will be checked for its ability to protect against space radiation. Test results could lead to new ideas on how to protect humans from harmful radiation in outer space and on Earth.

Melanin, a dark brown or black pigment, absorbs harmful ionizing radiation that damages cells, and is found across all biological kingdoms. After isolating a powdered form of melanin from the fungus, scientists embedded it in plastic polymers. The resulting material will also be tested for its structural stability and its ability to withstand the environment of outer space.

“We know that space radiation is dangerous and that it damages matter,” says Cordero. “Radiation is hazardous to astronauts and equipment in space, but radiation exposure is also a concern of healthcare providers and patients during radiation imaging, radiation therapy, and similar procedures. If you have a material that shields against radiation, it could protect astronauts and structures in space but also benefit people here on Earth.”

Natural Defenses:
Your Body Knows What To Do!

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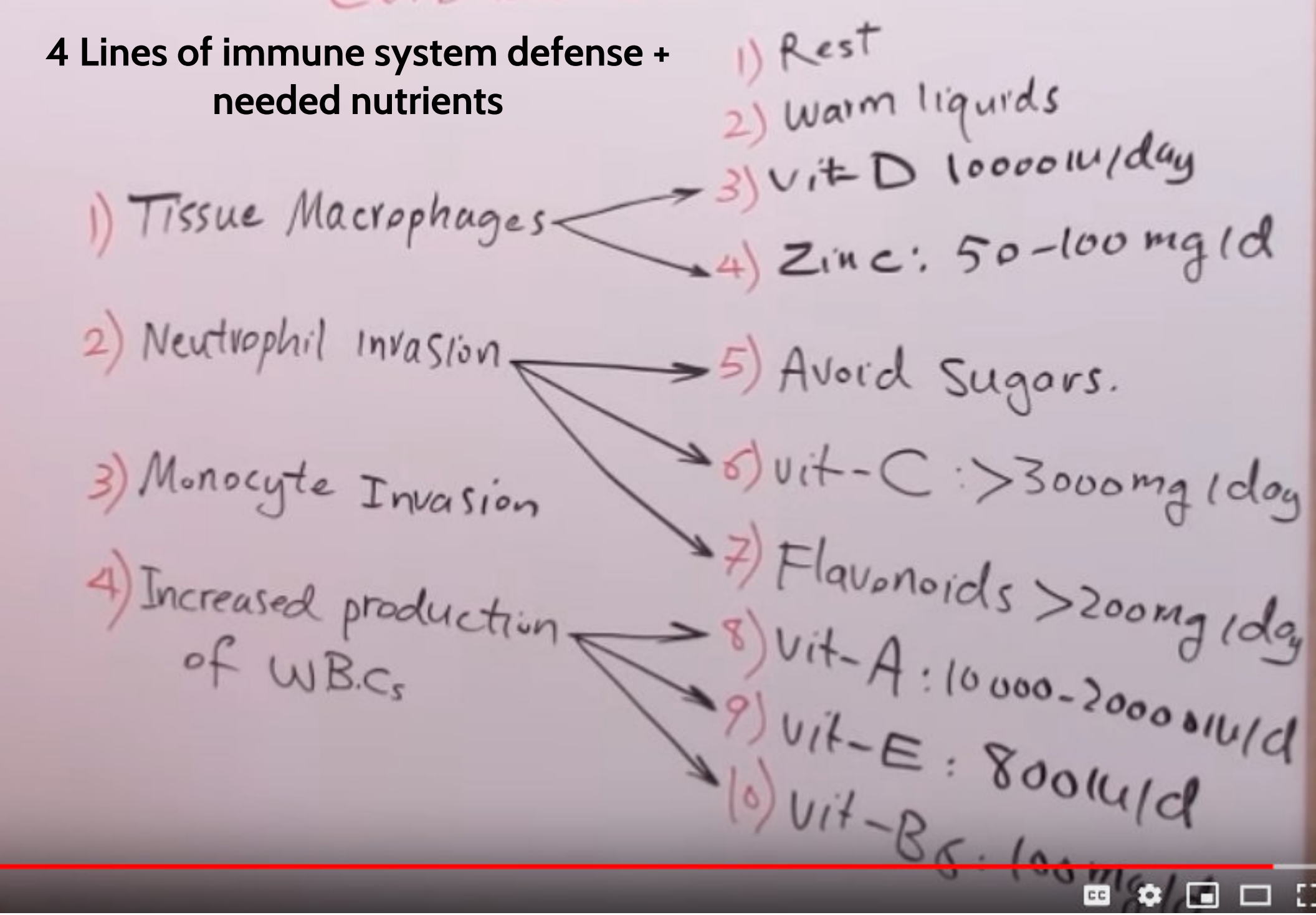
Melanin and Me?

4 Lines of immune system defense + needed nutrients



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5-Pillar NGOLO Approach

1. **WE ARE THE CAVALRY**
   WE MUST DEFEAT THE VIRUS BY BUILDING OUR PHYSICAL / SOCIAL /CULTURAL IMMUNE SYSTEMS
   "WE ARE ENOUGH" MIND-SET | DIET | EXERCISE | WATER | GET SUN – D3 | REST | NGOLO GARDENS
2. **FEED OUR BLACKNESS – MELANIN + CULTURE**
   ACTIVATE OUR BODY MELANIN + SUPPLEMENT WITH ALLOMELANINS + BLACK CULTURAL MISSION
3. **EDUCATE OURSELVES – SCIENCE OF VIRUS & OUR BODIES**
   HOW DOES THE VIRUS WORK? | BLACK VULNERABILITY & DEATH CARE | WHO TO BELIEVE
   HOW OUR IMMUNE SYSTEM WORKS | HOW IT CAN WIN | OUR RESEARCH
4. **AECC – AUTHENTIC EMOTIONAL AND CULTURAL CONNECTIONS**
   COUNTERING THE ILLS OF SOCIAL DISTANCING AND MASS MANIPULATION | EMOTIONAL CONNECTIONS | FAMILY STORY-TELLING | HEALING WORDS THAT TOUCH
5. **EXPLORE / SHARE RESOURCES**

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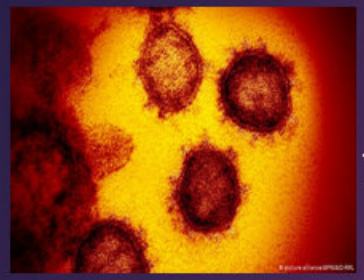

We must defeat the virus by building our physical/social immune system

1. Develop a "We are enough mind-set"
   - Healing Injected Oppression
   - Blocking Mass Manipulation
   - Emotionally Authentic for Clear Thinking
2. Diet
   - Move to plant-based (lots of leafy greens) diet or get close
   - 8 glasses of water per day
   - No sugar (or close)
   - No dairy (or close)
   - Eat to feed the 4 lines of your immune system's defense
   - Supplement with Allomelanin – Rich foods, herbs, oils, etc.
3. Exercise (AYA -180 or equivalent) Expand Lungs | Deep Breathing
4. Kiss the sun to get 10,000 i.u. of vitamin D daily
5. Rest well: 11:30 pm -7:30 am
6. NGOLO gardens: Grow some food!
7. AECC | Enhance your emotional and cultural connections

USE THIS CRISIS TO SPUR US TO REMOVE / REDUCE DEPENDENCY ON DEATH MEDICINE

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Your Story *Shapes* Your Immune Response.

What story are you repeating?

5,736,079

Total *Active* COVID-19 Cases World-Wide as of 7/27 (11:55 AM)

99%

Percentage of Immune Systems Winning

*5,669,683 immune systems are keeping COVID-19 in "mild condition" through to recovery! Only **(1%)** serious or critical

94%

Immune Systems That Have Already Won!

*Of the 10,092,875 closed cases 653,316 **(94%)** recovered/discharged **only (6%)** Deaths

Source: https://www.worldometers.info/coronavirus

#NGOLO:
Story Healing & Story Defense
ayaed.com

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Allomelanins

The origin and nature of the black coloration in plants have been poorly studied (Nicolaus, 1968). The brown to black pigments found in animals, microorganisms and plants are melanins, pigments that have a defensive role in all organisms.

In man and other vertebrates, melanins function in camouflflage (Morison, 1985) and photo-protection (Ortonne, 2002). Melanins protect fungi against microbial and environmental stresses such as UV irradiation or desiccation. (Bell and Wheeler, 1986).

In the plant kingdom, the intensity of melanin formation is often correlated with resistance to microbial and viral infections and unfavorable climatic conditions (Bell, 1981). The response of plants to bruising or cutting likewise includes the production of melanins (Marshall et al., 2000). Melanins are biopolymers formed from phenolic compounds by polymerization via quinones. The production of quinones is catalyzed by the phenoloxidases.
(Source: Structural Characterization of Allomelanin From Black Oat)

Phytomelanins

“

New findings on occurrence, deposition, and evolution of phytomelanin in aerial vegetative organs are important advances in the knowledge of this subject, particularly for Asteraceae.

The results indicate that the occurrence of phytomelanin, mainly in vegetative organs, is underestimated and understanding the distribution of this pigment may bring light to new evolutionary perspectives related to this complex plant family. In addition to this evidence, melanins are considered highly protective substances in cells of living organisms, with remarkable functions.

Therefore, considering that studies of the chemical nature of this pigment show a basic structure common among melanized organisms, future melanin research in plants may reveal unexpected ecologicaland evolutionary implications.”

Saw Palmetto

Serenoa repens


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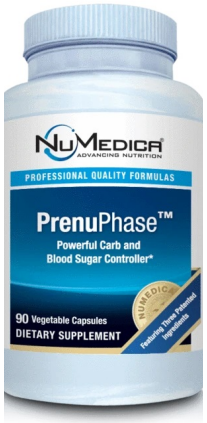
Black Garlic



$48.00

Blood Sugar Regulator

Roll over image to zoom in

$99.00

Immune supporter (Ebay.)

Physicochemical Characteristics of Black Garlic (Allium sativum L.)

Physicochemical characteristics of black garlic were analyzed. Colorimetry measurement showed that the black garlic, compared with fresh and steamed garlics, was the highest in a value and the lowest in L and b values. Crude lipid, crude protein, and total sugars were the highest in black garlic.

Total pyruvate and total thiosulfinates were the lowest in steamed garlic (77μmol77μmol/g and 0.07 OD/g for each) and the highest in black garlic (278μmol278μmol/g and 0.77 OD/g).

Arabinose and galactose were detected only in black garlic and their contents were 1.6 and 13 mg/100 g, respectively. Free sugars such as glucose, sucrose and fructose were the highest in the order of fresh, steamed, and black garlic.

15 kinds of free amino acids were detected in fresh and steamed garlic, while five more free amino acids, **O-phosphoethanolamine**, and urea were additionally detected in black garlic.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Clinical Pharmacology & Toxicology

& Clinical Pharmacology & Toxicology, 2017, **120**, 515–522 Doi: 10.1111/bcpt.1

MiniRevi

Pharmacological Properties of Melanin and its Function in Health

Adila Salih ElObeid[1], Afaf Kamal-Eldin[2], Mohamed Anwar K. Abdelhalim[3] and Adil M. Haseeb[3]

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(Received 28 September 2016; Accepted 14 December 2016)

Abstract: The biological pigment melanin is present in most of the biological systems. It manifests a host of biological and pharmacological properties. Its role as a molecule with special properties and functions affecting general health, including photoprotective and immunological action, are well recognized. Its antioxidant, anti-inflammatory, immunomodulatory, radioprotective, hepatic, gastrointestinal and hypoglycaemic benefits have only recently been recognized and studied. It is also associated with certain disorders of the nervous system. In this MiniReview, we consider the steadily increasing literature on the bioavailability and functional activity of melanin. Published literature shows that melanin may play a number of possible pharmacological effects such as protective, stimulatory, diagnostic and curative roles in human health. In this MiniReview, possible health roles and pharmacological effects are considered.

AMERICAN SOCIETY FOR MICROBIOLOGY | Antimicrobial Agents and Chemotherapy

Minireview

Impact of Melanin on Microbial Virulence and Clinical Resistance to Antimicrobial Compounds§

Joshua D. Nosanchuk, Arturo Casadevall

DOI: 10.1128/AAC.00545-06

Binding is typically reversible, but the retention times can be protracted. For example, chloroquine can be detected in the melanin of the eye for a year after receipt of a single dose (74), and chloroquine therapy is associated with retinopathies (49) that can occur long after treatment (151). In addition to chloroquine, severe retinopathies can occur following melanin binding by chlorpromazine. Chloroquine also accumulates in dermal melanocytes and hair follicles (79), where it can occasionally cause irreversible hearing loss, tinnitus, and dizziness (44). Whereas hearing loss due to chloroquine is thought to be a result of effects on the eighth cranial nerve, quinine can accumulate in melanin in the stria vascularis of the cochlea and cause cellular degeneration (74).

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- Chloroquine Therapy:
- Associated with retinopathies
- Causes irreversible hearing loss, tinnitus, and dizziness
- Damages the eighth cranial nerve
- Damages vascularis of the cochlea and cause cellular degeneration

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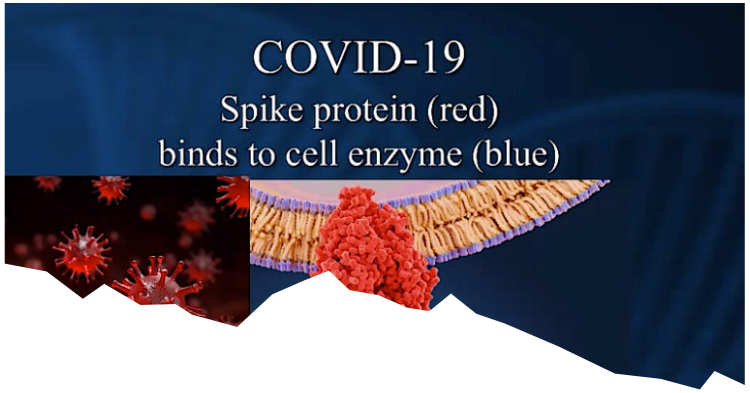

nin [30]. They have also reported that antibody-secreting cells produced significantly more antibodies in animals treated with tea melanin (32–34%) than did antigen controls. Similarly, Al-Mufarrej *et al.* (2006) [31] showed that, in albino rats, black seed melanin induced a high and long-lasting antibody response to sheep red blood cells by stimulating the immune system. The immunostimulatory effects of melanin preparations from 30 traditional medical herbs were studied and patented by Pasco *et al.* (2005) [32]. The patent authors reported that the melanins with the highest levels of activity were found in Allium sativum, Tabebuia spp., Serenoa repens and Echinacea spp.

Pugh *et al.* (2005) [24] demonstrated that ingestion of these melanins by mice caused dendritic cells in Peyer's patches to secrete high levels of IgA and interleukin-1 (IL-1). In these studies, spleen cells from mice that were fed melanins exhibited increased production of interferon gamma (IFG-γ) as a result of a shift in the balance of T helper 1 and T helper 2 cells (Th1 and Th2, respectively) in favour of Th1. Avramidis *et al.* (1998) [33] found that grape melanin modulates the production of IL-1, IL-6 (interleukin-6) and tumour necrosis factor-α (TNF-α) and significantly inhibited adjuvant-induced disease in rats. They suggested a possible role for melanin in inhibiting lymphocyte Th1 (T4 or T8), which led to the sup-

Interlueken drug to boost immune system.mp4

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BLACK SEED
100% Pure Cold-Pressed Black Cumin Seed Oil
DIETARY SUPPLEMENT
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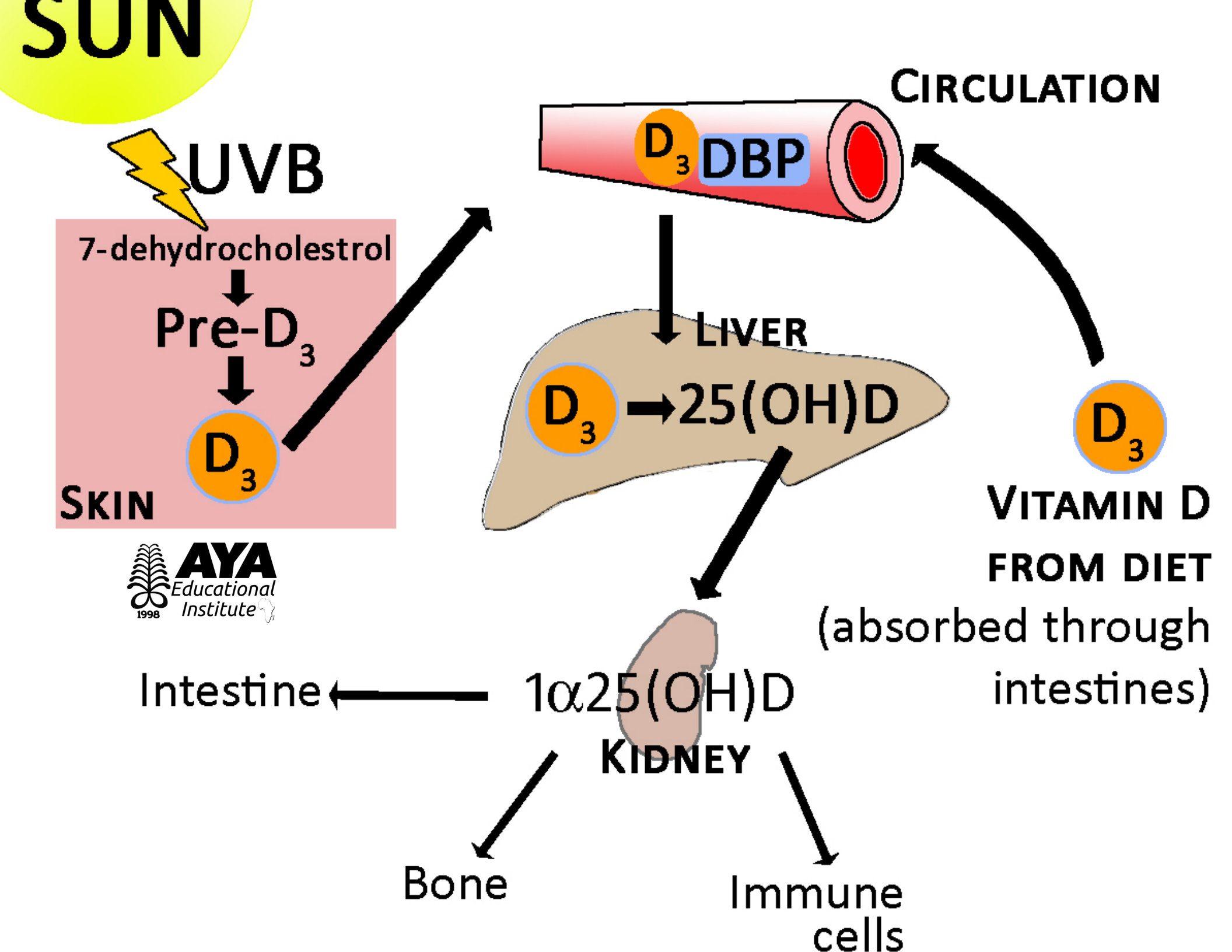
SUN
UVB
7-dehydrocholestrol
Pre-D3
D3
SKIN
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CIRCULATION
D3 DBP
LIVER
D3 →25(OH)D
D3
VITAMIN D
FROM DIET
(absorbed through
intestines)
Intestine
1α25(OH)D
KIDNEY
Bone
Immune
cells

TRU DREADZ

A BLOG FOR CURIOUS MELANATED MINDS

Scientists Experiment On Melanin To Create Advanced Robots And Implants

BY JASON W. | JUNE 23, 2019

Scientists are now doing new experiments on melanin: hoping to discover a way to manipulate the 'transmutable dark matter found in all living things' (melanin) to create advanced – melanin-based – robots and implant technologies. Essentially, using the essence of what makes people "black" or "brown", replicating that biological archetype, and using that research to create the "cyborg" technology, consciously or unconsciously, attempting to even the score between the people with melanin and the people without it.

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Melanocytes as Model System For Neurological Diseases

Skin-derived melanocytes offer a model system to investigate normal and pathological behaviors of less accessible nervous system neurons, as they share many signaling molecules and pathways with the latter. One example is using melanocytes to investigate the pathophysiology of AD, a currently untreatable disease affecting 35.6 million people worldwide (http://www.alz.co.uk/research/statistics).

SCIENCE

Injection of Melanin Nanoparticles Could Make Human Body Radiation-Resistant

Researchers have successfully tested a technique that uses melanin-coated nanoparticles to protect bone marrow from damage commonly sustained during radiotherapy

By Denise Ngo
April 27, 2010

ScienceDaily

Your source for the latest research news

Black nanoparticles slow the growth of tumors

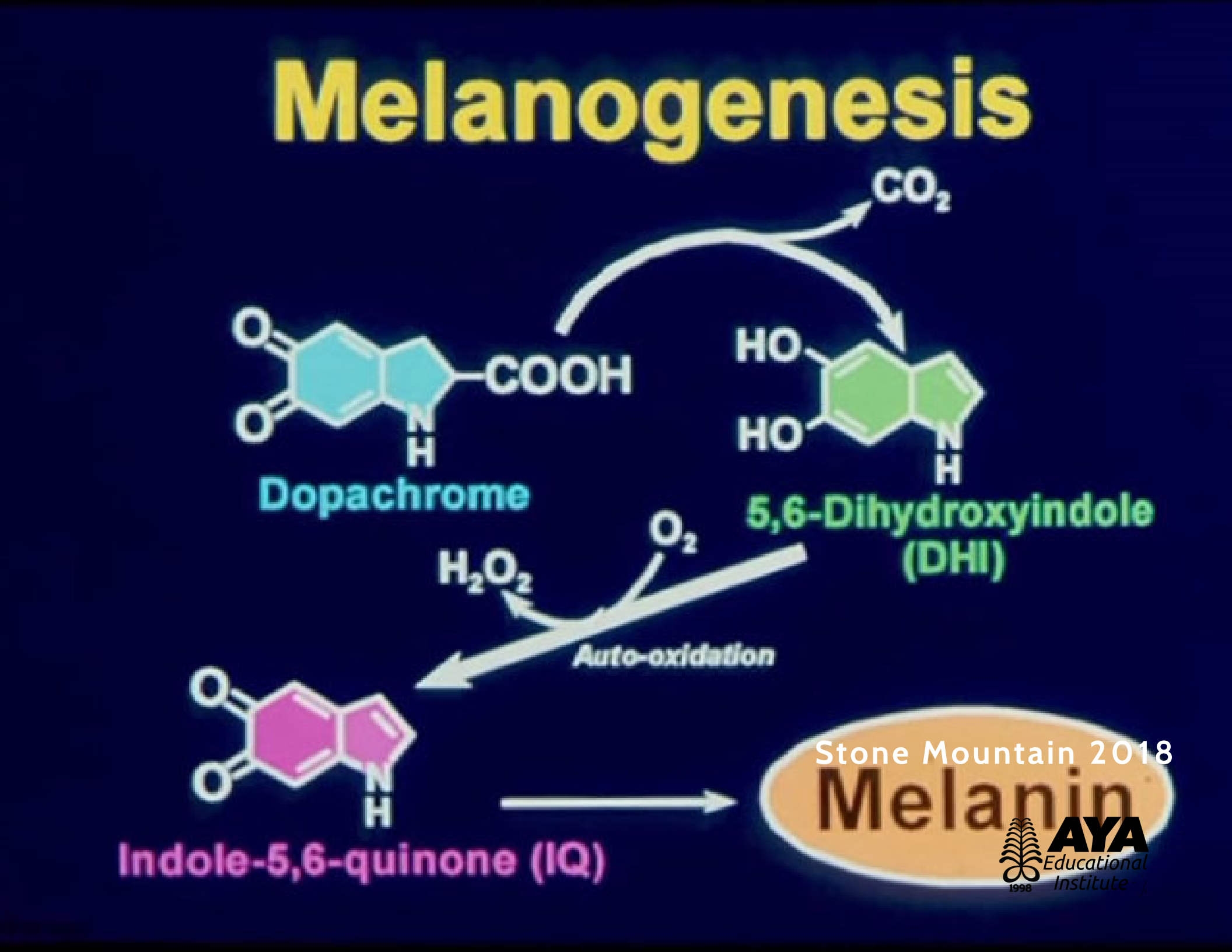
Melanin as a new diagnosis and treatment tool for tumors

Date: April 4, 2019

Source: Technical University of Munich (TUM)

Summary: The dark skin pigment melanin protects us from the sun's damaging rays by absorbing light energy and converting it to heat. This could make it a very effective tool in tumor diagnosis and treatment. Scientists managed to create melanin-loaded cell membrane derived nanoparticles, which improved tumor imaging in an animal model while also slowing the growth of the tumor.

Melanogenesis



Stone Mountain 2018

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Melanins and Melanogenesis by Giuseppe Prota

From these brief introductory remarks, it is clear that melanin and melano-genesis, as a research tool, represent a focus where many separate disciplines converge, their range extending from basic chemistry of the pigment polymer up to the pathophysiology of the pigment-producing cells; and the list can be extended to include the role of neuromelanin in certain neurological disorders, e.g., Parkinson's disease, and the regulatory mechanisms of melanogenesis and their practical implications for controlling skin and hair pigmentation. Such a diversity of interests and expertise has found an excellent meeting ground in the **International Pigment Cell Conferences, which were initiated in 1946** by and continued in memory of Professor Myron Gordon almost every 3 years through the most recent, held in Kobe (1990).

Besides providing a valuable permanent record of new findings in the field, these conferences have yielded another useful by-product, that is, a tradition of multidisciplinary interactions which is uncommon in research.

This has been well emphasized by Fitzpatrick and his associates (see Jimbow et al, 1976), who wrote, "Melanin pigmentation is an ideal subject in which to establish a dialogue between chemistry and medicine, between scientists who work exclusively on animals and clinicians who can develop new insights into basic biological concepts by studying the experiments of Nature."