

Stimulation of thyroid polydisperse nuclear rna by thyrotropin

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While it is established that TSH stimulates RNA synthesis without significant increased uptake of labeled precursors into the free nucleotide pool of isolated thyroid cells and thyroid slices, the molecular species primarily affected by the hormone has not been established. Calf thyroid slices were incubated for two hours with TSH (0.25 μ /ml) followed by 3 H-uridine pulses of 7, 15, and 30 mins. The nuclei were isolated by centrifugation through high molar sucrose solution followed by detergent wash. The RNA was extracted, digested with DNAase and further purified on G-50 Sephadex column. Identical amounts of RNA from TSH-stimulated and non-stimulated slices were fractionated on 2.5% polyacrylamide-0.25% ethylene diacrylate gels. The radioactive profiles of nuclei of TSHstimulated slices showed a relative increase in labeling of the high molecular weight rapidly labeled nuclear RNA. Short-time pulse experiments and sedimentation characteristics indicated a predominant stimulation of het