

ABSTRACT

Proopiomelanocortin (POMC) is the precursor for a number of biologically active peptides including ACTH, α -melanophore stimulating hormone (α -MSH) and β -endorphin (β -EP). POMC is synthesized by corticotrophs of the anterior lobe and melanotrophs of the intermediate lobe of pituitary gland. Although brain and pituitary are the major sources of POMC-derived peptides, POMC gene expression and the biological effect of its products have been reported in various organs including gonads. This review focuses on the presence of POMC-derived peptides in the ovary of non-mammalian species, and on their role in both gonadal function and adaptation. Moreover, the paracrine regulation, preponderant at an early stage of the evolutionary tree, will be discussed in view of the increasing complexity of the endocrine mechanism occurring during phylogenesis.