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# Investigations on the triiodothyronine (T3)-specificity of thyrotropic (TSH) and gonadotropic (HCG) hormone in the unicellular Tetrahymena.

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## Abstract

In a previous experiment thyrotropin (TSH) increased the triiodothyronine (T3) production of Tetrahymena and chorionic gonadotropin (**HCG**) moderately overlapped the effect. At present the production of three amino acid type (histamine, serotonin, epinephrine) and one peptide (endorphin) hormones were studied under the effect of TSH or **HCG**, in tryptone-yeast (TY) or salt (Losina-Losinsky) medium. The duration of the effect was 10 min. TSH significantly (with almost 20%) decreased epinephrine production in TY medium and **HCG** similarly decreased epinephrine and increased histamine level. In salt solution TSH as well as **HCG** decreased the level of serotonin. The results show that at this low level of phylogeny TSH effect is not completely thyroxine-specific, however it is not general. **HCG** overlaps TSH effect on epinephrine and serotonin production, however its effect is broader. The experiments also demonstrate that the effect of pituitary trop-hormones can be bidirectional in Tetrahymena, as histamine level was increased and epinephrine level was decreased by **HCG**, in the same cells.

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