

Effect of pituitary and ovarian hormones on normal human melanocytes in vitro

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Normal human epidermal melanocytes became swollen and more dendritic with an increase in the amount of tyrosinase activity and immunoreactive tyrosinase-related protein 1 (TRP-1) when they were cultured for 2 days with each one of [Nle⁴, D-Phe⁷] α melanocyte-stimulating hormone (α MSH), follicle-stimulating hormone (FSH) and luteinizing hormone (LH). Estradiol, estriol, progesterone and ACTH affected the melanocyte morphology and the amount of TRP-1, but did not increase the tyrosinase activity. These data suggest that all of those hormones, especially α MSH, FSH and LH, may be responsible for the induction of facial hyperpigmentation such as chloasma.