

Possible Mechanism of the Sex Differentiation and Its Artificial Regulation

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ABSTRACT Seemingly, the sex differentiation (SD) in animals and human is determined by the amount of constitutive heterochromatin region (HR) in the chromosomes of the undifferentiated embryonic gonads (UEG) via cell thermoregulation. It is assumed the medulla and cortex tissue cells in the UEG differ in vulnerability to the increase of the intracellular temperature. If the amount of the HR is enough for efficient elimination of heat difference between the nucleus and cytoplasm in rapidly growing UEG cells the medulla tissue survives. Otherwise it doomed to degeneration and a cortex tissue will remain in the UEG. For artificial regulation of the SD it is proposed to remove a layer of cortex or medulla in the UEG depending on the objective and task of the research.