Transcriptional and posttranscriptional control in synthesis of growth marker polypeptides in mouse parotids

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The chronic daily administration of isoproterenol provokes in mouse parotid glands the induction and progressive accumulation of a family of secretory polypeptides named polypeptides C, D, E, F, and G (polypeptides C- G). These polypeptides, which seem to be part of the family of proline-rich proteins, have been considered as molecular markers of the growth-in-size response in the mouse parotid acinar cells. In the present study, two pharmacological approaches were used to determine whether the induction and the postsecretory reappearance of polypeptides C-G may be distinguished from each other. First, actinomycin D, a transcriptional inhibitor, was found to interfere with the induction by isoproterenol but not with the postsecretory reappearance. Second, pilocarpine, a secretagogue that was found to be a very weak inducer of polypeptides C-G, was able to provoke secretion and then reappearance of the whole group of isoproterenol-induced polypeptides. Accordingly, these data suggest th