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Biological Function of Single Chain Equine Chorionic Gonadotropin Mutants (C-terminal Deletions)

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Equinechorionic gonadotropin(eCG) is a member of the glycoprotein hormone family which includes FSH, hCG, TSH. These hormone family is characterized by a heterodimeric structure composed a common α -subunit noncovalently linked to a hormone specific β-subunit. To determine α and β-subunits can be synthesized as a single polypeptide chain (tethered-eCG) and also display biological activity, the tethered-molecule by fusing the carboxyl terminus of the eCG β-subunit to the amino terminus of the α-subunit was constructed and transfected into chinese hamster ovary (CHO-K1) cells. The tethered-wteCG was efficiently secreted and showed similar LH- and FSH-like activity to the dimeric eCG. The D87eCG mutant was not detected in this assay. It is suggest that eCG C-terminal part is very important for eCG secretion. Now, we are checking the LH-and FSH -like activities of these mutant eCGs. These data indicate that the constructs of tethered molecule will be useful in the study of mutants that affect subunit association and/or secretion.

Key words: ***Tethered-eCG, Recombinant, C-terminal deletions, CHO cells***