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Functional Expression of Lutropin/Choriogonadotropin and Follitropin Receptor cDNAs in CHO Cells

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This cDNAs were cloned with the method of the polymerase chain reaction (PCR) by sequences based on cloned rat LH/CG and FSH receptor cDNAs. A cDNAs of LHR and FSHR were transfected into the CHO cells. Several clonal cell lines were obtained expressing different numbers of cell surface receptors. Three cell lines for each LHR and FSHR were chosen, and a corresponding cell line expressing the wild type LHR and FSHR were selected based on the number of cell surface receptor for the particular LHR and FSHR. The ability of the LHR and FSHR to transduce the hCG and FSH signals were measured by quantitating cAMP accumulation in cells incubated with control cholera toxin. The cAMP accumulation effects for these receptors were increased by the increasing concentrations of cholera toxin. Thus, most of the receptors expressed in cells transfected with LHR and FSHR could be detected by measuring hormone binding and cAMP response, and can utilize to study the structure function and signal transduction of the choriogonadotropins and glycoprotein hormones.

Key words: *LH/CG receptor, FSH receptor, CHO cells*