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BP – Melanin in the Brain

<http://www.nih.gov/news-events/news-releases/our-brains-are-made-same-stuff-despite-dna-differences>

https://books.google.com/books?id=72HJAgAAQBAJ&pg=PA98&lpg=PA98&dq=Joel+Kleinman+of+the+National+Institute+of+Mental+Health+in+Bethesda,+looked+at+gene+behavior+in+269+brain+samples+from+a+single+region+called+the+prefrontal+cortex+that+also+spanned+the+lifetime.&source=bl&ots=SbjbOwWsm_&sig=bmpBdAFm5GGMdmN3B-dM86f0XSY&hl=en&sa=X&ved=0CB0Q6AEwAGoVChMI_ICNi4r1yAIVRCceCh0_PAuk#v=onepage&q=Joel%20Kleinman%20of%20the%20National%20Institute%20of%20Mental%20Health%20in%20Bethesda%2C%20looked%20at%20gene%20behavior%20in%20269%20brain%20samples%20from%20a%20single%20region%20called%20the%20prefrontal%20cortex%20that%20also%20spanned%20the%20lifetime.&f=false

"A study, headed by Joel Kleinman of the National Institute of Mental Health in Bethesda, looked at gene behavior in 269 brain samples from a single region called the prefrontal cortex that also spanned the lifetime.

Kleinman and his colleagues turned up a curious finding: Many of the genes that slow down right after birth show a surge of activity as a person gets older. "The biggest changes that are going on occur fetally," he says. "And then they drop off until mid-life, and then in the 50s to 70s, expression changes pick up again and become quite dramatic." Researchers don't yet know what to make of this reversal, says Colantuoni. "We have just scratched the surface of what it means."

I have long maintained that consciousness is in every cell of our body and, as cells die and are replaced, if one's consciousness is not changing, then new cells have the same old consciousness/orientation. Interesting that at "mid-life crisis" time and entering a home stretch there is a stirring of activity that could well correlate with desire after raising a family for deeper life meaning and fulfillment....drive to explore/express light of mind and heart.

Regarding the physical brain and the blood-pumping heart organ:

The brain produces imagery through the transduction of energy. Transduction of energy is when energy is translated from one form into another, ordinarily without loss of energy or light waves are produced in the brain - through a fascinating molecule called melanin. If you pump sound waves through melanin it can produce light waves on the other side. Electrochemical waves pumped into melanin will produce light waves on the other side...producing light waves or photons is just one of its many functions. Another is to translate all conscious process into awareness. Joseph Chilton Pearce

My reading on melanin and the pineal gland found that recent findings - as with animal intelligence - show we grossly underestimated and misunderstood both.



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Melanin has potential to transform solar energy, electromagnetic energy, electricity, microwaves, music sound waves, radio/TV waves, thermal waves, x-rays, cosmic rays and UV light into kinetic energy.

It's very active with pineal gland which secretes serotonin and melatonin for daily conscious thinking and nightly activity. Melanin can also oversee physiological functions without needing to report to the brain. Melanin can delay aging process and protect not only from skin cancer, but other biological, bacterial or fungal invasion. Melanin has amazing capacity to "capture light" and reproduce itself. It's so much more than a molecule involved in pigmentation.

Interestingly, heart cells are saturated with the melanin molecule.

The heart is the first organ to fully develop and brain a close second...intimately linked. Psychoneuroimmunology "new" ('80's) field showing how brain is talking to the immune system constantly...about emotions...subjective feelings and experiences (molecules of light) can instruct the brain what biochemical information to dispense.

Melanin in the rat brain

[Brain Research Bulletin Volume 1, Issue 6, November–December 1976, Kastin^{a,b}, etc.^b,](#)

Abstract

"Melanin was measured in various parts of the rat brain by a spectrophotofluorometric assay. This method could detect natural, Sepia melanin as well as melanin synthesized from L-DOPA. Contrary to published expectations of other investigators, measurable amounts of melanin were found in the brain of albino as well as pigmented rats. The highest concentrations of melanin occurred in the pons-medulla and midbrain, but all regions within the blood-brain barrier contained greater concentrations than samples from many other tissues in the body. No significant change in the melanin content was found after various endocrine manipulations such as removal of the pituitary, pineal, adrenals, thyroid, testes, or ovaries, exposure to constant illumination or darkness, and daily injection for 5 weeks of α -MSH, Pro-Leu-Gly-NH₂ (MIF-I) or melatonin. It is thought that the presence of melanin in the brain of albino and pigmented rats may have a function which is still unknown.



Contrary to published expectations of other investigators, measurable amounts of melanin were found in the brain of albino as well as pigmented rats...all regions within the blood-brain barrier contained greater concentrations than samples from many other tissues in the body.

May have a function (far, far more than skin and hair color) which is “still unknown” back then and still challenging conventional assertions.

MELANIN FORMATION BY HUMAN BRAIN *IN VITRO* Journal of Neurochemistry Rodgers and Curzon 2006

Abstract— A quantitative radiometric assay utilising incorporation of ^{14}C from labelled precursors as a measure of melanin formation by human brain *in vitro* is described. The assay was validated by comparison with various criteria of melanin formation...Catecholamines, DOPA and 5HT were precursors for brain melanin formation. Melanin formation was detected in all brain regions studied and was highest in substantia nigra and striatum.

The assay was used to evaluate various hypotheses of brain melanin formation. No evidence for enzymic activity was found and it is concluded that brain melanin formation may be a largely non-enzymic process.”

Melanin found in all brain regions. No evidence for enzymatic activity...they're not sure what explains it. Hmmm

Expression of the melanin-concentrating hormone (MCH) receptor mRNA in the rat brain **Journal of Comparative Neurology**, June 2001 [Saito¹, Cheng¹, et al](#)

Abstract

”The melanin-concentrating hormone (MCH) system is thought to be an important regulator of food intake. Recently the orphan G protein-coupled receptor SLC-1 was identified as the MCH receptor (MCHR). Preliminary analyses of MCHR mRNA distribution have supported a role for the MCH system in nutritional homeostasis...the extensive MCHR distribution throughout the brain suggests that this receptor may play a role in other functions, most notably reinforcement, arousal, sensorimotor integration, and autonomic control.” J. Comp. Neurol. 435:26–40, 2001. © 2001 Wiley-Liss, Inc.



The melanin receptor is all over the brain...I don't think conventionalists want anyone to think new thoughts about melanin...just that it's a molecule involved in pigmentation.

[Melanoma Res.](#) 2006 Feb;16(1):3-10. PubMed

The polymerization of melanin: a poorly understood phenomenon with egregious biological implications.

[Sarangarajan R¹](#), [Apte SP](#).

Author information

- ¹Department of Pharmaceutical Sciences, Massachusetts College of Pharmacy and Health Sciences, Worcester, Massachusetts, USA.

Abstract

Several hypotheses have explicitly implicated the role of an altered redox status of melanin in the aetiology of melanoma and macular degeneration. The balance between the intrinsic anti-oxidant and pro-oxidant properties of melanin is lost, resulting in an altered redox phenotype. may result in an overcoming of the cellular anti-oxidant pool, an increased susceptibility to oxidative stress and alterations to the reaction kinetics of melanogenesis, thus setting up a cycle of increasing oxidative stress and proliferation leading to the leakage of melanin monomers outside the organelle, thereby causing cytotoxicity and necrosis.

Melanin plays a very important role in homeostasis and metabolism

Melanin-concentrating hormone 1 receptor-deficient mice are lean, hyperactive, and hyperphagic and have altered metabolism

DJ Marsh, DT Weingarth, DE Novi... - *Proceedings of the ...*, 2002 - National Acad Sciences

Abstract **Melanin**-concentrating hormone (MCH) is a cyclic 19-aa hypothalamic neuropeptide derived from a larger prohormone precursor of MCH (Pmch), which also encodes neuropeptide EI (NEI) and neuropeptide GE (NGE). Pmch-deficient (Pmch^{-/-}) ...

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"We conclude that MCH1R is a physiologically relevant MCH receptor in mice that plays a role in energy homeostasis through multiple actions on locomotor activity, metabolism, appetite, and neuroendocrine function."

Melanin-concentrating hormone 1 receptor-deficient mice are lean, hyperactive, and hyperphagic and have altered metabolism

1. **Donald J. Marsh^{*†}**,
2. **Drew T. Weingarth**



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Pearce: “Interestingly, heart cells are saturated with the melanin molecule.”

I was shocked and horrified when I out of curiosity checked melanin on wiki: “Melanin theory is a [pseudoscientific](#) theory of [Black racial superiority](#),^[1] based on the physical properties of [melanin](#), a natural polymer and [organic semiconductor](#).

[An [organic semiconductor](#) is an [organic material](#) with an [electrical conductivity](#) between that of [insulators](#) and that of [metals](#)]

In humans, melanin is the primary determinant of [skin color](#). People whose ancestors lived for long periods in the regions of the globe near [the equator](#) generally have larger quantities of [eumelanin](#) in their skins. Melanin theorists assert that the possession of greater quantities of melanin gives [black people](#) inherent superiority. Conversely, its lack demonstrates the alleged inhumanity and inferiority of [white people](#).

Amazing how wiki can be a source of gross misinformation that feeds prejudice.

[News-medical.net: What is Melanin?](#)

By Dr Ananya Mandal, MD

Melanin is a complex polymer derived from the amino acid tyrosine. Melanin is responsible for determining skin and hair colour and is present in the skin to varying degrees, depending on how much a population has been exposed to the sun historically

And

melanin /mel·ə·nin/ (mel'ah-nin) any of several closely related dark pigments of the skin, hair, choroid coat of the eye, substantia nigra, and various tumors, produced by polymerization of oxidation products of tyrosine and dihydroxyphenol compounds.

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But melanin is so much more!

The heart is the first organ to fully develop and brain a close second...intimately linked. Psychoneuroimmunology "new" ('80's) field showing how brain is talking to the immune system constantly...about emotions...subjective feelings and experiences (molecules of light) can instruct the brain what biochemical information to dispense.

How does that get mechanically replicated?