

Hormone imbalance may explain some skin conditions

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As far back as the ancient Greeks, people have documented a funny phenomenon among pregnant women: The skin on their faces sometimes changes color. Scientists never quite knew why that happened, though they suspected that it was linked to the spike in the body's hormones during pregnancy. Now, [a new study](#) published in *eLife* found that two sex hormones, estrogen and progesterone, play a key role in regulating the body's synthesis of melanin, the substance that gives skin pigment.

To test the relationship between hormones and skin pigment, the researchers administered doses of the hormone estrogen to a 3D array of cells designed to mimic the structure of human skin. The longer the cells were exposed to estrogen, the more melanin they produced; after four days, the cells produced up to 300 percent more melanin than before they were exposed to estrogen. The researchers did the same test with progesterone (a synthetic version, progestin, is in oral contraceptives), which the body also produces during pregnancy, and found that cells decreased their melanin production when exposed to that hormone.

That was intriguing, since the melanocytes (the cells that produce melanin) don't have traditional hormone receptors. When the researchers took a closer look at the molecular pathways, they discovered that the hormones activate special pathways in the melanocyte cell membranes that tell the cell to create more or less melanin.

Read full, original post: [Hormones can change your skin tone](#)